Eagle Mountain - Woodfibre Gas Pipeline Project

BCER Waste Discharge Permit Weekly Report

Contents

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	2024-11-25	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	2023-11-25	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. No Exceedances.

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	2024-11-25	Yes-Appendix C	392m^3
Woodfibre	2024-11-26	Yes-Appendix C*lab sample day	388m^3
Woodfibre	2024-11-27	Yes-Appendix C	375 m^3
Woodfibre	2024-11-28	Yes-Appendix C	435m^3
Woodfibre	2024-11-29	Yes-Appendix C	304m^3
Woodfibre	2024-11-30	Yes-Appendix C	426m^3
Woodfibre	2024-12-01	Yes-Appendix C	410m^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	2024-11-26	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	2024-11-26	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

Analyte	Units	FAL-ST [1,2]	FAL-LT [1,2]	MAL-ST [1]	MAL-LT [1,2]	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
TRITON	Sample ID	Reviewed and signed off by:	College of Applied Biologists Farshad Shafiei RPBio 3781 CAB		Farshad Shafiei Ph.D., R.P.Bio.	SQU US1 (Upstream)	SQU DS1 (Downstream)					
	LAB ID					VA24D1903-001	VA24D1903-002					
	Date Sampled					25-Nov-2024	25-Nov-2024					
	Time Sampled					11:18	12:09					
						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	7.13	7.12		If natural pH < 6.5, no statisticaly 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 [4]	-	Max +/- from BKG 1°C [4]	-	4.6	4.8		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. treams 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	-	-	-	-	55	49					
Turbidity (field)	NTU	Varies with background, see note Guideline = 9.41	Varies with background, see note Guideline = 8.85 5-week discrete sampling average = 7.6 (DS)	Varies with background, see note Guideline = 9.41	Varies with background, see note Guideline = 8.85 5-week discrete sampling average = 7.6 (DS)	1.41	1.71		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	-	-		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 $CaCO_3$) (total)	mg/L	-	-	-	-	19.1	18.1					
Total Dissolved Solids	mg/L	-	-	-	-	43	42					
Total Suspended Solids	mg/L	Varies with background, see note Guideline = 28	Varies with background, see note Guideline = 15.6 5-week discrete sampling average = 12.46(DS)	Varies with background, see note Guideline = 28	Varies with background, see note Guideline = 15.6 5-week discrete sampling average = 12.46(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	-	-	-	-	2.11	1.93			Long-term (30-day) median within 20% of background median [3]		
Total Alkalinity ($CaCO_3$)	mg/L	-	Categorical	-	-	15.7	15.2			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 = 20.2	Varies with pH and temperature. See note. Guideline = 1.88	Varies with pH and temperature. See note. Guideline = 121	Varies with pH, temperature and salinity. See note. Guideline = 20	0.0389	0.0215		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	2.64	2.33				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 = 0.669	-	1.5	-	0.021	< 0.020		Guideline has interim status. Guideline is calculated with the following equation: Guideline = [-51.73 + 92.57 log10 (hardness)] * 0.01			
Nitrate (as N)	mg/L	32.8	3	-	3.7	0.127	0.0833					
Nitrite (as N)	mg/L	Varies with chloride. See note. Guideline = 0.12	Varies with chloride. See note. Guideline = 0.04	-	-	0.0022	< 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	-	-	-	-	0.226	0.15					
Total Phosphorous	mg/L	-	0.005 to 0.015	-	-	0.0216	0.014			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	-	-	5.08	4.94			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 = 0.087 5-week field average = 0.39 (US), 0.37 (DS)	-	-	0.254	0.117			Guideline varies with pH, hardness and Dissolved Organic Carbon (DOC). Guideline is calculated with the following equation: Guideline = (EXP((0.645 * LN(DOC)) + (2.255 * LN(hardness)) + (1.995 * pH) + (-0.284 * (LN(hardness) * pH))-9.898)/3/1000) 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	0.00019	0.00015					Interim guideline status
Barium (Ba)-Total	mg/L	-	1	-	-	0.00991	0.00930			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	< 0.010	< 0.010					
Cadmium (Cd)-Total	mg/L	-	-	-	0.00012	0.0000127	0.0000068					Working guideline status
Calcium (Ca)-Total	mg/L	-	-	-	-	6.32	6.05					
Cesium (Cs)-Total	mg/L	-	-	-	-	0.000021	0.00002					
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	-	-	< 0.00013	< 0.00010					
Copper (Cu)-Total	mg/L	-	-	0.003	0.002 5-week field average = 0.00158 (US), 0.00159 (DS)	0.00131	0.00089					
Iron (Fe)-Total	mg/L	1	-	-	-	0.34	0.202					
Lead (Pb)-Total	mg/L	-	-	0.14	0.002 5-week field average = 0.00012 (US), 0.00012 (DS)	0.000094	< 0.000050					
Lithium (Li)-Total	mg/L	-	-	-	-	< 0.0010	0.001					
Magnesium (Mg)-Total	mg/L	-	-	-	-	0.798	0.734					
Manganese (Mn)-Total	mg/L	Varies with hardness Guideline = 0.715	Varies with hardness Guideline = 0.768	-	-	0.0134	0.0106		Guideline varies with hardness. The guideline is calculated using the following equation: Guideline = (0.0044 * hardness + 0.605) Guideline applies to samples with hardness 25-259 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 = (0.01102 * 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 = 0.1/[MeHg/totalHg]. When MeHg ≤ 0.5% of total Hg, guideline is equal to 0.02 mg/L		
Molybdenum (Mo)-Total	mg/L	46	7.6	-	-	0.000558	0.000521					
Nickel (Ni)-Total	mg/L	-	-	-	0.0083	< 0.00050	< 0.00050					Working guideline status
Phosphorus (P)-Total	mg/L	-	0.005 to 0.015	-	-	0.057	< 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	-	-	-	-	0.687	0.623					
Rubidium (Rb)-Total	mg/L	-	-	-	-	0.00104	0.00096					
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 guideliens for sediment, invertebrate and fish tissue. Refer to BC Water Quality Guidelines for more information on guideliens and sampling guidance.		Guideline for marine aquatic life (water column). Alert concentration is 0.001 mg/L, with separate guideliens for sediment, invertebrate and fish tissue. Refer to BC Water Quality Guidelines for
Silicon (Si)-Total	mg/L	-	-	-	-	5.42	5.15					
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 = 0.000057 (US), 0.000011 (DS)	0.003	0.0015	< 0.000010	< 0.000010		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	-	-	-	-	3.02	2.58					
Strontium (Sr)-Total	mg/L	-	-	-	-	0.0414	0.0404					
Sulfur (S)-Total	mg/L	-	-	-	-	1.49	1.4					
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 tnhe 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	-	-	-	-	0.00550	0.00295					
Tungsten (W)-Total	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Uranium (U)-Total	mg/L	0.0165	0.0075	-	-	0.000040	0.000039			Working guideline status		
Vanadium (V)-Total	mg/L	-	0.06	-	0.005 5-week field average = 0.00143 (US), 0.00137 (DS)	0.00145	0.00115					Working guideline status
Zinc (Zn)-Total	mg/L	-	-	0.055	Guideline = 0.010 5-week field average = 0.00778 (US), 0.03398 (DS)	0.0256	< 0.0030					
Zirconium (Zr)-Total	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Dissolved Metals												
Aluminum (Al)-Dissolved	mg/L	-	-	-	-	0.0476	0.0491					
Antimony (Sb)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Arsenic (As)-Dissolved	mg/L	-	-	-	-	0.00013	0.00012					
Barium (Ba)-Dissolved	mg/L	-	-	-	-	0.00863	0.0088					
Beryllium (Be)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Bismuth (Bi)-Dissolved	mg/L	-	-	-	-	< 0.000050	< 0.000050					
Boron (B)-Dissolved	mg/L	-	-	-	-	< 0.010	< 0.010					
Cadmium (Cd)-Dissolved	mg/L	Varies with hardness, see note Guideline = 0.000107	Varies with hardness, see note Guideline = 0.000057	-	-	0.0000097	0.0000051		Guideline is hardness dependent. Guideline is appilcable to water hardness between 7.0 and 455 mg/L. Guideline is calculated with the following formula: Guideline = (EXP(1.03 * (LN(hardness)) - 5.274)/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 guiedeline 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	-	-	5.94	5.7			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	-	-	-	-	0.000018	0.000017					
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	-	-	-	-	< 0.00010	< 0.00010					
Copper (Cu)-Dissolved	mg/L	Guideline varies with other parameters, see note Guideline = 0.002	Guideline varies with other parameters, see note Guideline = 0.0004 5-week field average = 0.000942 (US), 0.00093 (DS)	-	-	0.00083	0.00074		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	-	-	-	0.175	0.136					
Lead (Pb)-Dissolved	mg/L	-	Guideline varies with DOC and hardness Guideline = 0.00241 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((0.514*LN(DOC))+(0.214*(LN(Hardness)))+0.4354))/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	-	-	-	-	< 0.0010	0.001					
Magnesium (Mg)-Dissolved	mg/L	-	-	-	-	0.738	0.696					
Manganese (Mn)-Dissolved	mg/L	-	-	-	-	0.0105	0.00942					
Mercury (Hg)-Dissolved	mg/L	-	-	-	-	< 0.0000050	< 0.0000050					
Molybdenum (Mo)-Dissolved	mg/L	-	-	-	-	0.000557	0.000563					
Nickel (Ni)-Dissolved	mg/L	Guideline varies with other parameters, see note Guideline = 0.0170	Guideline varies with other parameters, see note Guideline = 0.00120 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	-	-	-	-	0.682	0.622					
Rubidium (Rb)-Dissolved	mg/L	-	-	-	-	0.001	0.00093					
Selenium (Se)-Dissolved	mg/L	-	-	-	-	< 0.000050	< 0.000050					
Silicon (Si)-Dissolved	mg/L	-	-	-	-	4.95	4.65					
Silver (Ag)-Dissolved	mg/L	-	-	-	-	< 0.000010	< 0.000010					
Sodium (Na)-Dissolved	mg/L	-	-	-	-	2.84	2.5					
Strontium (Sr)-Dissolved	mg/L	-	-	-	-	0.0405	0.0403					
Sulfur (S)-Dissolved	mg/L	-	-	-	-	1.35	1.41					
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	-	-	-	-	0.00056	0.00063					
Tungsten (W)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Uranium (U)-Dissolved	mg/L	-	-	-	-	0.000037	0.000035					
Vanadium (V)-Dissolved	mg/L	-	-	-	-	0.00104	0.00093					
Zinc (Zn)-Dissolved	mg/L	Varies with DOC and hardness Guideline = 0.012	Varies with pH, DOC, hardness Guideline = 0.0048 5-week field average = 0.0054 (US), 0.0032 (DS)	-	-	0.0181	0.0022		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, anmd 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) Short-Term (ST) & Long-Term (LT)**										
Color Key:		**Exceeds FAL Short term Guideline**	***Exceeds both FAL and MAL Guidelines***	**Exceeds MAL Short term Guideline**								

[1]BC MOECCS. 2023. BC Water Qualtiy Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: wqg_summary_aquaticlife_wildlife_agri.pdf (gov.bc.ca)
[2]BC MOECCS. 2021. BC Working Water Qualtiy Guidelines for the Protection of Aquatic Life, Widlife & 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)	Values: SQU DS1 (Downstream)
pH (field)	pH units	Field pH taken using handheld meters during sampling used in calculations	7.13	7.12
Temperature (field)	°C	Field temperature taken using handheld meters during sampling used in calculations	4.6	4.8
Turbidity (field)	NTU	Field turbidity taken using handheld meters during sampling used in calculations	1.41	1.71
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	19.1	18.1
Dissolved Organic Carbon (DOC)	mg/L	Laboratory tested dissolved organic carbon tested at the lab used in guideline calculations	2.11	1.93
Total Alkalinity ($CaCO_3$)	mg/L	Laboratory tested total alkalinity used in calculations	15.7	15.2
Chloride	mg/L	Laboratory tested chloride taken at each respective sample site on the day of sampling used in guideline calculations	2.64	2.33

BCR Site Receiving Environment Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order	:	**VA24D1903**		
Client	:	**Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact	:		Account Manager	:
Address	:		Address	:
Telephone	:		Telephone	:
Project	:		Date Samples Received	: 25-Nov-2024 14:20
PO	:		Date Analysis Commenced	: 26-Nov-2024
C-O-C number	:		Issue Date	: 02-Dec-2024 17:10
Sampler	:	----		
Site	:	Water Analysis		
Quote number	:	VA23-TRIT100-012		
No. of samples received	:	2		
No. of samples analysed	:	2		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*

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.

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	BCR US 1	BCR DS 1	----	----	----
				Client sampling date / time	25-Nov-2024 11:18	25-Nov-2024 12:09	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D1903-001	VA24D1903-002	----	----	----
					Result	Result	----	----	----
Field Tests									
Conductivity, field	----	EF001/VA	0.10	µS/cm	55.000	49.000	----	----	----
pH, field	----	EF001/VA	0.10	pH units	7.13	7.12	----	----	----
Temperature, field	----	EF001/VA	0.10	°C	4.60	4.80	----	----	----
Physical Tests									
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	17.9	17.1	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	19.1	18.1	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	43	42	----	----	----
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	<3.0	<3.0	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L	15.7	15.2	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0389	0.0215	----	----	----
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	2.64	2.33	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.021	<0.020	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.127	0.0833	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0022	<0.0010	----	----	----
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L	0.226	0.150	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0216	0.0140	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	5.08	4.94	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.11	1.93	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BCR US 1	BCR DS 1	----	----	----
					Client sampling date / time	25-Nov-2024 11:18	25-Nov-2024 12:09	----	----	----
						VA24D1903-001	VA24D1903-002	----	----	----
						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		0.254	0.117	----	----	----
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		0.00019	0.00015	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00991	0.00930	----	----	----
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		0.0000127	0.0000068	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		6.32	6.05	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000021	0.000020	----	----	----
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		0.00013	0.00010	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00131	0.00089	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.340	0.202	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000094	<0.000050	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		<0.0010	0.0010	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		0.798	0.734	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	BCR US 1	BCR DS 1	----	----	----
					Client sampling date / time	25-Nov-2024 11:18	25-Nov-2024 12:09	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24D1903-001	VA24D1903-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0134	0.0106	----	----	----
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		0.000558	0.000521	----	----	----
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		0.057	<0.050	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		0.687	0.623	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00104	0.00096	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	<0.000050	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.42	5.15	----	----	----
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		3.02	2.58	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0414	0.0404	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		1.49	1.40	----	----	----
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		0.00550	0.00295	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000040	0.000039	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		0.00145	0.00115	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BCR US 1	BCR DS 1	----	----	----
					Client sampling date / time	25-Nov-2024 11:18	25-Nov-2024 12:09	----	----	----
						VA24D1903-001	VA24D1903-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0256	<0.0030	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	----	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L		0.0476	0.0491	----	----	----
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		0.00013	0.00012	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		0.00863	0.00880	----	----	----
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		0.0000097	0.0000051	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		5.94	5.70	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L		0.000018	0.000017	----	----	----
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		0.00083	0.00074	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		0.175	0.136	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L		<0.000050	<0.000050	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		<0.0010	0.0010	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		0.738	0.696	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.0105	0.00942	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	BCR US 1	BCR DS 1	----	----	----
					Client sampling date / time	25-Nov-2024 11:18	25-Nov-2024 12:09	----	----	----
						VA24D1903-001	VA24D1903-002	----	----	----
						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		0.000557	0.000563	----	----	----
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		0.682	0.622	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00100	0.00093	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L		<0.000050	<0.000050	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L		4.95	4.65	----	----	----
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		2.84	2.50	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		0.0405	0.0403	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		1.35	1.41	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L		<0.00020	<0.00020	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L		<0.000010	<0.000010	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L		0.00056	0.00063	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		0.000037	0.000035	----	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L		0.00104	0.00093	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L		0.0181	0.0022	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	BCR US 1	BCR DS 1	----	----	----
					Client sampling date / time	25-Nov-2024 11:18	25-Nov-2024 12:09	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24D1903-001	VA24D1903-002	----	----	----
						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	: **VA24D1903**	Page	: 1 of 14
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact	:	Account Manager	:
Address	:	Address	:
Telephone	:	Telephone	:
Project	:	Date Samples Received	: 25-Nov-2024 14:20
PO	:	Issue Date	: 02-Dec-2024 17:09
C-O-C number	: ----		
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

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

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			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 DS 1	E298	25-Nov-2024	27-Nov-2024	28 days	2 days	✓	30-Nov-2024	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) BCR US 1	E298	25-Nov-2024	27-Nov-2024	28 days	2 days	✓	30-Nov-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE BCR DS 1	E235.Br-L	25-Nov-2024	26-Nov-2024	28 days	1 days	✓	26-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE BCR US 1	E235.Br-L	25-Nov-2024	26-Nov-2024	28 days	1 days	✓	26-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE BCR DS 1	E235.Cl	25-Nov-2024	26-Nov-2024	28 days	1 days	✓	26-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE BCR US 1	E235.Cl	25-Nov-2024	26-Nov-2024	28 days	1 days	✓	26-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE BCR DS 1	E235.F	25-Nov-2024	26-Nov-2024	28 days	1 days	✓	26-Nov-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 BCR US 1	E235.F	25-Nov-2024	26-Nov-2024	28 days	1 days	✓	26-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE BCR DS 1	E235.NO3-L	25-Nov-2024	26-Nov-2024	3 days	1 days	✓	26-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE BCR US 1	E235.NO3-L	25-Nov-2024	26-Nov-2024	3 days	1 days	✓	26-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE BCR DS 1	E235.NO2-L	25-Nov-2024	26-Nov-2024	3 days	1 days	✓	26-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE BCR US 1	E235.NO2-L	25-Nov-2024	26-Nov-2024	3 days	1 days	✓	26-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE BCR DS 1	E235.SO4	25-Nov-2024	26-Nov-2024	28 days	1 days	✓	26-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE BCR US 1	E235.SO4	25-Nov-2024	26-Nov-2024	28 days	1 days	✓	26-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) BCR DS 1	E366	25-Nov-2024	27-Nov-2024	28 days	2 days	✓	28-Nov-2024	28 days	3 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) BCR US 1	E366	25-Nov-2024	27-Nov-2024	28 days	2 days	✓	28-Nov-2024	28 days	3 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times 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)										
BCR DS 1	E372-U	25-Nov-2024	27-Nov-2024	28 days	2 days	✓	28-Nov-2024	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
BCR US 1	E372-U	25-Nov-2024	27-Nov-2024	28 days	2 days	✓	28-Nov-2024	28 days	3 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
BCR DS 1	E509	25-Nov-2024	01-Dec-2024	28 days	6 days	✓	01-Dec-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
BCR US 1	E509	25-Nov-2024	01-Dec-2024	28 days	6 days	✓	01-Dec-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
BCR DS 1	E421	25-Nov-2024	27-Nov-2024	180 days	2 days	✓	29-Nov-2024	180 days	4 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
BCR US 1	E421	25-Nov-2024	27-Nov-2024	180 days	2 days	✓	29-Nov-2024	180 days	4 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)										
BCR DS 1	EF001	25-Nov-2024	----	----	----		29-Nov-2024	----	4 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)										
BCR US 1	EF001	25-Nov-2024	----	----	----		29-Nov-2024	----	4 days	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
BCR DS 1	E358-L	25-Nov-2024	27-Nov-2024	28 days	2 days	✓	27-Nov-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)										
BCR US 1	E358-L	25-Nov-2024	27-Nov-2024	28 days	2 days	✓	27-Nov-2024	28 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
BCR DS 1	E290	25-Nov-2024	26-Nov-2024	14 days	1 days	✓	26-Nov-2024	14 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
BCR US 1	E290	25-Nov-2024	26-Nov-2024	14 days	1 days	✓	26-Nov-2024	14 days	1 days	✓
Physical Tests : TDS by Gravimetry										
HDPE										
BCR DS 1	E162	25-Nov-2024	----	----	----		29-Nov-2024	7 days	4 days	✓
Physical Tests : TDS by Gravimetry										
HDPE										
BCR US 1	E162	25-Nov-2024	----	----	----		29-Nov-2024	7 days	4 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
BCR DS 1	E160	25-Nov-2024	----	----	----		29-Nov-2024	7 days	4 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
BCR US 1	E160	25-Nov-2024	----	----	----		29-Nov-2024	7 days	4 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
BCR DS 1	E532	25-Nov-2024	----	----	----		26-Nov-2024	28 days	1 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
BCR US 1	E532	25-Nov-2024	----	----	----		26-Nov-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) BCR DS 1	E508	25-Nov-2024	30-Nov-2024	28 days	5 days	✓	30-Nov-2024	28 days	5 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) BCR US 1	E508	25-Nov-2024	30-Nov-2024	28 days	5 days	✓	30-Nov-2024	28 days	5 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) BCR DS 1	E420	25-Nov-2024	27-Nov-2024	180 days	2 days	✓	29-Nov-2024	180 days	4 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) BCR US 1	E420	25-Nov-2024	27-Nov-2024	180 days	2 days	✓	29-Nov-2024	180 days	4 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) BCR DS 1	E395	25-Nov-2024	----	----	----		26-Nov-2024	7 days	1 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) BCR US 1	E395	25-Nov-2024	----	----	----		26-Nov-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	1783488	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1785233	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1783496	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1783495	1	13	7.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1791241	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1784725	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1785235	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1783494	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1783492	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1783493	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1783491	1	12	8.3	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1790674	1	14	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1783623	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1785236	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1785234	1	12	8.3	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1783895	1	3	33.3	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1783488	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1785233	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1783496	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1783495	1	13	7.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1791241	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1784725	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1785235	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1783494	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1783492	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1783493	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1783491	1	12	8.3	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1790674	1	14	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1783623	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1785236	1	11	9.0	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*
Laboratory Control Samples (LCS) - Continued							
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1785234	1	12	8.3	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1783895	1	3	33.3	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1783488	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1785233	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1783496	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1783495	1	13	7.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1791241	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1784725	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1785235	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1783494	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1783492	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1783493	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1783491	1	12	8.3	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1790674	1	14	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1783623	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1785236	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1785234	1	12	8.3	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1783895	1	3	33.3	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1785233	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1783496	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1783495	1	13	7.6	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1791241	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1784725	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1785235	1	12	8.3	5.0	✓
Fluoride in Water by IC	E235.F	1783494	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1783492	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1783493	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1783491	1	12	8.3	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1790674	1	14	7.1	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1783623	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1785236	1	11	9.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1785234	1	12	8.3	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	1783895	1	3	33.3	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.

ALS Canada Ltd.

right solutions. right partner.

QUALITY CONTROL REPORT

Work Order	: **VA24D1903**	Page	: 1 of 17
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact	:	Account Manager	:
Address	:	Address	:
Telephone	:	Telephone	:
Project	:	Date Samples Received	: 25-Nov-2024 14:20
PO	:	Date Analysis Commenced	: 26-Nov-2024
C-O-C number	: ----	Issue Date	: 02-Dec-2024 17:09
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*

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: 1783488)											
VA24D1881-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	113	113	0.177%	20%	----
Physical Tests (QC Lot: 1790007)											
FJ2403573-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	8.7	9.9	1.2	Diff <2x LOR	----
Physical Tests (QC Lot: 1790009)											
FJ2403573-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	290	302	4.05%	20%	----
Anions and Nutrients (QC Lot: 1783491)											
VA24D1849-015	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: 1783492)											
VA24D1849-015	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0253	0.0256	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1783493)											
VA24D1849-015	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: 1783494)											
VA24D1849-015	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1783495)											
VA24D1849-015	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1783496)											
VA24D1849-015	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: 1785233)											
KS2404902-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0134	0.0133	0.00010	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1785234)											
KS2404945-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0189	0.0190	0.00009	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1785236)											
VA24D1786-001	Anonymous	Nitrogen, total	7727-37-9	E366	3.00	mg/L	<3.00	<3.00	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1785235)											
KS2404945-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	3.23	3.38	0.15	Diff <2x LOR	----
Total Sulfides (QC Lot: 1783895)											
VA24D1903-001	BCR US 1	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	<0.0015	0	Diff <2x LOR	----
Total Metals (QC Lot: 1783623)											
VA24D1850-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0359	0.0357	0.343%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00011	0.00011	0.000006	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: 1783623) - continued											
VA24D1850-001	Anonymous	Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00046	0.00046	0.000002	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0546	0.0545	0.294%	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	0.029	0.029	0.0003	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000145	0.0000117	0.0000028	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	64.7	65.9	1.87%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000018	0.000017	0.000001	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	0.00012	0.00001	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00321	0.00316	0.00005	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.044	0.045	0.001	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0024	0.0025	0.00006	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	3.40	3.41	0.283%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0116	0.0118	1.67%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0123	0.0117	4.62%	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	0.784	0.782	0.152%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00036	0.00037	0.000008	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.128	0.127	0.662%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	4.46	4.38	1.86%	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	127	129	0.941%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.485	0.476	1.85%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	88.8	88.6	0.147%	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	0.00165	mg/L	<0.00165	<0.00165	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000440	0.000460	4.43%	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: 1783623) - continued											
VA24D1850-001	Anonymous	Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00118	0.00122	0.00004	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: 1790674)											
VA24D1876-008	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.000130	0.000127	1.79%	20%	----
Dissolved Metals (QC Lot: 1784725)											
FJ2403563-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0865	0.0841	2.81%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00031	0.00032	0.000005	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00027	0.00027	0.000006	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0410	0.0409	0.0889%	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	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000144	0.0000160	0.0000016	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	25.6	26.3	2.46%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000012	0.000011	0.0000009	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	0.00020	0.00020	0.000001	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00091	0.00094	0.00003	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.029	0.029	0.0004	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	0.0029	0.0029	0.00003	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	6.35	6.29	0.909%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00307	0.00322	4.70%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00118	0.00114	3.26%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00143	0.00148	0.00005	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	1.81	1.88	4.14%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00284	0.00297	4.35%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000281	0.000259	0.000022	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.18	2.18	0.201%	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	2.70	2.76	2.12%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.126	0.126	0.0282%	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: 1784725) - continued											
FJ2403563-001	Anonymous	Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	5.76	5.36	7.02%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	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	0.000479	0.000487	1.66%	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	0.0045	0.0046	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: 1791241)											
VA24D1891-004	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1785004)											
FJ2403566-004	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: 1783488)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1790007)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1790009)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1783491)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1783492)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1783493)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1783494)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1783495)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1783496)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1785233)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1785234)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1785236)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Organic / Inorganic Carbon (QCLot: 1785235)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1783895)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1783623)						
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: 1783623) - 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: 1790674)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1784725)						
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: 1784725) - 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: 1791241)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1785004)						
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: 1783488)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1790007)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	99.5	85.0	115	----
Physical Tests (QCLot: 1790009)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1783491)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.6	90.0	110	----
Anions and Nutrients (QCLot: 1783492)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.4	90.0	110	----
Anions and Nutrients (QCLot: 1783493)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1783494)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 1783495)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.0	90.0	110	----
Anions and Nutrients (QCLot: 1783496)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	108	85.0	115	----
Anions and Nutrients (QCLot: 1785233)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.5	85.0	115	----
Anions and Nutrients (QCLot: 1785234)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	94.7	80.0	120	----
Anions and Nutrients (QCLot: 1785236)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1785235)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Total Sulfides (QCLot: 1783895)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	101	80.0	120	----
Total Metals (QCLot: 1783623)									

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: 1783623) - continued									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	106	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	110	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	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	105	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	116	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	109	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	106	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	106	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	107	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	106	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	104	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	112	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	106	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	104	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	101	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	105	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	112	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	118	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	101	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	110	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	105	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	106	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	109	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	110	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	103	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	105	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	101	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	104	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1783623) - continued									
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	107	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Total Metals (QCLot: 1790674)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	108	80.0	120	----
Dissolved Metals (QCLot: 1784725)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	100	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	106	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	105	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	92.4	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	103	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	94.3	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	100	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	106	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	100	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	103	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	101	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	101	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	99.9	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	95.0	80.0	120	----
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	104	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	95.8	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	105	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	102	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	106	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	91.0	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: 1784725) - continued									
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	109	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	104	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	101	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	99.4	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.3	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	99.2	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	102	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	100	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	101	80.0	120	----
Speciated Metals (QCLot: 1785004)									
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: 1783491)										
VA24D1849-016	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1783492)										
VA24D1849-016	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.52 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1783493)										
VA24D1849-016	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.511 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1783494)										
VA24D1849-016	Anonymous	Fluoride	16984-48-8	E235.F	1.03 mg/L	1 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1783495)										
VA24D1849-016	Anonymous	Chloride	16887-00-6	E235.Cl	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1783496)										
VA24D1849-016	Anonymous	Bromide	24959-67-9	E235.Br-L	0.506 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1785233)										
KS2404903-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.124 mg/L	0.1 mg/L	124	75.0	125	----
Anions and Nutrients (QCLot: 1785234)										
KS2404945-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0491 mg/L	0.05 mg/L	98.2	70.0	130	----
Anions and Nutrients (QCLot: 1785236)										
VA24D1786-002	Anonymous	Nitrogen, total	7727-37-9	E366	0.387 mg/L	0.4 mg/L	96.8	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1785235)										
KS2404945-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.99 mg/L	5 mg/L	99.9	70.0	130	----
Total Sulfides (QCLot: 1783895)										
VA24D1903-002	BCR DS 1	Sulfide, total (as S)	18496-25-8	E395	0.215 mg/L	0.2 mg/L	107	75.0	125	----
Total Metals (QCLot: 1783623)										
VA24D1850-002	Anonymous	Aluminum, total	7429-90-5	E420	0.189 mg/L	0.2 mg/L	94.6	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00917 mg/L	0.01 mg/L	91.7	70.0	130	----
		Boron, total	7440-42-8	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00400 mg/L	0.004 mg/L	100	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0382 mg/L	0.04 mg/L	95.6	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1783623) - continued										
VA24D1850-002	Anonymous	Cobalt, total	7440-48-4	E420	0.0191 mg/L	0.02 mg/L	95.6	70.0	130	----
		Copper, total	7440-50-8	E420	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Iron, total	7439-89-6	E420	1.91 mg/L	2 mg/L	95.5	70.0	130	----
		Lead, total	7439-92-1	E420	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0876 mg/L	0.1 mg/L	87.6	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0188 mg/L	0.02 mg/L	94.1	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0375 mg/L	0.04 mg/L	93.7	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.52 mg/L	10 mg/L	95.2	70.0	130	----
		Potassium, total	7440-09-7	E420	3.94 mg/L	4 mg/L	98.6	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	----
		Selenium, total	7782-49-2	E420	ND mg/L	----	ND	70.0	130	----
		Silicon, total	7440-21-3	E420	9.48 mg/L	10 mg/L	94.8	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	0.0429 mg/L	0.04 mg/L	107	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00366 mg/L	0.004 mg/L	91.6	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0196 mg/L	0.02 mg/L	97.8	70.0	130	----
		Tin, total	7440-31-5	E420	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0384 mg/L	0.04 mg/L	96.0	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00381 mg/L	0.004 mg/L	95.2	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0992 mg/L	0.1 mg/L	99.2	70.0	130	----
		Zinc, total	7440-66-6	E420	0.382 mg/L	0.4 mg/L	95.6	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0419 mg/L	0.04 mg/L	105	70.0	130	----
Total Metals (QCLot: 1790674)										
VA24D1876-009	Anonymous	Mercury, total	7439-97-6	E508	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 1784725)										
FJ2403563-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.189 mg/L	0.2 mg/L	94.4	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0394 mg/L	0.04 mg/L	98.6	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00877 mg/L	0.01 mg/L	87.7	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.094 mg/L	0.1 mg/L	94.0	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00399 mg/L	0.004 mg/L	99.7	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0105 mg/L	0.01 mg/L	105	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0197 mg/L	0.02 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
Dissolved Metals (QCLot: 1784725) - continued										
FJ2403563-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0196 mg/L	0.02 mg/L	98.3	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.96 mg/L	2 mg/L	97.9	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0195 mg/L	0.02 mg/L	97.3	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0992 mg/L	0.1 mg/L	99.2	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0198 mg/L	0.02 mg/L	99.2	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0212 mg/L	0.02 mg/L	106	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0383 mg/L	0.04 mg/L	95.9	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.0 mg/L	10 mg/L	100	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.85 mg/L	4 mg/L	96.2	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0207 mg/L	0.02 mg/L	103	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0412 mg/L	0.04 mg/L	103	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.76 mg/L	10 mg/L	97.6	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00430 mg/L	0.004 mg/L	108	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	20.0 mg/L	20 mg/L	100	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0442 mg/L	0.04 mg/L	111	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00386 mg/L	0.004 mg/L	96.4	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0173 mg/L	0.02 mg/L	86.7	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0190 mg/L	0.02 mg/L	95.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00392 mg/L	0.004 mg/L	98.0	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.397 mg/L	0.4 mg/L	99.3	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0427 mg/L	0.04 mg/L	107	70.0	130	----
Dissolved Metals (QCLot: 1791241)										
VA24D1891-005	Anonymous	Mercury, dissolved	7439-97-6	E509	0.000101 mg/L	0 mg/L	101	70.0	130	----
Speciated Metals (QCLot: 1785004)										
FJ2403566-005	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.260 mg/L	0.25 mg/L	104	70.0	130	----

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

Report To	Contact and company name below will appear on the final report
Company:	Triton Environmental
Contact:	
Phone:	
Street:	
City/Province:	
Postal Code:	

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
Email 1 or Fax
Email 2
Email 3

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-mm-yy hh:mm 2024

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

Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Invoice Distribution

Select Invoice Distribution: ☑ EMAIL ☑ MAIL ☑ FAX
Email 1 or Fax
Email 2

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):	VA24D1903

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: Can Dang	Sampler:

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 detail	NUMBER OF CONTAINERS
						F					P	P			F/P							
	~~WLNG-US-1~~ BCR US 1	25-~~BNOV~~-24	11:18	Water	R	R	R	R	R	R	R	R	R	R	R						N	9
	pH: 7.13 cond: 55 µS/cm temp: 4.6 °C																					
	~~WLNG-DS-1~~ BCR DS 1	25-NOV-24	12:09	Water	R	R	R	R	R	R	R	R	R	R	R						N	9
	pH: 7.12 cond: 49 µS/cm temp: 4.8 °C																					

Environmental Division
Vancouver
Work Order Reference
VA24D1903

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 add on report (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			
				9			

SHIPMENT RELEASE (client use)

Released by: Nov 25/24 Time: 14:11

INITIAL SHIPMENT RECEPTION (lab use only)

Received by: Date: Time:

FINAL SHIPMENT RECEPTION (lab use only)

Received by: Date: NOV-25 Time: 14:20

R ATIONS 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.

BCR Site Receiving Environment Field Notes and Logs

FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-11-25-Chycoski-04C6E

Project Component:	Tunnel	**Site Name:**	Receiving Environment - Downstream of Discharge
Inspection Date:	11/25/2024	**Location:**	BC Rail Site
Triton QP:	Lily Chycoski	**Latitude/Longitude:**	49.725514 -123.165123
Temperature(c):	Low -3 High 6	**Permit:**	AE 111824
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 12:09:00 **Flow Volume (visual):** low

Notes:

Odour Detected?:	No	**Notes:**	
Unusual Colour?	No	**Notes:**	
Unusual Observations?	No	**Notes:**	
Sheen on Water?	No	**Notes:**	

Samples Collected - Parameters

Total Metals + Mercury	Yes	**General Parameters (Alkalinity)**	Yes	**Other Sample:**	
Dissolved Metals + Mercury	Yes	**Total Sulfide, Unionized Sulfide**	Yes		
TSS	Yes	**Anions**	Yes		
TDS	Yes	**Total Trivalent Chromium**	Yes	**QA Samples:**	No
Nutrients	Yes	**VOC/VPH**	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

Cleaned sonde

Photos

Photo: 1

Location: SQU DS 1

Description: US view

Photo: 2

Location: SQU DS 1

Description: Across view

Photos

Photo: 3

Location: SQU DS 1

Description: DS view

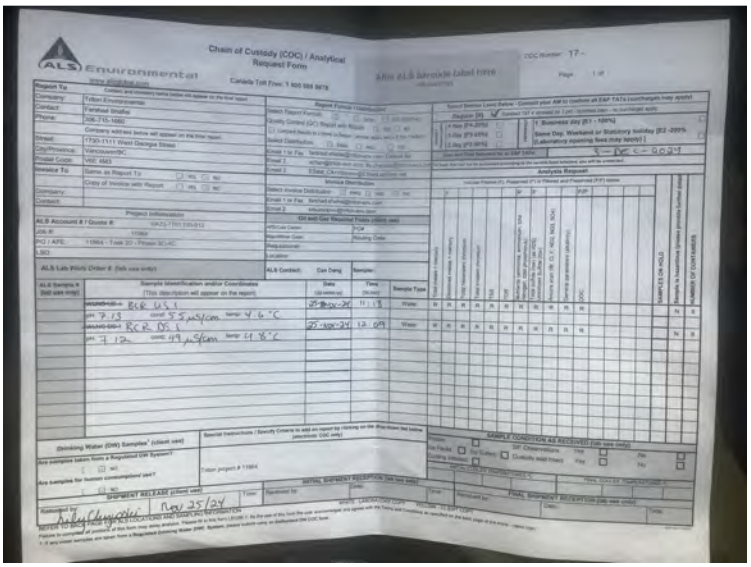


Photo: 4

Location: SQU DS 1

Description: Lab COC

Sign Off

Report Prepared By:	Lily Chycoski	**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

2024-11-25-Chycoski-C78B8

Project Component:	Tunnel	**Site Name:**	Receiving Environment - Upstream of Discharge
Inspection Date:	11/25/2024	**Location:**	BC Rail Site
Triton QP:	Lily Chycoski	**Latitude/Longitude:**	49.726866 -123.163912
Temperature(c):	Low -3 High 6	**Permit:**	AE 111824
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 11:18:00 **Flow Volume (visual):** low

Notes: Moved sonde US to 49.7270235 -123.1638495, and calibrated turbidity.

Odour Detected?:	No	**Notes:**	
Unusual Colour?	No	**Notes:**	
Unusual Observations?	No	**Notes:**	
Sheen on Water?	No	**Notes:**	

Samples Collected - Parameters

Total Metals + Mercury	Yes	**General Parameters (Alkalinity)**	Yes	**Other Sample:**	
Dissolved Metals + Mercury	Yes	**Total Sulfide, Unionized Sulfide**	Yes		
TSS	Yes	**Anions**	Yes		
TDS	Yes	**Total Trivalent Chromium**	Yes	**QA Samples:**	No
Nutrients	Yes	**VOC/VPH**	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

Moved sonde upstream to a spot with less underwater obstructions. Cleaned sonde and calibrated turbidity.

Photos

Photo: 1

Location: SQU US 1

Description: US view

Photo: 2

Location: SQU US 1

Description: Across view

Photos

Photo: 3

Location: SQU US 1

Description: DS view

Photo: 4

Location: SQU US 1

Description: New sonde location

Photos

Photo: 5

Location: SQU US 1

Description: New sonde receiver location

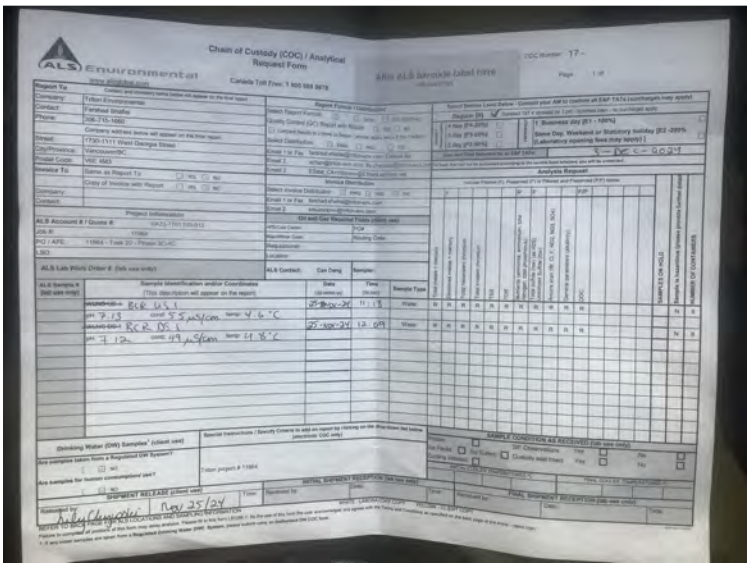


Photo: 6

Location: SQU US 1

Description: Lab COC

2024-11-25-Chycoski-C78B8

Sign Off

Report Prepared By:	Lily Chycoski	**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)
11/25/2024 0:00	7.3	38.6	5.3	11.2	0.0	0.0	11/25/2024 0:00	6.7	59.6	6.4	11.7	0.0	94.9
11/25/2024 0:15	7.3	38.4	5.3	11.2	0.0	0.0	11/25/2024 0:15	6.7	59.1	6.4	11.7	0.0	91.0
11/25/2024 0:30	7.3	38.4	5.3	11.2	0.0	18.3	11/25/2024 0:30	6.7	59.5	6.4	11.7	0.0	95.2
11/25/2024 0:45	7.2	38.2	5.3	11.2	0.0	0.0	11/25/2024 0:45	6.7	59.5	6.4	11.7	0.0	97.8
11/25/2024 1:00	5.3	38.2	0.0	7.3	11.2	0.0	11/25/2024 1:00	6.4	59.7	0.0	6.7	11.7	95.5
11/25/2024 1:15	5.3	38.0	0.0	7.2	11.2	0.0	11/25/2024 1:15	6.3	59.6	0.0	6.7	11.7	91.7
11/25/2024 1:30	5.3	38.5	0.0	7.3	11.2	0.0	11/25/2024 1:30	6.3	59.6	0.0	6.7	11.7	97.8
11/25/2024 1:45	5.3	38.4	0.0	7.3	11.2	0.0	11/25/2024 1:45	6.3	59.3	0.0	6.7	11.7	57.2
11/25/2024 2:00	5.3	38.3	0.0	7.3	11.2	0.0	11/25/2024 2:00	6.3	59.1	0.0	6.7	11.7	58.0
11/25/2024 2:15	5.3	38.1	0.0	7.3	11.2	0.0	11/25/2024 2:15	6.3	59.5	0.0	6.7	11.7	61.9
11/25/2024 2:30	5.2	38.0	0.0	7.3	11.2	0.0	11/25/2024 2:30	6.3	59.7	0.0	6.7	11.7	61.0
11/25/2024 2:45	5.2	38.0	0.0	7.3	11.2	0.0	11/25/2024 2:45	6.3	59.4	0.0	6.7	11.7	61.5
11/25/2024 3:00	5.2	39.2	0.0	7.3	11.2	0.0	11/25/2024 3:00	6.3	59.2	0.0	6.7	11.7	58.0
11/25/2024 3:15	5.2	38.1	0.0	7.3	11.2	0.0	11/25/2024 3:15	6.2	59.1	0.0	6.7	11.7	58.8
11/25/2024 3:30	5.2	38.1	0.0	7.3	11.2	0.0	11/25/2024 3:30	6.2	59.0	0.0	6.7	11.7	61.4
11/25/2024 3:45	5.2	38.0	0.0	7.3	11.2	0.5	11/25/2024 3:45	6.2	59.1	0.0	6.7	11.7	60.0
11/25/2024 4:00	5.1	38.2	0.0	7.3	11.2	0.0	11/25/2024 4:00	6.2	58.9	0.0	6.7	11.7	60.2
11/25/2024 4:15	5.1	38.0	0.0	7.3	11.2	0.0	11/25/2024 4:15	6.2	58.8	0.0	6.7	11.7	59.2
11/25/2024 4:30	5.1	38.0	0.0	7.3	11.2	0.0	11/25/2024 4:30	6.1	59.0	0.0	6.7	11.7	58.8
11/25/2024 4:45	5.1	38.0	0.0	7.3	11.3	0.0	11/25/2024 4:45	6.1	58.9	0.0	6.7	11.7	61.1
11/25/2024 5:00	5.1	38.2	0.0	7.3	11.2	0.0	11/25/2024 5:00	6.1	58.8	0.0	6.7	11.7	64.3
11/25/2024 5:15	5.0	38.3	0.0	7.3	11.3	0.0	11/25/2024 5:15	6.1	58.8	0.0	6.7	11.7	57.8
11/25/2024 5:30	5.0	38.4	0.0	7.3	11.2	0.0	11/25/2024 5:30	6.1	59.0	0.0	6.7	11.7	61.9
11/25/2024 5:45	5.0	38.8	0.0	7.3	11.2	0.0	11/25/2024 5:45	6.0	58.7	0.0	6.7	11.7	57.9
11/25/2024 6:00	5.0	37.9	0.0	7.3	11.2	0.0	11/25/2024 6:00	6.0	59.0	0.0	6.7	11.7	59.7
11/25/2024 6:15	5.0	39.4	0.0	7.2	11.2	0.0	11/25/2024 6:15	6.0	59.1	0.0	6.7	11.7	59.4
11/25/2024 6:30	4.9	38.5	0.0	7.2	11.3	0.0	11/25/2024 6:30	6.0	58.8	0.0	6.7	11.7	57.8
11/25/2024 6:45	4.9	38.3	0.0	7.2	11.3	0.0	11/25/2024 6:45	6.0	59.3	0.0	6.7	11.8	60.4
11/25/2024 7:00	4.9	38.9	0.0	7.2	11.2	0.0	11/25/2024 7:00	5.9	59.2	0.0	6.7	11.7	61.5
11/25/2024 7:15	4.9	39.2	0.0	7.2	11.2	0.9	11/25/2024 7:15	5.9	59.0	0.0	6.7	11.8	62.6
11/25/2024 7:30	5.0	40.8	0.0	7.1	11.1	0.2	11/25/2024 7:30	5.9	59.3	0.0	6.7	11.8	64.1
11/25/2024 7:45	4.9	39.8	0.0	7.1	11.2	1.6	11/25/2024 7:45	5.9	59.1	0.0	6.7	11.8	56.7
11/25/2024 8:00	5.0	41.7	0.0	7.1	10.9	0.0	11/25/2024 8:00	5.8	59.6	0.0	6.7	11.8	55.1
11/25/2024 8:15	4.9	40.5	0.0	7.1	11.1	0.4	11/25/2024 8:15	5.8	59.7	0.0	6.7	11.8	56.3
11/25/2024 8:30	4.9	41.6	0.0	7.1	11.2	0.2	11/25/2024 8:30	5.8	59.5	0.0	6.7	11.8	60.5
11/25/2024 8:45	4.8	40.5	0.0	7.0	11.2	0.0	11/25/2024 8:45	5.8	60.1	0.0	6.7	11.8	60.1
11/25/2024 9:00	5.0	45.3	0.0	7.0	11.0	0.1	11/25/2024 9:00	5.8	59.7	0.0	6.7	11.8	66.3
11/25/2024 9:15	4.9	41.8	0.0	7.0	11.1	0.5	11/25/2024 9:15	5.8	60.0	0.0	6.7	11.8	57.4
11/25/2024 9:30	4.8	40.1	0.0	7.1	11.2	0.0	11/25/2024 9:30	5.8	60.2	0.0	6.7	11.8	60.6
11/25/2024 9:45	4.7	39.9	0.0	7.1	11.3	0.0	11/25/2024 9:45	5.8	59.9	0.0	6.7	11.8	57.5
11/25/2024 10:00	4.7	39.3	0.0	7.2	11.3	0.0	11/25/2024 10:00	5.8	60.4	0.0	6.7	11.8	60.9
11/25/2024 10:15	4.8	40.6	0.0	7.2	11.2	0.1	11/25/2024 10:15	5.8	60.7	0.0	6.7	11.8	62.5
11/25/2024 10:30	4.7	39.5	0.0	7.1	11.3	0.0	11/25/2024 10:30	5.8	60.9	0.0	6.7	11.8	61.8
11/25/2024 10:45	4.7	39.2	0.0	7.3	11.4	0.0	11/25/2024 10:45	5.8	61.1	0.0	6.7	11.8	57.8
11/25/2024 11:00	4.7	39.8	0.0	7.2	11.4	0.0	11/25/2024 11:00	5.8	61.5	0.0	6.7	11.9	42.8
11/25/2024 11:15	4.7	33.2	0.0	7.3	11.4	0.0	11/25/2024 11:15	5.3	4.8	0.0	6.7	12.5	12.8
11/25/2024 11:30	4.7	33.0	0.0	7.3	11.4	0.0	11/25/2024 11:30	4.9	5.1	0.0	6.8	12.7	12.8
11/25/2024 11:45	4.7	38.8	0.0	7.3	11.4	0.0	11/25/2024 11:45	4.8	4.8	0.0	6.8	12.7	13.2
11/25/2024 12:00	4.8	36.4	0.0	7.4	11.4	0.0	11/25/2024 12:00	5.1	5.1	0.0	6.8	12.6	11.9
11/25/2024 12:15	4.8	36.2	0.0	7.4	11.5	0.0	11/25/2024 12:15						
11/25/2024 12:30	4.8	36.4	0.0	7.4	11.5	2.6	11/25/2024 12:30						
11/25/2024 12:45	4.8	36.3	0.0	7.4	11.5	0.0	11/25/2024 12:45	6.4	57.7	0.0	6.8	11.8	0.0
11/25/2024 13:00	4.8	38.7	0.0	7.4	11.5	0.0	11/25/2024 13:00	6.0	58.9	0.0	6.5	12.0	0.0
11/25/2024 13:15	4.8	38.3	0.0	7.4	11.5	0.0	11/25/2024 13:15	5.9	58.8	0.0	6.5	12.0	0.0
11/25/2024 13:30	4.8	38.3	0.0	7.4	11.5	0.0	11/25/2024 13:30	5.9	59.7	0.0	6.6	12.0	0.0
11/25/2024 13:45	4.8	38.7	0.0	7.4	11.5	0.0	11/25/2024 13:45	6.0	60.7	0.0	6.6	12.0	0.0
11/25/2024 14:00	4.8	39.0	0.0	7.3	11.5	0.0	11/25/2024 14:00	6.0	60.7	0.0	6.7	12.0	0.0
11/25/2024 14:15	4.9	39.1	0.0	7.4	11.5	0.0	11/25/2024 14:15	6.0	61.5	0.0	6.7	12.0	0.0
11/25/2024 14:30	4.9	39.4	0.0	7.4	11.5	0.0	11/25/2024 14:30	6.1	60.8	0.0	6.7	12.0	0.0
11/25/2024 14:45	4.9	39.5	0.0	7.4	11.5	0.0	11/25/2024 14:45	6.1	62.3	0.0	6.7	12.0	0.0
11/25/2024 15:00	4.9	40.3	0.0	7.5	11.5	21.9	11/25/2024 15:00	6.1	61.9	0.0	6.7	12.0	0.0
11/25/2024 15:15	4.9	40.2	0.0	7.5	11.5	0.0	11/25/2024 15:15	6.1	63.9	0.0	6.7	12.0	0.0
11/25/2024 15:30	4.9	41.1	0.0	7.4	11.5	0.0	11/25/2024 15:30	6.1	64.9	0.0	6.7	12.0	0.0
11/25/2024 15:45	4.9	42.0	0.0	7.4	11.5	0.0	11/25/2024 15:45	6.1	67.1	0.0	6.7	11.9	0.0
11/25/2024 16:00	4.9	42.3	0.0	7.4	11.5	0.0	11/25/2024 16:00	6.0	66.4	0.0	6.7	11.9	0.0
11/25/2024 16:15	4.8	41.9	0.0	7.4	11.5	10.7	11/25/2024 16:15	6.0	66.2	0.0	6.7	11.9	0.0
11/25/2024 16:30	4.8	42.5	0.0	7.4	11.5	0.0	11/25/2024 16:30	6.0	67.8	0.0	6.7	11.9	0.0
11/25/2024 16:45	4.8	42.7	0.0	7.4	11.4	0.0	11/25/2024 16:45	5.9	67.4	0.0	6.7	11.8	0.0
11/25/2024 17:00	4.7	42.6	0.0	7.4	11.4	0.0	11/25/2024 17:00	5.9	66.0	0.0	6.7	11.8	0.0
11/25/2024 17:15	4.7	41.5	0.0	7.4	11.4	0.0	11/25/2024 17:15	5.8	63.9	0.0	6.7	11.8	0.0
11/25/2024 17:30	4.7	41.2	0.0	7.3	11.4	0.0	11/25/2024 17:30	5.8	63.6	0.0	6.6	11.8	0.0
11/25/2024 17:45	4.6	41.4	0.0	7.3	11.4	0.0	11/25/2024 17:45	5.8	65.0	0.0	6.5	11.6	0.0
11/25/2024 18:00	4.6	41.1	0.0	7.3	11.4	0.0	11/25/2024 18:00	5.8	64.0	0.0	6.4	11.6	0.0
11/25/2024 18:15	4.6	40.8	0.0	7.3	11.4	0.0	11/25/2024 18:15	5.7	63.0	0.0	6.5	11.8	0.0
11/25/2024 18:30	4.6	42.3	0.0	7.3	11.3	0.3	11/25/2024 18:30	5.3	3.4	0.0	6.7	12.6	0.0
11/25/2024 18:45	4.9	50.8	0.0	7.1	10.9	16.1	11/25/2024 18:45	4.7	4.4	0.0	6.7	12.7	0.0
11/25/2024 19:00	5.6	73.0	0.0	6.7	9.0	12.1	11/25/2024 19:00	4.3	4.6	0.0	6.7	12.9	0.0
11/25/2024 19:15	5.5	74.1	0.0	6.6	8.7	8.8	11/25/2024 19:15	3.9	4.8	0.0	6.5	13.0	0.0
11/25/2024 19:30	5.4	78.9	0.0	6.6	10.6	1567.7	11/25/2024 19:30	3.8	4.9	0.0	6.5	13.0	0.0
11/25/2024 19:45	5.2	64.7	0.0	6.7	11.0	11.5	11/25/2024 19:45	3.5	4.8	0.0	6.6	13.2	0.0
11/25/2024 20:00	5.3	67.9	0.0	6.6	11.4	17.0	11/25/2024 20:00	3.3	4.9	0.0	6.8	13.2	0.0
11/25/2024 20:15	5.4	72.4	0.0	6.6	11.5	20.1	11/25/2024 20:15	3.2	5.0	0.0	6.8	13.3	0.0
11/25/2024 20:30	5.1	63.2	0.0	6.6	11.5	4.9	11/25/2024 20:30	3.0	5.1	0.0	6.8	13.3	0.0
11/25/2024 20:45	5.2	65.6	0.0	6.7	10.5	2.3	11/25/2024 20:45	2.9	5.0	0.0	6.8	13.4	0.0
11/25/2024 21:00	5.4	71.2	0.0	6.6	9.2	1.3	11/25/2024 21:00	2.8	4.9	0.0	6.7	13.4	0.0
11/25/2024 21:15	4.9	54.2	0.0	6.7	10.4	0.0	11/25/2024 21:15	2.7	5.1	0.0	6.7	13.5	0.0
11/25/2024 21:30	4.8	49.3	0.0	6.8	10.5	0.0	11/25/2024 21:30	2.6	5.1	0.0	6.7	13.5	0.0

11/25/2024 21:45	4.4	43.2	0.0	7.0	11.2	0.0	11/25/2024 21:45	2.7	5.2	0.0	6.8	13.5	0.0
11/25/2024 22:00	4.3	41.8	0.0	7.1	11.3	0.0	11/25/2024 22:00	3.9	4.8	0.0	6.7	13.2	0.0
11/25/2024 22:15	4.3	42.1	0.0	7.2	11.4	0.0	11/25/2024 22:15	5.2	29.1	0.0	6.6	12.0	0.0
11/25/2024 22:30	4.3	41.8	0.0	7.2	11.4	0.0	11/25/2024 22:30	5.4	63.8	0.0	6.6	11.9	0.0
11/25/2024 22:45	4.3	41.1	0.0	7.3	11.4	0.0	11/25/2024 22:45	5.4	64.0	0.0	6.6	11.9	0.0
11/25/2024 23:00	4.2	40.7	0.0	7.3	11.5	0.0	11/25/2024 23:00	5.4	63.7	0.0	6.6	11.9	0.0
11/25/2024 23:15	4.2	41.2	0.0	7.3	11.5	0.0	11/25/2024 23:15	5.4	63.6	0.0	6.6	11.8	0.0
11/25/2024 23:30	4.2	40.7	0.0	7.3	11.5	0.0	11/25/2024 23:30	5.3	63.6	0.0	6.6	11.9	0.0
11/25/2024 23:45	4.2	40.4	0.0	7.3	11.5	0.0	11/25/2024 23:45	5.3	63.2	0.0	6.6	11.9	0.0
11/26/2024 0:00	4.2	40.1	0.0	7.3	11.5	0.0	11/26/2024 0:00	5.3	63.5	0.0	6.5	11.9	0.0
11/26/2024 0:15	4.1	39.8	0.0	7.3	11.5	0.0	11/26/2024 0:15	5.3	62.9	0.0	6.6	11.9	0.0
11/26/2024 0:30	4.1	39.7	0.0	7.3	11.5	0.0	11/26/2024 0:30	5.3	63.5	0.0	6.5	11.8	0.0
11/26/2024 0:45	4.1	39.5	0.0	7.3	11.5	0.0	11/26/2024 0:45	5.3	62.8	0.0	6.5	11.9	0.0
11/26/2024 1:00	4.1	39.5	0.0	7.3	11.6	0.0	11/26/2024 1:00	5.3	63.3	0.0	6.5	11.8	0.0
11/26/2024 1:15	4.1	39.1	0.0	7.3	11.6	0.0	11/26/2024 1:15	5.2	62.3	0.0	6.5	11.9	0.0
11/26/2024 1:30	4.1	38.9	0.0	7.3	11.6	0.0	11/26/2024 1:30	5.2	62.0	0.0	6.5	11.9	0.0
11/26/2024 1:45	4.0	39.0	0.0	7.3	11.6	0.0	11/26/2024 1:45	5.2	62.4	0.0	6.5	11.9	0.0
11/26/2024 2:00	4.0	38.8	0.0	7.3	11.6	0.0	11/26/2024 2:00	5.2	61.7	0.0	6.5	12.0	0.0
11/26/2024 2:15	4.0	39.3	0.0	7.3	11.6	0.0	11/26/2024 2:15	5.2	61.7	0.0	6.5	12.0	0.0
11/26/2024 2:30	4.1	40.0	0.0	7.4	11.6	0.0	11/26/2024 2:30	5.1	62.7	0.0	6.6	12.0	0.0
11/26/2024 2:45	4.0	40.9	0.0	7.4	11.6	0.0	11/26/2024 2:45	5.1	63.6	0.0	6.6	12.0	3.9
11/26/2024 3:00	4.0	42.0	0.0	7.4	11.6	0.0	11/26/2024 3:00	5.1	64.6	0.0	6.6	12.0	0.0
11/26/2024 3:15	4.0	42.5	0.0	7.3	11.6	0.0	11/26/2024 3:15	5.1	64.6	0.0	6.7	12.0	0.0
11/26/2024 3:30	4.0	43.4	0.0	7.4	11.6	0.0	11/26/2024 3:30	5.1	65.9	0.0	6.7	12.0	0.0
11/26/2024 3:45	4.0	43.5	0.0	7.4	11.6	0.0	11/26/2024 3:45	5.1	65.7	0.0	6.7	12.1	0.0
11/26/2024 4:00	4.0	43.5	0.0	7.4	11.6	0.0	11/26/2024 4:00	5.1	65.7	0.0	6.7	12.1	0.0
11/26/2024 4:15	3.9	43.3	0.0	7.4	11.6	0.0	11/26/2024 4:15	5.0	65.6	0.0	6.7	12.1	0.0
11/26/2024 4:30	3.9	43.1	0.0	7.4	11.6	0.0	11/26/2024 4:30	5.0	65.3	0.0	6.7	12.0	0.0
11/26/2024 4:45	3.9	42.8	0.0	7.4	11.6	0.0	11/26/2024 4:45	5.0	65.6	0.0	6.7	12.0	0.0
11/26/2024 5:00	3.9	42.6	0.0	7.3	11.6	0.0	11/26/2024 5:00	5.0	64.9	0.0	6.7	12.0	0.0
11/26/2024 5:15	3.8	42.1	0.0	7.4	11.7	0.0	11/26/2024 5:15	5.0	64.8	0.0	6.6	12.0	0.0
11/26/2024 5:30	3.8	42.4	0.0	7.4	11.6	0.0	11/26/2024 5:30	5.0	65.1	0.0	6.6	11.9	0.0
11/26/2024 5:45	3.8	41.9	0.0	7.4	11.6	0.0	11/26/2024 5:45	5.0	65.9	0.0	6.5	11.9	0.0
11/26/2024 6:00	3.8	42.4	0.0	7.4	11.6	0.0	11/26/2024 6:00	5.0	65.3	0.0	6.5	11.9	0.0
11/26/2024 6:15	3.8	41.9	0.0	7.4	11.6	0.0	11/26/2024 6:15	4.9	64.6	0.0	6.6	12.0	0.0
11/26/2024 6:30	3.8	42.7	0.0	7.4	11.6	0.0	11/26/2024 6:30	4.9	63.9	0.0	6.6	12.1	0.0
11/26/2024 6:45	3.7	42.4	0.0	7.4	11.6	0.0	11/26/2024 6:45	4.8	60.6	0.0	6.7	12.1	0.0
11/26/2024 7:00	3.8	43.2	0.0	7.3	11.5	0.0	11/26/2024 7:00	4.2	3.8	0.0	6.8	13.0	0.0
11/26/2024 7:15	3.7	43.1	0.0	7.3	11.6	3.4	11/26/2024 7:15	3.8	4.8	0.0	6.8	13.1	0.0
11/26/2024 7:30	4.1	51.1	0.0	7.1	10.8	0.0	11/26/2024 7:30	3.2	5.2	0.0	6.7	13.3	0.0
11/26/2024 7:45	4.3	53.5	0.0	6.9	10.6	0.0	11/26/2024 7:45	2.7	5.2	0.0	6.7	13.5	0.0
11/26/2024 8:00	4.3	60.4	0.0	6.7	11.3	13.0	11/26/2024 8:00	2.3	5.5	0.0	6.8	13.6	0.0
11/26/2024 8:15	4.4	41.0	0.0	6.7	12.0	188.3	11/26/2024 8:15	1.8	5.8	0.0	6.8	13.8	0.0
11/26/2024 8:30	4.5	38.8	0.0	6.7	12.0	0.0	11/26/2024 8:30	1.5	6.0	0.0	6.8	13.9	0.0
11/26/2024 8:45	4.6	11.9	0.0	6.8	12.0	0.0	11/26/2024 8:45	1.3	5.4	0.0	6.9	14.0	0.0
11/26/2024 9:00	4.8	0.1	0.0	6.9	11.9	0.0	11/26/2024 9:00	1.2	5.8	0.0	6.9	14.1	0.0
11/26/2024 9:15	4.9	0.1	0.0	7.2	11.9	0.0	11/26/2024 9:15	1.2	6.8	0.0	6.9	14.1	0.0
11/26/2024 9:30	4.9	0.1	0.0	7.3	11.9	0.0	11/26/2024 9:30	1.2	6.8	0.0	6.9	14.1	0.0
11/26/2024 9:45	5.3	0.1	0.0	7.3	11.7	0.0	11/26/2024 9:45	1.2	6.5	0.0	6.9	14.1	0.0
11/26/2024 10:00	5.7	1.7	0.0	6.9	11.6	0.0	11/26/2024 10:00	1.2	6.5	0.0	7.0	14.1	0.0
11/26/2024 10:15	6.0	13.6	0.0	6.7	11.5	0.0	11/26/2024 10:15	1.3	6.7	0.0	7.0	14.1	0.0
11/26/2024 10:30	4.8	45.3	0.0	6.7	12.0	32.2	11/26/2024 10:30	1.3	6.7	0.0	7.0	14.1	0.0
11/26/2024 10:45	4.3	53.7	0.0	6.9	10.8	0.0	11/26/2024 10:45	1.4	6.3	0.0	7.0	14.0	0.0
11/26/2024 11:00	4.0	48.8	0.0	6.9	11.0	0.0	11/26/2024 11:00	1.5	6.3	0.0	7.0	14.0	0.0
11/26/2024 11:15	3.7	45.9	0.0	7.1	11.5	0.0	11/26/2024 11:15	1.8	6.4	0.0	7.0	13.9	0.0
11/26/2024 11:30	3.7	44.6	0.0	7.2	11.6	0.0	11/26/2024 11:30	4.3	31.5	0.0	6.7	12.4	0.0
11/26/2024 11:45	3.7	44.6	0.0	7.3	11.6	0.0	11/26/2024 11:45	4.8	68.3	0.0	6.7	12.2	0.0
11/26/2024 12:00	3.7	44.4	0.0	7.3	11.6	0.0	11/26/2024 12:00	4.8	67.8	0.0	6.7	12.1	0.0
11/26/2024 12:15	3.7	44.2	0.0	7.3	11.7	0.0	11/26/2024 12:15	4.9	68.2	0.0	6.6	12.1	0.0
11/26/2024 12:30	3.7	44.2	0.0	7.3	11.7	0.0	11/26/2024 12:30	4.9	67.2	0.0	6.7	12.2	0.0
11/26/2024 12:45	3.8	43.8	0.0	7.3	11.7	0.0	11/26/2024 12:45	4.9	67.1	0.0	6.7	12.2	0.0
11/26/2024 13:00	3.8	43.9	0.0	7.3	11.7	0.0	11/26/2024 13:00	5.0	67.7	0.0	6.7	12.2	0.0
11/26/2024 13:15	3.8	44.4	0.0	7.4	11.7	0.0	11/26/2024 13:15	5.0	70.0	0.0	6.7	12.1	0.0
11/26/2024 13:30	3.9	44.9	0.0	7.3	11.7	0.0	11/26/2024 13:30	5.0	68.7	0.0	6.7	12.1	0.0
11/26/2024 13:45	3.9	44.4	0.0	7.3	11.7	0.0	11/26/2024 13:45	5.0	67.6	0.0	6.8	12.2	0.0
11/26/2024 14:00	3.9	43.8	0.0	7.3	11.7	0.0	11/26/2024 14:00	5.0	66.8	0.0	6.7	12.2	0.0
11/26/2024 14:15	3.9	43.8	0.0	7.3	11.8	0.0	11/26/2024 14:15	5.1	67.4	0.0	6.7	12.2	0.0
11/26/2024 14:30	3.9	43.6	0.0	7.4	11.8	0.0	11/26/2024 14:30	5.1	66.4	0.0	6.8	12.2	0.0
11/26/2024 14:45	3.9	43.2	0.0	7.4	11.8	0.0	11/26/2024 14:45	5.1	66.9	0.0	6.8	12.2	0.0
11/26/2024 15:00	3.9	43.4	0.0	7.4	11.8	0.0	11/26/2024 15:00	5.1	66.0	0.0	6.8	12.3	0.0
11/26/2024 15:15	3.9	43.1	0.0	7.4	11.8	0.0	11/26/2024 15:15	5.1	67.5	0.0	6.8	12.3	0.0
11/26/2024 15:30	4.0	43.7	0.0	7.4	11.8	0.0	11/26/2024 15:30	5.2	69.2	0.0	6.8	12.2	0.0
11/26/2024 15:45	4.0	44.5	0.0	7.4	11.8	0.0	11/26/2024 15:45	5.2	70.2	0.0	6.8	12.2	0.0
11/26/2024 16:00	4.0	44.9	0.0	7.4	11.8	0.0	11/26/2024 16:00	5.1	70.2	0.0	6.8	12.2	0.0
11/26/2024 16:15	3.9	45.5	0.0	7.4	11.7	0.0	11/26/2024 16:15	5.2	72.4	0.0	6.8	12.2	0.0
11/26/2024 16:30	3.9	46.8	0.0	7.4	11.7	0.0	11/26/2024 16:30	5.1	73.8	0.0	6.7	12.1	0.0
11/26/2024 16:45	3.9	47.1	0.0	7.4	11.7	0.0	11/26/2024 16:45	5.1	73.8	0.0	6.7	12.1	0.0
11/26/2024 17:00	3.8	47.0	0.0	7.3	11.7	0.0	11/26/2024 17:00	5.0	72.7	0.0	6.7	12.1	0.0
11/26/2024 17:15	3.8	46.3	0.0	7.4	11.7	0.0	11/26/2024 17:15	5.0	71.6	0.0	6.7	12.1	0.0
11/26/2024 17:30	3.7	45.8	0.0	7.3	11.7	0.0	11/26/2024 17:30	5.0	71.4	0.0	6.5	11.9	0.0
11/26/2024 17:45	3.7	45.2	0.0	7.3	11.6	0.0	11/26/2024 17:45	4.9	69.4	0.0	6.6	12.0	0.0
11/26/2024 18:00	3.7	45.9	0.0	7.3	11.6	0.0	11/26/2024 18:00	4.8	9.0	0.0	6.6	12.1	1.3
11/26/2024 18:15	4.1	54.4	0.0	7.1	10.7	10.0	11/26/2024 18:15	4.4	3.6	0.0	6.8	13.0	0.0
11/26/2024 18:30	7.3	64.3	0.0	6.5	11.0	0.0	11/26/2024 18:30	3.9	4.6	0.0	6.8	13.1	0.0
11/26/2024 18:45	5.9	14.9	0.0	6.7	11.6	0.0	11/26/2024 18:45	3.6	5.1	0.0	6.8	13.2	0.0
11/26/2024 19:00	5.4	13.8	0.0	6.7	11.7	0.0	11/26/2024 19:00	3.4	5.2	0.0	6.8	13.3	0.0
11/26/2024 19:15	5.2	12.5	0.0	6.7	11.8	0.0	11/26/2024 19:15	3.3	5.4	0.0	6.8	13.4	0.0
11/26/2024 19:30	5.0	11.7	0.0	6.8	11.8	0.0	11/26/2024 19:30	3.2	5.6	0.0	6.7	13.4	0.0
11/26/2024 19:45	5.0	11.5	0.0	6.8	11.9	0.0	11/26/2024 19:45	3.2	5.4	0.0	6.8	13.4	0.0
11/26/2024 20:00	4.9	11.3	0.0	6.8	11.9	0.0	11/26/2024 20:00	3.1	5.4	0.0	6.9	13.4	0.0
11/26/2024 20:15	4.9	11.2	0.0	6.8	11.9	0.0	11/26/2024 20:15	3.1	5.6	0.0	6.9	13.4	0.0

11/26/2024 20:30	4.9	11.0	0.0	6.8	11.9	0.0	11/26/2024 20:30	3.1	5.7	0.0	6.9	13.4	0.0
11/26/2024 20:45	5.0	10.9	0.0	6.8	11.9	0.0	11/26/2024 20:45	3.1	5.1	0.0	6.8	13.4	0.0
11/26/2024 21:00	5.0	10.8	0.0	6.8	11.9	0.0	11/26/2024 21:00	3.1	5.4	0.0	6.8	13.4	0.0
11/26/2024 21:15	5.1	10.7	0.0	6.8	11.9	0.0	11/26/2024 21:15	3.1	5.6	0.0	6.8	13.4	0.0
11/26/2024 21:30	5.1	10.6	0.0	6.8	11.8	0.0	11/26/2024 21:30	3.2	5.7	0.0	6.8	13.4	0.0
11/26/2024 21:45	5.2	10.5	0.0	6.8	11.8	0.0	11/26/2024 21:45	3.3	5.2	0.0	6.8	13.4	0.0
11/26/2024 22:00	5.2	10.4	0.0	6.8	11.8	0.0	11/26/2024 22:00	3.2	5.3	0.0	7.0	13.4	0.0
11/26/2024 22:15	5.2	10.3	0.0	6.8	11.8	0.0	11/26/2024 22:15	3.2	5.6	0.0	6.9	13.4	0.0
11/26/2024 22:30	5.3	10.2	0.0	6.8	11.8	0.0	11/26/2024 22:30	3.2	5.7	0.0	6.9	13.4	0.0
11/26/2024 22:45	5.3	10.1	0.0	6.8	11.8	0.0	11/26/2024 22:45	3.3	5.1	0.0	6.9	13.4	0.0
11/26/2024 23:00	5.3	10.0	0.0	6.8	11.8	0.0	11/26/2024 23:00	3.3	5.3	0.0	6.8	13.4	0.0
11/26/2024 23:15	5.3	9.9	0.0	6.8	11.7	0.0	11/26/2024 23:15	3.2	5.5	0.0	6.8	13.4	0.0
11/26/2024 23:30	5.3	9.9	0.0	6.8	11.8	0.0	11/26/2024 23:30	3.2	5.6	0.0	6.8	13.4	0.0
11/26/2024 23:45	5.4	9.8	0.0	6.8	11.7	0.0	11/26/2024 23:45	3.2	5.3	0.0	6.8	13.4	0.0
11/27/2024 0:00	5.3	9.7	0.0	6.8	11.8	0.0	11/27/2024 0:00	3.2	5.1	0.0	7.0	13.4	0.0
11/27/2024 0:15	5.4	9.6	0.0	6.8	11.8	0.0	11/27/2024 0:15	3.1	5.2	0.0	7.0	13.4	0.0
11/27/2024 0:30	5.4	9.6	0.0	6.8	11.8	0.0	11/27/2024 0:30	3.2	5.4	0.0	7.0	13.4	0.0
11/27/2024 0:45	5.4	9.5	0.0	6.8	11.8	0.0	11/27/2024 0:45	3.2	5.1	0.0	7.0	13.4	0.0
11/27/2024 1:00	5.4	9.5	0.0	6.8	11.7	0.0	11/27/2024 1:00	3.2	5.0	0.0	6.9	13.4	0.0
11/27/2024 1:15	5.3	9.4	0.0	6.8	11.7	0.0	11/27/2024 1:15	3.2	5.2	0.0	6.9	13.4	0.0
11/27/2024 1:30	5.4	9.3	0.0	6.8	11.8	0.0	11/27/2024 1:30	3.2	5.4	0.0	6.9	13.4	0.0
11/27/2024 1:45	5.4	9.3	0.0	6.8	11.8	0.0	11/27/2024 1:45	3.2	5.1	0.0	7.0	13.4	0.0
11/27/2024 2:00	5.4	9.3	0.0	6.8	11.8	0.0	11/27/2024 2:00	3.2	4.7	0.0	7.2	13.4	0.0
11/27/2024 2:15	5.4	9.2	0.0	6.8	11.7	0.0	11/27/2024 2:15	3.2	4.9	0.0	7.1	13.4	0.0
11/27/2024 2:30	5.3	9.1	0.0	6.8	11.8	0.0	11/27/2024 2:30	3.2	5.0	0.0	7.1	13.4	0.0
11/27/2024 2:45	5.4	9.2	0.0	6.8	11.8	0.0	11/27/2024 2:45	3.2	5.0	0.0	7.1	13.4	0.0
11/27/2024 3:00	5.2	25.9	0.0	6.7	11.9	0.0	11/27/2024 3:00	3.2	4.8	0.0	7.0	13.4	0.0
11/27/2024 3:15	4.2	39.2	0.0	6.7	11.2	0.0	11/27/2024 3:15	3.2	4.9	0.0	7.0	13.4	0.0
11/27/2024 3:30	4.0	37.9	0.0	6.7	11.5	0.0	11/27/2024 3:30	4.2	2.7	0.0	6.7	12.5	19.3
11/27/2024 3:45	4.0	37.4	0.0	6.7	11.5	0.0	11/27/2024 3:45	4.9	68.7	0.0	6.7	12.2	0.0
11/27/2024 4:00	4.0	37.2	0.0	6.7	11.5	0.0	11/27/2024 4:00	4.9	67.6	0.0	6.7	12.2	0.0
11/27/2024 4:15	3.9	36.8	0.0	6.7	11.6	0.0	11/27/2024 4:15	4.9	67.4	0.0	6.7	12.1	0.0
11/27/2024 4:30	3.9	36.6	0.0	6.7	11.6	0.0	11/27/2024 4:30	4.9	67.1	0.0	6.7	12.2	0.0
11/27/2024 4:45	3.9	36.4	0.0	6.7	11.6	0.0	11/27/2024 4:45	4.9	67.7	0.0	6.7	12.2	0.0
11/27/2024 5:00	3.9	36.2	0.0	6.7	11.6	0.0	11/27/2024 5:00	4.9	68.0	0.0	6.7	12.2	0.0
11/27/2024 5:15	3.9	36.2	0.0	6.7	11.6	0.0	11/27/2024 5:15	4.9	69.0	0.0	6.7	12.1	0.0
11/27/2024 5:30	3.9	36.4	0.0	6.7	11.6	0.0	11/27/2024 5:30	5.0	70.5	0.0	6.7	12.1	0.0
11/27/2024 5:45	3.9	36.2	0.0	6.7	11.6	0.0	11/27/2024 5:45	5.0	69.8	0.0	6.7	12.1	0.0
11/27/2024 6:00	3.9	36.2	0.0	6.7	11.6	0.0	11/27/2024 6:00	5.0	69.8	0.0	6.7	12.1	0.0
11/27/2024 6:15	3.9	36.0	0.0	6.7	11.6	0.0	11/27/2024 6:15	5.0	70.4	0.0	6.7	12.0	0.0
11/27/2024 6:30	3.9	36.1	0.0	6.7	11.6	0.0	11/27/2024 6:30	5.0	71.4	0.0	6.6	12.0	0.0
11/27/2024 6:45	3.9	36.0	0.0	6.7	11.5	0.0	11/27/2024 6:45	5.0	71.1	0.0	6.7	12.0	0.0
11/27/2024 7:00	3.9	36.1	0.0	6.7	11.5	0.0	11/27/2024 7:00	5.0	70.7	0.0	6.6	12.0	0.0
11/27/2024 7:15	3.9	35.8	0.0	6.7	11.6	0.0	11/27/2024 7:15	5.0	69.8	0.0	6.7	12.1	0.0
11/27/2024 7:30	3.9	35.9	0.0	6.7	11.5	0.0	11/27/2024 7:30	4.9	7.9	0.0	6.7	12.1	0.0
11/27/2024 7:45	3.9	35.9	0.0	6.7	11.5	0.0	11/27/2024 7:45	4.6	4.6	0.0	6.8	13.0	0.0
11/27/2024 8:00	4.0	37.6	0.0	6.7	11.1	0.0	11/27/2024 8:00	4.3	4.8	0.0	6.8	13.0	0.0
11/27/2024 8:15	4.4	40.3	0.0	6.7	10.5	1.0	11/27/2024 8:15	3.9	5.0	0.0	6.8	13.2	0.0
11/27/2024 8:30	5.0	22.1	0.0	6.7	11.9	0.0	11/27/2024 8:30	3.6	5.2	0.0	6.8	13.3	0.0
11/27/2024 8:45	4.8	8.5	0.0	6.7	12.0	0.0	11/27/2024 8:45	3.4	4.8	0.0	7.0	13.3	0.0
11/27/2024 9:00	4.8	8.0	0.0	6.7	12.0	0.0	11/27/2024 9:00	3.3	5.0	0.0	7.0	13.4	0.0
11/27/2024 9:15	4.7	7.7	0.0	6.8	12.0	0.0	11/27/2024 9:15	3.3	5.4	0.0	7.0	13.4	0.0
11/27/2024 9:30	4.8	7.6	0.0	6.8	12.0	0.0	11/27/2024 9:30	3.3	5.5	0.0	7.0	13.4	0.0
11/27/2024 9:45	4.8	7.5	0.0	6.8	12.0	0.0	11/27/2024 9:45	3.2	5.0	0.0	7.1	13.4	0.0
11/27/2024 10:00	4.9	7.5	0.0	6.8	12.0	0.0	11/27/2024 10:00	3.3	5.0	0.0	7.2	13.4	0.0
11/27/2024 10:15	4.9	7.4	0.0	6.8	11.9	0.0	11/27/2024 10:15	3.3	5.1	0.0	7.2	13.4	0.0
11/27/2024 10:30	5.0	7.4	0.0	6.8	11.9	0.0	11/27/2024 10:30	3.4	5.2	0.0	7.2	13.4	0.0
11/27/2024 10:45	5.1	7.3	0.0	6.8	11.9	0.0	11/27/2024 10:45	3.5	4.7	0.0	7.1	13.3	0.0
11/27/2024 11:00	5.1	7.3	0.0	6.8	11.9	0.0	11/27/2024 11:00	3.7	4.7	0.0	7.1	13.3	0.0
11/27/2024 11:15	5.2	7.4	0.0	6.8	11.9	0.0	11/27/2024 11:15	3.8	4.9	0.0	7.1	13.2	0.0
11/27/2024 11:30	5.2	9.2	0.0	6.8	11.9	0.0	11/27/2024 11:30	3.9	5.0	0.0	7.1	13.2	0.0
11/27/2024 11:45	4.5	36.4	0.0	6.8	10.7	0.9	11/27/2024 11:45	4.1	4.8	0.0	7.1	13.1	0.0
11/27/2024 12:00	4.2	35.1	0.0	6.8	11.2	0.0	11/27/2024 12:00	4.3	4.7	0.0	7.2	13.1	0.0
11/27/2024 12:15	4.0	34.3	0.0	6.8	11.6	0.0	11/27/2024 12:15	4.7	4.7	0.0	6.7	12.7	496.0
11/27/2024 12:30	4.0	34.0	0.0	6.8	11.6	0.0	11/27/2024 12:30	5.1	68.8	0.0	6.7	12.2	0.0
11/27/2024 12:45	4.0	33.8	0.0	6.8	11.6	0.0	11/27/2024 12:45	5.2	68.8	0.0	6.7	12.2	0.0
11/27/2024 13:00	4.0	34.0	0.0	6.8	11.7	0.0	11/27/2024 13:00	5.2	67.8	0.0	6.7	12.2	0.0
11/27/2024 13:15	4.1	33.9	0.0	6.8	11.7	0.0	11/27/2024 13:15	5.2	67.1	0.0	6.7	12.2	0.0
11/27/2024 13:30	4.1	33.7	0.0	6.7	11.7	0.0	11/27/2024 13:30	5.2	66.7	0.0	6.8	12.3	0.0
11/27/2024 13:45	4.1	33.6	0.0	6.7	11.7	0.0	11/27/2024 13:45	5.2	67.9	0.0	6.8	12.3	0.0
11/27/2024 14:00	4.1	33.9	0.0	6.7	11.8	0.0	11/27/2024 14:00	5.2	68.2	0.0	6.8	12.3	0.0
11/27/2024 14:15	4.1	34.2	0.0	6.7	11.7	0.0	11/27/2024 14:15	5.3	70.7	0.0	6.8	12.2	0.0
11/27/2024 14:30	4.1	34.8	0.0	6.7	11.7	0.0	11/27/2024 14:30	5.4	74.2	0.0	6.7	12.1	0.0
11/27/2024 14:45	4.2	36.5	0.0	6.7	11.6	0.0	11/27/2024 14:45	5.4	72.5	0.0	6.8	12.1	0.0
11/27/2024 15:00	4.2	37.4	0.0	6.7	11.7	0.0	11/27/2024 15:00	5.4	71.6	0.0	6.7	12.2	0.0
11/27/2024 15:15	4.2	38.4	0.0	6.7	11.7	0.0	11/27/2024 15:15	5.4	71.1	0.0	6.8	12.2	0.0
11/27/2024 15:30	4.2	38.7	0.0	6.7	11.7	0.0	11/27/2024 15:30	5.4	70.7	0.0	6.8	12.2	0.0
11/27/2024 15:45	4.2	38.7	0.0	6.7	11.7	0.0	11/27/2024 15:45	5.4	70.9	0.0	6.8	12.2	0.0
11/27/2024 16:00	4.2	38.4	0.0	6.7	11.7	0.0	11/27/2024 16:00	5.4	70.3	0.0	6.8	12.2	0.0
11/27/2024 16:15	4.2	39.5	0.0	6.7	11.7	0.0	11/27/2024 16:15	5.5	72.4	0.0	6.8	12.2	0.0
11/27/2024 16:30	4.3	40.2	0.0	6.7	11.7	0.0	11/27/2024 16:30	5.5	74.4	0.0	6.8	12.1	0.0
11/27/2024 16:45	4.3	31.8	0.0	6.7	11.6	0.0	11/27/2024 16:45	5.5	74.9	0.0	6.8	12.1	0.0
11/27/2024 17:00	4.3	40.7	0.0	6.7	11.6	0.0	11/27/2024 17:00	5.5	74.3	0.0	6.7	12.1	0.0
11/27/2024 17:15	4.3	40.5	0.0	6.7	11.6	0.0	11/27/2024 17:15	5.4	73.9	0.0	6.7	12.0	0.0
11/27/2024 17:30	4.2	40.4	0.0	6.7	11.6	0.0	11/27/2024 17:30	5.4	74.1	0.0	6.6	11.9	0.0
11/27/2024 17:45	4.2	40.6	0.0	6.7	11.6	0.0	11/27/2024 17:45	5.4	74.7	0.0	6.6	11.9	0.0
11/27/2024 18:00	4.3	41.6	0.0	6.7	11.3	0.0	11/27/2024 18:00	5.3	3.0	0.0	6.7	12.7	0.0
11/27/2024 18:15	4.6	50.4	0.0	6.7	10.9	460.0	11/27/2024 18:15	5.1	4.4	0.0	6.8	12.7	0.0
11/27/2024 18:30	4.7	5.4	0.0	6.8	12.0	0.0	11/27/2024 18:30	5.0	4.6	0.0	6.8	12.8	0.0
11/27/2024 18:45	4.8	5.2	0.0	6.8	12.0	0.0	11/27/2024 18:45	4.9	4.7	0.0	6.9	12.8	0.0
11/27/2024 19:00	4.8	5.1	0.0	6.8	12.0	0.0	11/27/2024 19:00	4.7	4.9	0.0	6.9	12.9	0.0

11/27/2024 19:15	4.7	5.1	0.0	6.8	12.0	0.0
11/27/2024 19:30	4.7	5.0	0.0	6.9	12.0	0.0
11/27/2024 19:45	4.7	5.0	0.0	6.9	12.0	0.0
11/27/2024 20:00	4.7	4.9	0.0	6.9	12.0	0.0
11/27/2024 20:15	4.8	4.9	0.0	6.9	12.0	0.0
11/27/2024 20:30	4.9	4.9	0.0	6.9	12.0	0.0
11/27/2024 20:45	4.9	4.9	0.0	6.9	12.0	0.0
11/27/2024 21:00	5.0	4.9	0.0	6.9	12.0	0.0
11/27/2024 21:15	5.1	4.9	0.0	6.9	11.9	0.0
11/27/2024 21:30	5.1	4.9	0.0	6.9	11.9	0.0
11/27/2024 21:45	5.1	4.9	0.0	6.9	11.9	0.0
11/27/2024 22:00	5.2	4.8	0.0	6.9	11.9	0.0
11/27/2024 22:15	5.2	4.8	0.0	6.9	11.9	0.0
11/27/2024 22:30	5.1	4.8	0.0	6.9	11.9	0.0
11/27/2024 22:45	5.0	4.8	0.0	6.9	11.9	0.0
11/27/2024 23:00	5.0	4.7	0.0	6.9	11.9	0.0
11/27/2024 23:15	5.0	4.7	0.0	6.9	11.9	0.0
11/27/2024 23:30	5.0	4.7	0.0	6.9	12.0	0.0
11/27/2024 23:45	5.0	4.7	0.0	6.9	12.0	0.0
11/28/2024 0:00	5.0	4.7	0.0	6.9	11.9	0.0
11/28/2024 0:15	5.1	4.7	0.0	6.9	11.9	0.0
11/28/2024 0:30	5.0	4.7	0.0	6.9	11.9	0.0
11/28/2024 0:45	5.0	4.7	0.0	6.9	12.0	0.0
11/28/2024 1:00	5.0	4.7	0.0	6.9	11.9	0.0
11/28/2024 1:15	5.0	4.6	0.0	6.9	11.9	0.0
11/28/2024 1:30	4.9	4.6	0.0	6.9	12.0	0.0
11/28/2024 1:45	4.9	4.6	0.0	6.9	12.0	0.0
11/28/2024 2:00	4.9	4.6	0.0	6.9	12.0	0.0
11/28/2024 2:15	4.9	4.6	0.0	6.8	11.9	0.0
11/28/2024 2:30	4.8	4.6	0.0	6.8	12.0	0.0
11/28/2024 2:45	4.7	4.6	0.0	6.8	12.0	0.0
11/28/2024 3:00	4.5	4.6	0.0	6.8	12.1	0.0
11/28/2024 3:15	4.4	4.6	0.0	6.8	12.1	0.0
11/28/2024 3:30	4.2	42.7	0.0	6.7	11.5	0.0
11/28/2024 3:45	4.1	40.3	0.0	6.7	11.5	0.0
11/28/2024 4:00	4.0	39.8	0.0	6.7	11.5	0.0
11/28/2024 4:15	4.0	39.5	0.0	6.7	11.6	0.0
11/28/2024 4:30	4.0	39.3	0.0	6.7	11.6	0.0
11/28/2024 4:45	4.0	39.2	0.0	6.7	11.6	0.0
11/28/2024 5:00	4.0	39.2	0.0	6.7	11.6	0.0
11/28/2024 5:15	3.9	39.5	0.0	6.7	11.6	0.0
11/28/2024 5:30	3.9	39.5	0.0	6.7	11.6	0.0
11/28/2024 5:45	3.9	39.8	0.0	6.7	11.6	0.0
11/28/2024 6:00	3.9	40.2	0.0	6.7	11.6	0.0
11/28/2024 6:15	3.9	40.4	0.0	6.7	11.6	0.0
11/28/2024 6:30	3.9	40.5	0.0	6.7	11.6	0.0
11/28/2024 6:45	3.9	40.6	0.0	6.7	11.6	0.0
11/28/2024 7:00	3.9	40.6	0.0	6.7	11.6	0.0
11/28/2024 7:15	3.9	40.8	0.0	6.7	11.6	0.0
11/28/2024 7:30	3.9	40.8	0.0	6.7	11.6	0.0
11/28/2024 7:45	3.9	40.7	0.0	6.7	11.6	0.0
11/28/2024 8:00	3.8	40.6	0.0	6.7	11.6	0.0
11/28/2024 8:15	3.8	40.7	0.0	6.7	11.5	0.0
11/28/2024 8:30	3.8	41.4	0.0	6.7	11.5	0.0
11/28/2024 8:45	3.9	41.7	0.0	6.7	11.5	0.0
11/28/2024 9:00	3.9	42.2	0.0	6.7	11.5	0.0
11/28/2024 9:15	3.9	42.1	0.0	6.7	11.4	0.0
11/28/2024 9:30	4.0	43.5	0.0	6.7	11.3	0.0
11/28/2024 9:45	4.5	47.5	0.0	6.7	12.0	0.0
11/28/2024 10:00	4.5	6.6	0.0	6.7	12.1	0.0
11/28/2024 10:15	4.3	5.0	0.0	6.8	12.2	0.0
11/28/2024 10:30	4.2	4.8	0.0	6.9	12.2	0.0
11/28/2024 10:45	4.0	4.4	0.0	6.9	12.3	0.0
11/28/2024 11:00	4.0	4.3	0.0	6.9	12.3	0.0
11/28/2024 11:15	4.1	4.3	0.0	6.9	12.3	0.0
11/28/2024 11:30	4.2	4.4	0.0	6.9	12.2	0.0
11/28/2024 11:45	4.5	5.7	0.0	6.9	12.1	0.0
11/28/2024 12:00	4.7	33.0	0.0	6.8	12.0	0.0
11/28/2024 12:15	4.2	39.6	0.0	6.8	11.2	0.0
11/28/2024 12:30	4.1	38.7	0.0	6.8	11.5	0.0
11/28/2024 12:45	4.1	38.1	0.0	6.8	11.5	0.0
11/28/2024 13:00	4.1	38.2	0.0	6.8	11.5	0.0
11/28/2024 13:15	4.1	38.0	0.0	6.8	11.6	0.0
11/28/2024 13:30	4.1	37.8	0.0	6.8	11.6	0.0
11/28/2024 13:45	4.2	37.6	0.0	6.8	11.6	0.0
11/28/2024 14:00	4.2	37.6	0.0	6.8	11.6	0.0
11/28/2024 14:15	4.2	37.7	0.0	6.8	11.6	0.0
11/28/2024 14:30	4.2	37.8	0.0	6.9	11.6	0.0
11/28/2024 14:45	4.2	38.2	0.0	6.9	11.7	0.0
11/28/2024 15:00	4.2	38.3	0.0	6.9	11.6	0.0
11/28/2024 15:15	4.2	39.1	0.0	6.9	11.6	0.0
11/28/2024 15:30	4.3	40.9	0.0	6.8	11.5	0.0
11/28/2024 15:45	4.3	40.6	0.0	6.8	11.6	0.0
11/28/2024 16:00	4.3	40.6	0.0	6.9	11.6	0.0
11/28/2024 16:15	4.3	44.8	0.0	6.8	11.6	7.3
11/28/2024 16:30	4.3	45.1	0.0	6.9	11.5	0.0
11/28/2024 16:45	4.3	45.0	0.0	6.9	11.5	0.0
11/28/2024 17:00	4.3	44.8	0.0	6.8	11.6	0.0
11/28/2024 17:15	4.3	45.0	0.0	6.9	11.5	0.0
11/28/2024 17:30	4.2	42.3	0.0	6.8	11.5	59.7
11/28/2024 17:45	4.2	42.3	0.0	6.9	11.5	0.4

11/27/2024 19:15	4.6	5.1	0.0	6.8	12.9	0.0
11/27/2024 19:30	4.6	5.3	0.0	6.8	12.9	0.0
11/27/2024 19:45	4.5	5.2	0.0	6.9	13.0	0.0
11/27/2024 20:00	4.4	5.1	0.0	6.9	13.0	0.0
11/27/2024 20:15	4.4	5.3	0.0	6.9	13.0	0.0
11/27/2024 20:30	4.3	5.4	0.0	6.9	13.0	0.0
11/27/2024 20:45	4.3	4.9	0.0	6.9	13.0	0.0
11/27/2024 21:00	4.3	5.0	0.0	6.9	13.1	0.0
11/27/2024 21:15	4.3	5.2	0.0	6.9	13.1	0.0
11/27/2024 21:30	4.2	5.3	0.0	6.9	13.1	0.0
11/27/2024 21:45	4.2	5.0	0.0	6.9	13.1	0.0
11/27/2024 22:00	4.2	5.0	0.0	7.0	13.1	0.0
11/27/2024 22:15	4.2	5.2	0.0	7.0	13.1	0.0
11/27/2024 22:30	4.1	5.3	0.0	7.0	13.1	0.0
11/27/2024 22:45	4.0	5.0	0.0	6.9	13.1	0.0
11/27/2024 23:00	4.0	5.1	0.0	6.9	13.2	0.0
11/27/2024 23:15	3.9	5.2	0.0	6.9	13.2	0.0
11/27/2024 23:30	3.9	5.3	0.0	6.9	13.2	0.0
11/27/2024 23:45	3.9	5.1	0.0	6.9	13.2	0.0
11/28/2024 0:00	3.9	5.0	0.0	7.0	13.2	0.0
11/28/2024 0:15	3.9	5.2	0.0	7.0	13.2	0.0
11/28/2024 0:30	3.8	5.3	0.0	7.0	13.2	0.0
11/28/2024 0:45	3.8	5.0	0.0	6.9	13.2	0.0
11/28/2024 1:00	3.8	4.9	0.0	6.9	13.2	0.0
11/28/2024 1:15	3.7	5.1	0.0	6.9	13.2	0.0
11/28/2024 1:30	3.7	5.2	0.0	6.9	13.3	0.0
11/28/2024 1:45	3.6	5.2	0.0	6.9	13.3	0.0
11/28/2024 2:00	3.7	5.0	0.0	7.0	13.3	0.0
11/28/2024 2:15	3.6	5.1	0.0	7.0	13.3	0.0
11/28/2024 2:30	3.5	5.2	0.0	7.0	13.3	0.0
11/28/2024 2:45	3.4	4.9	0.0	7.0	13.3	0.0
11/28/2024 3:00	3.3	5.0	0.0	6.9	13.4	0.0
11/28/2024 3:15	3.2	5.2	0.0	6.9	13.4	0.0
11/28/2024 3:30	3.1	5.3	0.0	6.9	13.5	0.0
11/28/2024 3:45	3.4	4.6	0.0	6.8	13.5	0.0
11/28/2024 4:00	4.9	68.3	0.0	6.7	12.2	0.0
11/28/2024 4:15	5.0	67.7	0.0	6.8	12.1	0.0
11/28/2024 4:30	5.0	67.1	0.0	6.8	12.2	0.0
11/28/2024 4:45	5.0	68.2	0.0	6.8	12.2	0.0
11/28/2024 5:00	5.0	69.2	0.0	6.8	12.1	0.0
11/28/2024 5:15	5.0	69.3	0.0	6.8	12.1	0.0
11/28/2024 5:30	5.0	69.8	0.0	6.8	12.1	0.0
11/28/2024 5:45	5.0	72.0	0.0	6.8	12.0	0.0
11/28/2024 6:00	5.0	71.0	0.0	6.8	12.1	0.0
11/28/2024 6:15	5.0	72.7	0.0	6.8	12.1	0.0
11/28/2024 6:30	5.0	72.0	0.0	6.8	12.1	0.0
11/28/2024 6:45	5.0	72.0	0.0	6.8	12.1	0.0
11/28/2024 7:00	5.0	72.8	0.0	6.8	12.0	0.0
11/28/2024 7:15	5.0	72.7	0.0	6.8	12.0	0.0
11/28/2024 7:30	5.0	72.2	0.0	6.8	12.1	0.0
11/28/2024 7:45	5.0	71.7	0.0	6.8	12.1	0.0
11/28/2024 8:00	5.0	71.8	0.0	6.7	12.0	0.0
11/28/2024 8:15	5.0	72.4	0.0	6.7	12.0	0.0
11/28/2024 8:30	5.0	74.3	0.0	6.7	11.9	0.0
11/28/2024 8:45	5.1	76.8	0.0	6.7	11.9	0.0
11/28/2024 9:00	5.0	74.8	0.0	6.7	12.0	0.0
11/28/2024 9:15	4.7	2.9	0.0	6.7	12.8	0.0
11/28/2024 9:30	4.3	4.4	0.0	6.8	13.0	0.0
11/28/2024 9:45	3.8	4.9	0.0	6.9	13.2	0.0
11/28/2024 10:00	3.5	4.9	0.0	6.9	13.3	0.0
11/28/2024 10:15	3.3	5.1	0.0	6.9	13.4	0.0
11/28/2024 10:30	3.3	5.3	0.0	6.9	13.4	0.0
11/28/2024 10:45	3.3	4.8	0.0	6.9	13.4	0.0
11/28/2024 11:00	3.4	5.0	0.0	6.9	13.3	0.0
11/28/2024 11:15	3.4	5.1	0.0	6.9	13.3	0.0
11/28/2024 11:30	3.6	5.3	0.0	6.9	13.3	0.0
11/28/2024 11:45	3.6	4.9	0.0	6.9	13.3	0.0
11/28/2024 12:00	3.7	4.9	0.0	7.0	13.2	0.0
11/28/2024 12:15	3.8	5.1	0.0	7.0	13.2	0.0
11/28/2024 12:30	4.2	5.1	0.0	6.8	13.1	0.0
11/28/2024 12:45	5.1	69.9	0.0	6.7	12.2	0.0
11/28/2024 13:00	5.2	70.4	0.0	6.7	12.1	0.0
11/28/2024 13:15	5.3	69.8	0.0	6.7	12.1	0.0
11/28/2024 13:30	5.3	68.6	0.0	6.7	12.1	0.0
11/28/2024 13:45	5.3	70.1	0.0	6.7	12.1	0.0
11/28/2024 14:00	5.3	69.9	0.0	6.7	12.2	0.0
11/28/2024 14:15	5.3	70.1	0.0	6.8	12.2	0.0
11/28/2024 14:30	5.3	70.0	0.0	6.8	12.2	0.0
11/28/2024 14:45	5.4	70.9	0.0	6.8	12.2	0.0
11/28/2024 15:00	5.4	72.4	0.0	6.8	12.1	0.0
11/28/2024 15:15	5.5	77.8	0.0	6.7	12.0	0.0
11/28/2024 15:30	5.5	76.7	0.0	6.7	12.0	0.0
11/28/2024 15:45	5.5	76.0	0.0	6.8	12.0	0.0
11/28/2024 16:00	5.5	76.9	0.0	6.8	12.0	0.0
11/28/2024 16:15	5.5	77.8	0.0	6.8	12.0	6.1
11/28/2024 16:30	5.5	77.8	0.0	6.8	12.0	0.0
11/28/2024 16:45	5.4	76.9	0.0	6.8	12.0	0.0
11/28/2024 17:00	5.4	78.2	0.0	6.7	12.0	0.0
11/28/2024 17:15	5.4	76.8	0.0	6.7	12.0	0.0
11/28/2024 17:30	5.4	77.0	0.0	6.7	11.9	17.3
11/28/2024 17:45	5.4	78.0	0.0	6.7	11.9	0.0

11/28/2024 18:00	4.2	42.6	0.0	6.9	11.5	0.0	11/28/2024 18:00	5.4	79.8	0.0	6.6	11.8	0.0
11/28/2024 18:15	4.2	44.9	0.0	6.9	11.2	0.2	11/28/2024 18:15	5.5	82.4	0.0	6.4	11.5	0.0
11/28/2024 18:30	4.9	13.3	0.0	6.9	11.9	0.0	11/28/2024 18:30	5.2	3.4	0.0	6.7	12.7	0.0
11/28/2024 18:45	4.6	3.1	0.0	6.9	12.0	0.0	11/28/2024 18:45	4.7	4.5	0.0	6.8	12.9	0.0
11/28/2024 19:00	4.5	3.1	0.0	7.0	12.1	0.0	11/28/2024 19:00	4.4	4.7	0.0	6.8	12.9	0.0
11/28/2024 19:15	4.4	3.1	0.0	7.0	12.1	0.0	11/28/2024 19:15	4.2	4.9	0.0	6.8	13.0	0.0
11/28/2024 19:30	4.4	3.0	0.0	7.0	12.1	0.0	11/28/2024 19:30	4.1	5.1	0.0	6.8	13.1	0.0
11/28/2024 19:45	4.4	3.0	0.0	7.0	12.1	0.0	11/28/2024 19:45	4.0	5.0	0.0	6.8	13.1	0.0
11/28/2024 20:00	4.4	3.0	0.0	7.0	12.1	0.0	11/28/2024 20:00	3.9	5.0	0.0	6.9	13.1	0.0
11/28/2024 20:15	4.4	3.0	0.0	7.0	12.1	0.0	11/28/2024 20:15	3.9	5.1	0.0	6.9	13.1	0.0
11/28/2024 20:30	4.3	2.9	0.0	7.0	12.1	0.0	11/28/2024 20:30	3.9	5.2	0.0	6.8	13.1	0.0
11/28/2024 20:45	4.4	2.9	0.0	7.0	12.1	0.0	11/28/2024 20:45	3.8	4.6	0.0	6.8	13.2	0.0
11/28/2024 21:00	4.4	2.8	0.0	7.0	12.1	0.0	11/28/2024 21:00	3.7	4.8	0.0	6.9	13.2	0.0
11/28/2024 21:15	4.4	2.7	0.0	7.0	12.1	0.0	11/28/2024 21:15	3.6	5.0	0.0	6.8	13.2	0.0
11/28/2024 21:30	4.4	2.7	0.0	7.1	12.1	0.0	11/28/2024 21:30	3.6	5.2	0.0	6.9	13.2	0.0
11/28/2024 21:45	4.5	2.6	0.0	7.1	12.1	0.0	11/28/2024 21:45	3.6	4.9	0.0	6.9	13.2	0.0
11/28/2024 22:00	4.5	2.6	0.0	7.1	12.1	0.0	11/28/2024 22:00	3.6	5.0	0.0	7.0	13.2	0.0
11/28/2024 22:15	4.4	2.6	0.0	7.1	12.1	0.0	11/28/2024 22:15	3.5	5.1	0.0	7.0	13.3	0.0
11/28/2024 22:30	4.3	2.4	0.0	7.1	12.1	0.0	11/28/2024 22:30	3.4	5.2	0.0	7.0	13.3	0.0
11/28/2024 22:45	4.3	2.4	0.0	7.1	12.1	0.0	11/28/2024 22:45	3.3	4.9	0.0	7.0	13.3	0.0
11/28/2024 23:00	4.3	2.4	0.0	7.1	12.1	0.0	11/28/2024 23:00	3.3	5.0	0.0	7.0	13.3	0.0
11/28/2024 23:15	4.3	2.3	0.0	7.1	12.1	0.0	11/28/2024 23:15	3.3	5.1	0.0	7.0	13.3	0.0
11/28/2024 23:30	4.3	2.3	0.0	7.1	12.1	0.0	11/28/2024 23:30	3.3	5.2	0.0	6.9	13.3	0.0
11/28/2024 23:45	4.3	2.2	0.0	7.1	12.1	0.0	11/28/2024 23:45	3.2	5.0	0.0	7.0	13.3	0.0
11/29/2024 0:00	4.3	2.2	0.0	7.1	12.1	0.0	11/29/2024 0:00	3.2	5.0	0.0	7.0	13.4	0.0
11/29/2024 0:15	4.2	2.1	0.0	7.1	12.1	0.0	11/29/2024 0:15	3.1	5.1	0.0	7.0	13.4	0.0
11/29/2024 0:30	4.2	2.1	0.0	7.1	12.1	0.0	11/29/2024 0:30	3.1	5.3	0.0	7.0	13.4	0.0
11/29/2024 0:45	4.2	2.0	0.0	7.1	12.2	0.0	11/29/2024 0:45	3.0	4.5	0.0	7.0	13.4	0.0
11/29/2024 1:00	4.2	2.0	0.0	7.1	12.2	0.0	11/29/2024 1:00	3.0	4.6	0.0	7.0	13.4	0.0
11/29/2024 1:15	4.2	1.9	0.0	7.1	12.2	0.0	11/29/2024 1:15	3.0	4.8	0.0	7.0	13.4	0.0
11/29/2024 1:30	4.1	1.9	0.0	7.1	12.1	0.0	11/29/2024 1:30	3.0	5.0	0.0	7.0	13.4	0.0
11/29/2024 1:45	4.2	1.9	0.0	7.1	12.2	0.0	11/29/2024 1:45	3.0	4.7	0.0	7.0	13.4	0.0
11/29/2024 2:00	4.1	1.8	0.0	7.1	12.2	0.0	11/29/2024 2:00	3.0	4.7	0.0	7.1	13.4	0.0
11/29/2024 2:15	4.1	1.8	0.0	7.1	12.2	0.0	11/29/2024 2:15	2.9	4.9	0.0	7.1	13.5	0.0
11/29/2024 2:30	4.0	1.8	0.0	7.1	12.2	0.0	11/29/2024 2:30	3.0	4.9	0.0	7.1	13.5	0.0
11/29/2024 2:45	4.0	1.8	0.0	7.1	12.2	0.0	11/29/2024 2:45	2.9	4.7	0.0	7.1	13.5	0.0
11/29/2024 3:00	4.0	1.8	0.0	7.1	12.2	0.0	11/29/2024 3:00	2.8	4.6	0.0	7.0	13.5	0.0
11/29/2024 3:15	4.0	1.8	0.0	7.1	12.2	0.0	11/29/2024 3:15	2.9	4.7	0.0	7.0	13.5	0.0
11/29/2024 3:30	3.9	1.8	0.0	7.1	12.2	0.0	11/29/2024 3:30	2.8	4.8	0.0	7.0	13.5	0.0
11/29/2024 3:45	3.9	1.8	0.0	7.1	12.2	0.0	11/29/2024 3:45	2.8	4.7	0.0	7.1	13.5	0.0
11/29/2024 4:00	4.0	42.3	0.0	7.0	11.4	0.0	11/29/2024 4:00	4.7	68.1	0.0	6.7	12.1	0.0
11/29/2024 4:15	3.9	41.0	0.0	7.0	11.5	0.0	11/29/2024 4:15	4.9	66.9	0.0	6.7	12.1	0.0
11/29/2024 4:30	3.9	40.6	0.0	6.9	11.5	0.0	11/29/2024 4:30	4.9	65.9	0.0	6.8	12.1	0.0
11/29/2024 4:45	3.9	40.3	0.0	7.0	11.6	0.0	11/29/2024 4:45	4.9	69.0	0.0	6.8	12.1	0.0
11/29/2024 5:00	3.9	40.3	0.0	7.0	11.6	0.0	11/29/2024 5:00	4.9	68.8	0.0	6.8	12.1	0.0
11/29/2024 5:15	3.8	39.4	0.0	6.9	11.6	0.1	11/29/2024 5:15	4.9	69.3	0.0	6.8	12.1	0.0
11/29/2024 5:30	3.8	40.1	0.0	7.0	11.6	0.0	11/29/2024 5:30	5.0	71.4	0.0	6.8	12.1	0.0
11/29/2024 5:45	3.9	42.1	0.0	7.1	11.5	0.0	11/29/2024 5:45	5.0	74.5	0.0	6.8	12.0	0.0
11/29/2024 6:00	3.9	48.5	0.0	7.1	11.5	0.0	11/29/2024 6:00	5.0	73.3	0.0	6.8	12.0	0.0
11/29/2024 6:15	3.9	48.3	0.0	7.2	11.5	0.0	11/29/2024 6:15	4.9	71.8	0.0	6.8	12.0	0.0
11/29/2024 6:30	3.8	47.9	0.0	7.3	11.6	0.0	11/29/2024 6:30	4.9	71.1	0.0	6.8	12.1	0.0
11/29/2024 6:45	3.8	47.3	0.0	7.3	11.6	0.0	11/29/2024 6:45	4.9	72.1	0.0	6.8	12.1	0.0
11/29/2024 7:00	3.8	48.1	0.0	7.3	11.6	0.0	11/29/2024 7:00	5.0	75.7	0.0	6.8	12.0	0.0
11/29/2024 7:15	3.9	49.4	0.0	7.3	11.6	0.0	11/29/2024 7:15	5.0	75.3	0.0	6.8	12.0	0.0
11/29/2024 7:30	3.9	49.0	0.0	7.3	11.6	0.0	11/29/2024 7:30	4.9	72.5	0.0	6.8	12.1	0.0
11/29/2024 7:45	3.8	48.1	0.0	7.4	11.6	0.0	11/29/2024 7:45	4.9	73.3	0.0	6.8	12.1	0.0
11/29/2024 8:00	3.9	49.0	0.0	7.4	11.6	0.0	11/29/2024 8:00	5.0	77.2	0.0	6.8	12.0	0.0
11/29/2024 8:15	3.9	50.5	0.0	7.4	11.5	0.0	11/29/2024 8:15	5.1	79.0	0.0	6.8	11.9	0.0
11/29/2024 8:30	3.9	51.1	0.0	7.4	11.5	0.0	11/29/2024 8:30	5.0	77.2	0.0	6.8	12.0	0.0
11/29/2024 8:45	3.9	50.2	0.0	7.3	11.5	0.0	11/29/2024 8:45	5.0	77.1	0.0	6.8	12.0	0.0
11/29/2024 9:00	3.9	50.1	0.0	7.3	11.5	0.0	11/29/2024 9:00	5.0	75.7	0.0	6.8	12.0	0.0
11/29/2024 9:15	3.9	49.8	0.0	7.3	11.5	0.0	11/29/2024 9:15	5.0	74.7	0.0	6.8	12.0	0.0
11/29/2024 9:30	3.9	49.5	0.0	7.3	11.5	0.0	11/29/2024 9:30	5.0	74.3	0.0	6.8	12.0	0.0
11/29/2024 9:45	3.9	49.9	0.0	7.3	11.5	0.0	11/29/2024 9:45	5.0	76.4	0.0	6.8	12.0	0.0
11/29/2024 10:00	3.9	50.4	0.0	7.3	11.5	0.0	11/29/2024 10:00	5.0	76.6	0.0	6.7	11.9	0.0
11/29/2024 10:15	3.9	50.7	0.0	7.3	11.4	0.0	11/29/2024 10:15	5.1	76.9	0.0	6.7	11.9	0.0
11/29/2024 10:30	3.9	50.4	0.0	7.2	11.5	0.0	11/29/2024 10:30	5.1	75.5	0.0	6.7	11.9	0.0
11/29/2024 10:45	3.9	50.6	0.0	7.3	11.4	0.0	11/29/2024 10:45	5.1	75.9	0.0	6.6	11.8	0.0
11/29/2024 11:00	3.9	51.1	0.0	7.2	11.4	0.0	11/29/2024 11:00	5.2	76.2	0.0	6.5	11.6	0.0
11/29/2024 11:15	4.1	51.9	0.0	7.1	11.0	0.0	11/29/2024 11:15	5.2	76.2	0.0	6.5	11.7	0.0
11/29/2024 11:30	4.4	57.0	0.0	7.0	10.8	0.0	11/29/2024 11:30	5.2	76.0	0.0	6.5	11.7	0.0
11/29/2024 11:45	4.1	53.3	0.0	6.9	11.2	0.0	11/29/2024 11:45	5.1	76.7	0.0	6.6	11.8	0.0
11/29/2024 12:00	4.0	50.0	0.0	7.1	11.5	0.0	11/29/2024 12:00	5.2	76.2	0.0	6.5	11.8	0.0
11/29/2024 12:15	4.0	50.1	0.0	7.2	11.4	0.0	11/29/2024 12:15	5.2	76.3	0.0	6.5	11.7	0.0
11/29/2024 12:30	4.0	50.6	0.0	7.2	11.4	0.0	11/29/2024 12:30	5.2	76.6	0.0	6.5	11.7	0.0
11/29/2024 12:45	4.0	50.4	0.0	7.1	11.4	0.0	11/29/2024 12:45	5.2	76.2	0.0	6.5	11.8	0.0
11/29/2024 13:00	4.0	50.0	0.0	7.2	11.5	0.0	11/29/2024 13:00	5.1	73.7	0.0	6.6	12.0	0.0
11/29/2024 13:15	4.0	48.8	0.0	7.2	11.5	0.0	11/29/2024 13:15	5.1	72.7	0.0	6.7	12.1	0.0
11/29/2024 13:30	4.0	48.4	0.0	7.2	11.6	0.0	11/29/2024 13:30	5.1	72.3	0.0	6.7	12.1	0.0
11/29/2024 13:45	4.0	48.0	0.0	7.2	11.6	0.0	11/29/2024 13:45	5.1	72.3	0.0	6.7	12.1	0.0
11/29/2024 14:00	4.0	48.4	0.0	7.3	11.6	0.0	11/29/2024 14:00	5.1	72.9	0.0	6.7	12.1	0.0
11/29/2024 14:15	4.0	48.3	0.0	7.2	11.6	0.0	11/29/2024 14:15	5.1	71.7	0.0	6.7	12.1	0.0
11/29/2024 14:30	4.0	48.0	0.0	7.3	11.6	0.0	11/29/2024 14:30	5.1	71.6	0.0	6.7	12.1	0.0
11/29/2024 14:45	4.0	48.0	0.0	7.3	11.6	0.0	11/29/2024 14:45	5.1	72.0	0.0	6.8	12.1	0.0
11/29/2024 15:00	4.0	48.0	0.0	7.3	11.6	0.0	11/29/2024 15:00	5.1	71.8	0.0	6.8	12.1	0.0
11/29/2024 15:15	4.0	48.2	0.0	7.3	11.6	0.7	11/29/2024 15:15	5.1	71.7	0.0	6.8	12.2	0.0
11/29/2024 15:30	4.0	47.6	0.0	7.3	11.6	0.0	11/29/2024 15:30	5.1	72.4	0.0	6.8	12.2	0.0
11/29/2024 15:45	4.0	48.8	0.0	7.4	11.6	0.0	11/29/2024 15:45	5.2	80.4	0.0	6.8	12.0	0.0
11/29/2024 16:00	4.1	51.6	0.0	7.2	11.5	0.0	11/29/2024 16:00	5.2	77.4	0.0	6.7	12.0	0.0
11/29/2024 16:15	4.1	50.6	0.0	7.3	11.5	0.0	11/29/2024 16:15	5.2	77.8	0.0	6.8	12.0	0.0
11/29/2024 16:30	4.1	50.4	0.0	7.3	11.6	0.0	11/29/2024 16:30	5.2	75.1	0.0	6.8	12.0	0.0

11/29/2024 16:45	4.0	49.8	0.0	7.3	11.6	0.0	11/29/2024 16:45	5.2	77.6	0.0	6.8	12.0	0.0
11/29/2024 17:00	4.1	51.1	0.0	7.3	11.5	0.0	11/29/2024 17:00	5.2	78.8	0.0	6.7	12.0	0.0
11/29/2024 17:15	4.1	51.3	0.0	7.3	11.5	0.0	11/29/2024 17:15	5.2	77.6	0.0	6.7	12.0	0.0
11/29/2024 17:30	4.1	50.8	0.0	7.3	11.5	0.0	11/29/2024 17:30	5.2	77.4	0.0	6.7	12.0	0.0
11/29/2024 17:45	4.1	50.7	0.0	7.3	11.5	0.0	11/29/2024 17:45	5.2	77.5	0.0	6.7	12.0	0.0
11/29/2024 18:00	4.1	51.5	0.0	7.3	11.5	0.0	11/29/2024 18:00	5.3	81.5	0.0	6.7	11.8	0.0
11/29/2024 18:15	4.1	53.3	0.0	7.3	11.3	0.0	11/29/2024 18:15	5.3	83.3	0.0	6.6	11.7	0.0
11/29/2024 18:30	4.2	56.3	0.0	7.1	11.1	0.0	11/29/2024 18:30	5.5	86.5	0.0	6.4	11.2	0.0
11/29/2024 18:45	4.8	7.0	0.0	7.0	12.0	0.0	11/29/2024 18:45	5.4	4.3	0.0	6.6	12.6	0.0
11/29/2024 19:00	4.6	0.1	0.0	7.2	12.1	0.0	11/29/2024 19:00	5.1	4.4	0.0	6.7	12.7	0.0
11/29/2024 19:15	4.4	0.1	0.0	7.2	12.1	0.0	11/29/2024 19:15	4.9	4.7	0.0	6.7	12.8	0.0
11/29/2024 19:30	4.4	0.1	0.0	7.2	12.1	0.0	11/29/2024 19:30	4.7	4.9	0.0	6.7	12.8	0.0
11/29/2024 19:45	4.4	0.1	0.0	7.2	12.1	0.0	11/29/2024 19:45	4.7	4.8	0.0	6.7	12.9	0.0
11/29/2024 20:00	4.5	0.1	0.0	7.2	12.1	0.0	11/29/2024 20:00	4.6	4.8	0.0	6.8	12.9	0.0
11/29/2024 20:15	4.5	0.1	0.0	7.2	12.1	0.0	11/29/2024 20:15	4.6	5.0	0.0	6.8	12.9	0.0
11/29/2024 20:30	4.5	0.1	0.0	7.2	12.1	0.0	11/29/2024 20:30	4.6	5.0	0.0	6.8	12.9	0.0
11/29/2024 20:45	4.6	0.1	0.0	7.2	12.0	0.0	11/29/2024 20:45	4.6	4.5	0.0	6.8	12.9	0.0
11/29/2024 21:00	4.6	0.1	0.0	7.1	12.0	0.0	11/29/2024 21:00	4.6	4.6	0.0	6.8	12.9	0.0
11/29/2024 21:15	4.6	0.1	0.0	7.1	12.1	0.0	11/29/2024 21:15	4.6	4.9	0.0	6.8	12.9	0.0
11/29/2024 21:30	4.6	0.1	0.0	7.1	12.1	0.0	11/29/2024 21:30	4.6	5.0	0.0	6.8	12.9	0.0
11/29/2024 21:45	4.6	0.1	0.0	7.1	12.0	0.0	11/29/2024 21:45	4.5	4.8	0.0	6.8	12.9	0.0
11/29/2024 22:00	4.6	0.1	0.0	7.1	12.0	0.0	11/29/2024 22:00	4.5	4.9	0.0	6.8	12.9	0.0
11/29/2024 22:15	4.6	0.1	0.0	7.1	12.0	0.0	11/29/2024 22:15	4.6	5.0	0.0	6.8	12.9	0.0
11/29/2024 22:30	4.7	0.1	0.0	7.0	12.0	0.0	11/29/2024 22:30	4.6	5.1	0.0	6.8	12.9	0.0
11/29/2024 22:45	4.7	0.1	0.0	7.0	12.0	0.0	11/29/2024 22:45	4.6	4.5	0.0	6.8	12.9	0.0
11/29/2024 23:00	4.8	0.1	0.0	7.0	12.0	0.0	11/29/2024 23:00	4.6	4.6	0.0	6.8	12.9	0.0
11/29/2024 23:15	4.8	0.1	0.0	7.0	12.0	0.0	11/29/2024 23:15	4.6	4.9	0.0	6.8	12.9	0.0
11/29/2024 23:30	4.9	0.1	0.0	7.0	11.9	0.0	11/29/2024 23:30	4.7	5.1	0.0	6.8	12.9	0.0
11/29/2024 23:45	5.0	0.1	0.0	6.9	11.9	0.0	11/29/2024 23:45	4.8	4.8	0.0	6.8	12.8	0.0
11/30/2024 0:00	4.9	0.1	0.0	6.9	12.0	0.0	11/30/2024 0:00	4.8	4.7	0.0	6.9	12.8	0.0
11/30/2024 0:15	4.9	0.1	0.0	6.9	11.9	0.0	11/30/2024 0:15	4.9	4.9	0.0	6.9	12.8	0.0
11/30/2024 0:30	4.9	0.1	0.0	6.9	11.9	0.0	11/30/2024 0:30	4.9	5.0	0.0	6.9	12.8	0.0
11/30/2024 0:45	5.0	0.1	0.0	6.9	11.9	0.0	11/30/2024 0:45	4.9	4.5	0.0	6.9	12.8	0.0
11/30/2024 1:00	4.9	0.1	0.0	6.9	11.9	0.0	11/30/2024 1:00	4.9	4.5	0.0	6.9	12.8	0.0
11/30/2024 1:15	5.0	0.1	0.0	6.8	11.9	0.0	11/30/2024 1:15	5.0	4.6	0.0	6.9	12.8	0.0
11/30/2024 1:30	4.9	0.1	0.0	6.8	12.0	0.0	11/30/2024 1:30	4.9	4.8	0.0	6.9	12.8	0.0
11/30/2024 1:45	4.9	0.1	0.0	6.8	12.0	0.0	11/30/2024 1:45	4.9	4.8	0.0	6.9	12.8	0.0
11/30/2024 2:00	4.9	0.1	0.0	6.8	12.0	0.0	11/30/2024 2:00	4.9	4.7	0.0	6.9	12.8	0.0
11/30/2024 2:15	4.9	0.1	0.0	6.8	12.0	0.0	11/30/2024 2:15	4.9	4.8	0.0	6.9	12.8	0.0
11/30/2024 2:30	4.9	0.1	0.0	6.8	11.9	0.0	11/30/2024 2:30	4.9	5.0	0.0	6.9	12.8	0.0
11/30/2024 2:45	4.9	0.1	0.0	6.7	12.0	0.0	11/30/2024 2:45	4.9	4.7	0.0	6.9	12.8	0.0
11/30/2024 3:00	5.0	0.1	0.0	6.7	11.9	0.0	11/30/2024 3:00	4.9	4.6	0.0	6.9	12.8	0.0
11/30/2024 3:15	5.1	0.1	0.0	6.7	11.9	0.0	11/30/2024 3:15	5.0	4.8	0.0	6.9	12.8	0.0
11/30/2024 3:30	5.1	0.1	0.0	6.7	11.9	0.0	11/30/2024 3:30	5.0	5.0	0.0	6.9	12.8	0.0
11/30/2024 3:45	5.1	0.1	0.0	6.7	11.9	0.0	11/30/2024 3:45	4.9	4.7	0.0	6.9	12.8	0.0
11/30/2024 4:00	5.1	0.1	0.0	6.7	11.9	0.0	11/30/2024 4:00	4.9	4.6	0.0	7.0	12.8	0.0
11/30/2024 4:15	4.4	49.9	0.0	7.1	11.9	315.1	11/30/2024 4:15	5.0	4.7	0.0	6.7	12.7	421.3
11/30/2024 4:30	4.2	47.3	0.0	7.2	11.6	0.0	11/30/2024 4:30	5.3	66.9	0.0	6.7	12.0	0.0
11/30/2024 4:45	4.2	46.7	0.0	7.2	11.6	0.0	11/30/2024 4:45	5.3	68.8	0.0	6.8	12.1	0.0
11/30/2024 5:00	4.2	46.3	0.0	7.3	11.6	0.0	11/30/2024 5:00	5.2	68.3	0.0	6.8	12.1	0.0
11/30/2024 5:15	4.2	46.2	0.0	7.4	11.6	0.0	11/30/2024 5:15	5.2	68.4	0.0	6.8	12.1	0.0
11/30/2024 5:30	4.2	46.5	0.0	7.4	11.6	0.0	11/30/2024 5:30	5.3	69.3	0.0	6.8	12.1	0.0
11/30/2024 5:45	4.2	48.0	0.0	7.3	11.6	0.0	11/30/2024 5:45	5.4	74.4	0.0	6.8	12.0	0.0
11/30/2024 6:00	4.2	48.7	0.0	7.4	11.5	0.0	11/30/2024 6:00	5.4	74.4	0.0	6.8	12.0	0.0
11/30/2024 6:15	4.3	49.2	0.0	7.4	11.5	0.0	11/30/2024 6:15	5.4	73.2	0.0	6.8	12.0	0.0
11/30/2024 6:30	4.3	48.9	0.0	7.4	11.5	0.0	11/30/2024 6:30	5.3	72.5	0.0	6.8	12.0	0.0
11/30/2024 6:45	4.3	48.8	0.0	7.4	11.6	0.0	11/30/2024 6:45	5.3	72.7	0.0	6.9	12.1	0.0
11/30/2024 7:00	4.3	48.9	0.0	7.4	11.6	0.0	11/30/2024 7:00	5.4	76.6	0.0	6.8	12.0	0.0
11/30/2024 7:15	4.3	50.5	0.0	7.4	11.5	0.0	11/30/2024 7:15	5.4	76.5	0.0	6.8	12.0	0.0
11/30/2024 7:30	4.3	50.8	0.0	7.4	11.6	0.0	11/30/2024 7:30	5.4	76.1	0.0	6.8	12.0	0.0
11/30/2024 7:45	4.3	50.9	0.0	7.4	11.5	0.0	11/30/2024 7:45	5.4	76.4	0.0	6.9	12.0	0.0
11/30/2024 8:00	4.3	50.9	0.0	7.4	11.6	0.0	11/30/2024 8:00	5.4	78.2	0.0	6.8	12.0	0.0
11/30/2024 8:15	4.3	52.0	0.0	7.5	11.6	0.0	11/30/2024 8:15	5.5	80.2	0.0	6.8	12.0	0.0
11/30/2024 8:30	4.4	52.9	0.0	7.5	11.5	0.0	11/30/2024 8:30	5.4	78.6	0.0	6.9	12.0	0.0
11/30/2024 8:45	4.4	52.4	0.0	7.5	11.5	0.0	11/30/2024 8:45	5.4	77.6	0.0	6.9	12.1	0.0
11/30/2024 9:00	4.3	52.0	0.0	7.4	11.6	0.0	11/30/2024 9:00	5.5	79.6	0.0	6.9	12.0	0.0
11/30/2024 9:15	4.4	53.4	0.0	7.4	11.5	0.0	11/30/2024 9:15	5.5	83.3	0.0	6.8	11.9	0.0
11/30/2024 9:30	4.4	54.9	0.0	7.4	11.5	0.0	11/30/2024 9:30	5.5	83.2	0.0	6.8	11.9	0.0
11/30/2024 9:45	4.4	54.7	0.0	7.5	11.4	0.0	11/30/2024 9:45	5.5	82.4	0.0	6.9	11.9	0.0
11/30/2024 10:00	4.4	53.9	0.0	7.4	11.4	0.0	11/30/2024 10:00	5.5	81.3	0.0	6.8	11.9	0.0
11/30/2024 10:15	4.4	53.6	0.0	7.4	11.4	0.0	11/30/2024 10:15	5.5	81.6	0.0	6.8	11.9	0.0
11/30/2024 10:30	4.4	54.2	0.0	7.4	11.4	0.0	11/30/2024 10:30	5.5	81.8	0.0	6.8	11.8	0.0
11/30/2024 10:45	4.4	53.8	0.0	7.4	11.4	0.0	11/30/2024 10:45	5.5	79.8	0.0	6.8	11.8	0.0
11/30/2024 11:00	4.4	53.0	0.0	7.4	11.4	0.0	11/30/2024 11:00	5.5	77.3	0.0	6.8	11.9	0.0
11/30/2024 11:15	4.4	51.9	0.0	7.4	11.4	0.0	11/30/2024 11:15	5.5	77.1	0.0	6.8	11.8	0.0
11/30/2024 11:30	4.4	52.6	0.0	7.4	11.3	0.0	11/30/2024 11:30	5.6	78.5	0.0	6.8	11.8	0.0
11/30/2024 11:45	4.5	53.7	0.0	7.3	11.3	0.0	11/30/2024 11:45	5.6	82.8	0.0	6.7	11.7	0.0
11/30/2024 12:00	4.5	54.4	0.0	7.4	11.2	0.0	11/30/2024 12:00	5.6	80.8	0.0	6.7	11.7	0.0
11/30/2024 12:15	4.5	53.0	0.0	7.3	11.3	0.0	11/30/2024 12:15	5.6	78.0	0.0	6.7	11.8	0.0
11/30/2024 12:30	4.4	51.8	0.0	7.3	11.4	0.0	11/30/2024 12:30	5.6	77.8	0.0	6.7	11.8	0.0
11/30/2024 12:45	4.5	52.1	0.0	7.3	11.3	0.0	11/30/2024 12:45	5.6	78.0	0.0	6.7	11.7	0.0
11/30/2024 13:00	4.5	52.4	0.0	7.3	11.3	0.0	11/30/2024 13:00	5.7	79.9	0.0	6.6	11.7	0.0
11/30/2024 13:15	4.5	52.7	0.0	7.3	11.3	0.0	11/30/2024 13:15	5.6	77.5	0.0	6.7	11.8	0.0
11/30/2024 13:30	4.5	51.7	0.0	7.3	11.3	0.0	11/30/2024 13:30	5.6	76.1	0.0	6.7	11.8	0.0
11/30/2024 13:45	4.5	50.9	0.0	7.3	11.4	0.0	11/30/2024 13:45	5.6	74.6	0.0	6.7	11.9	0.0
11/30/2024 14:00	4.5	50.0	0.0	7.3	11.4	0.0	11/30/2024 14:00	5.6	74.1	0.0	6.7	11.9	0.0
11/30/2024 14:15	4.5	50.0	0.0	7.3	11.4	0.0	11/30/2024 14:15	5.6	73.9	0.0	6.7	11.9	0.0
11/30/2024 14:30	4.5	50.0	0.0	7.3	11.4	0.0	11/30/2024 14:30	5.6	74.1	0.0	6.7	11.9	0.0
11/30/2024 14:45	4.5	49.8	0.0	7.3	11.4	0.0	11/30/2024 14:45	5.6	73.3	0.0	6.8	12.0	0.0
11/30/2024 15:00	4.5	49.5	0.0	7.3	11.5	0.0	11/30/2024 15:00	5.6	72.9	0.0	6.8	12.0	0.0
11/30/2024 15:15	4.5	49.6	0.0	7.4	11.4	0.0	11/30/2024 15:15	5.6	73.9	0.0	6.8	12.0	0.0

11/30/2024 15:30	4.5	49.7	0.0	7.4	11.5	0.0	11/30/2024 15:30	5.6	74.4	0.0	6.8	12.0	0.0
11/30/2024 15:45	4.5	49.9	0.0	7.4	11.4	0.0	11/30/2024 15:45	5.6	74.3	0.0	6.8	11.9	0.0
11/30/2024 16:00	4.5	49.8	0.0	7.3	11.4	0.0	11/30/2024 16:00	5.6	75.6	0.0	6.8	11.9	0.0
11/30/2024 16:15	4.6	52.3	0.0	7.3	11.4	0.0	11/30/2024 16:15	5.8	86.1	0.0	6.7	11.7	0.0
11/30/2024 16:30	4.6	54.9	0.0	7.3	11.3	0.0	11/30/2024 16:30	5.7	81.4	0.0	6.7	11.7	0.0
11/30/2024 16:45	4.6	53.2	0.0	7.3	11.3	0.0	11/30/2024 16:45	5.7	80.3	0.0	6.8	11.8	0.0
11/30/2024 17:00	4.6	52.5	0.0	7.3	11.4	0.0	11/30/2024 17:00	5.7	78.8	0.0	6.8	11.8	0.0
11/30/2024 17:15	4.6	52.1	0.0	7.3	11.4	0.0	11/30/2024 17:15	5.7	79.3	0.0	6.8	11.8	0.0
11/30/2024 17:30	4.6	52.6	0.0	7.3	11.4	0.0	11/30/2024 17:30	5.7	81.7	0.0	6.8	11.8	0.0
11/30/2024 17:45	4.6	53.5	0.0	7.4	11.3	0.0	11/30/2024 17:45	5.7	81.7	0.0	6.8	11.8	0.0
11/30/2024 18:00	4.6	53.5	0.0	7.4	11.3	0.0	11/30/2024 18:00	5.7	79.7	0.0	6.7	11.8	0.0
11/30/2024 18:15	4.6	52.8	0.0	7.3	11.3	0.0	11/30/2024 18:15	5.7	81.0	0.0	6.7	11.8	0.0
11/30/2024 18:30	4.6	54.1	0.0	7.3	11.3	0.0	11/30/2024 18:30	5.8	84.2	0.0	6.6	11.6	0.0
11/30/2024 18:45	4.6	55.4	0.0	7.3	11.2	0.0	11/30/2024 18:45	5.8	86.9	0.0	6.6	11.5	0.0
11/30/2024 19:00	4.8	58.4	0.0	7.2	10.8	0.0	11/30/2024 19:00	5.9	88.1	0.0	6.4	11.1	0.0
11/30/2024 19:15	5.2	0.1	0.0	7.2	11.9	0.0	11/30/2024 19:15	5.9	3.7	0.0	6.7	12.5	0.0
11/30/2024 19:30	5.0	0.1	0.0	7.2	12.0	0.0	11/30/2024 19:30	5.8	4.0	0.0	6.7	12.5	0.0
11/30/2024 19:45	5.0	0.1	0.0	7.2	12.0	0.0	11/30/2024 19:45	5.7	4.4	0.0	6.7	12.5	0.0
11/30/2024 20:00	5.0	0.1	0.0	7.2	11.9	0.0	11/30/2024 20:00	5.7	4.5	0.0	6.9	12.5	0.0
11/30/2024 20:15	5.1	0.1	0.0	7.2	11.9	0.0	11/30/2024 20:15	5.8	4.7	0.0	6.9	12.5	0.0
11/30/2024 20:30	5.1	0.1	0.0	7.2	11.9	0.0	11/30/2024 20:30	5.7	4.9	0.0	6.9	12.6	0.0
11/30/2024 20:45	5.1	0.1	0.0	7.2	11.9	0.0	11/30/2024 20:45	5.7	4.6	0.0	6.9	12.6	0.0
11/30/2024 21:00	5.0	0.1	0.0	7.2	11.9	0.0	11/30/2024 21:00	5.7	4.6	0.0	6.9	12.6	0.0
11/30/2024 21:15	5.1	0.1	0.0	7.1	11.9	0.0	11/30/2024 21:15	5.7	4.8	0.0	6.9	12.6	0.0
11/30/2024 21:30	5.1	0.1	0.0	7.1	11.9	0.0	11/30/2024 21:30	5.7	4.8	0.0	6.9	12.5	0.0
11/30/2024 21:45	5.1	0.1	0.0	7.1	11.9	0.0	11/30/2024 21:45	5.7	4.5	0.0	6.9	12.6	0.0
11/30/2024 22:00	5.2	0.1	0.0	7.1	11.9	0.0	11/30/2024 22:00	5.7	4.6	0.0	7.0	12.6	0.0
11/30/2024 22:15	5.2	0.1	0.0	7.1	11.9	0.0	11/30/2024 22:15	5.7	4.7	0.0	6.9	12.6	0.0
11/30/2024 22:30	5.4	0.1	0.0	7.0	11.8	0.0	11/30/2024 22:30	5.7	4.8	0.0	6.9	12.6	0.0
11/30/2024 22:45	5.4	0.1	0.0	7.0	11.8	0.0	11/30/2024 22:45	5.7	4.7	0.0	6.9	12.6	0.0
11/30/2024 23:00	5.4	0.1	0.0	7.0	11.8	0.0	11/30/2024 23:00	5.7	4.6	0.0	6.9	12.6	0.0
11/30/2024 23:15	5.5	0.1	0.0	7.0	11.8	0.0	11/30/2024 23:15	5.7	4.7	0.0	6.9	12.6	0.0
11/30/2024 23:30	5.5	0.1	0.0	7.0	11.8	0.0	11/30/2024 23:30	5.7	4.7	0.0	6.9	12.6	0.0
11/30/2024 23:45	5.4	0.1	0.0	6.9	11.8	0.0	11/30/2024 23:45	5.6	4.7	0.0	6.9	12.6	0.0
12/01/2024 0:00	5.4	0.1	0.0	6.9	11.8	0.0	12/01/2024 0:00	5.6	4.6	0.0	7.0	12.6	0.0
12/01/2024 0:15	5.4	0.1	0.0	6.9	11.8	0.0	12/01/2024 0:15	5.6	4.8	0.0	7.0	12.6	0.0
12/01/2024 0:30	5.4	0.1	0.0	6.9	11.8	0.0	12/01/2024 0:30	5.6	4.8	0.0	7.0	12.6	0.0
12/01/2024 0:45	5.4	0.1	0.0	6.9	11.8	0.0	12/01/2024 0:45	5.6	4.5	0.0	7.0	12.6	0.0
12/01/2024 1:00	5.4	0.1	0.0	6.9	11.8	0.0	12/01/2024 1:00	5.6	4.6	0.0	6.9	12.6	0.0
12/01/2024 1:15	5.4	0.1	0.0	6.9	11.8	0.0	12/01/2024 1:15	5.6	4.7	0.0	6.9	12.6	0.0
12/01/2024 1:30	5.4	0.1	0.0	6.8	11.8	0.0	12/01/2024 1:30	5.5	4.8	0.0	6.9	12.6	0.0
12/01/2024 1:45	5.4	0.1	0.0	6.8	11.8	0.0	12/01/2024 1:45	5.5	4.7	0.0	6.9	12.6	0.0
12/01/2024 2:00	5.3	0.1	0.0	6.8	11.8	0.0	12/01/2024 2:00	5.5	4.6	0.0	7.0	12.6	0.0
12/01/2024 2:15	5.2	0.1	0.0	6.8	11.9	0.0	12/01/2024 2:15	5.4	4.8	0.0	7.0	12.7	0.0
12/01/2024 2:30	5.2	0.1	0.0	6.8	11.9	0.0	12/01/2024 2:30	5.3	4.9	0.0	7.0	12.7	0.0
12/01/2024 2:45	5.1	0.1	0.0	6.8	11.9	0.0	12/01/2024 2:45	5.3	4.5	0.0	7.0	12.7	0.0
12/01/2024 3:00	5.0	0.1	0.0	6.8	11.9	0.0	12/01/2024 3:00	5.3	4.6	0.0	6.9	12.7	0.0
12/01/2024 3:15	4.9	0.1	0.0	6.8	12.0	0.0	12/01/2024 3:15	5.2	4.7	0.0	6.9	12.7	0.0
12/01/2024 3:30	4.9	0.1	0.0	6.8	12.0	0.0	12/01/2024 3:30	5.1	4.8	0.0	6.9	12.8	0.0
12/01/2024 3:45	5.0	0.1	0.0	6.8	12.0	0.0	12/01/2024 3:45	5.1	4.7	0.0	7.0	12.7	0.0
12/01/2024 4:00	5.0	0.1	0.0	6.7	11.9	0.0	12/01/2024 4:00	5.0	4.5	0.0	7.1	12.8	0.0
12/01/2024 4:15	4.8	0.1	0.0	6.7	12.0	0.0	12/01/2024 4:15	4.9	4.7	0.0	7.0	12.8	0.0
12/01/2024 4:30	4.6	0.1	0.0	6.7	12.1	0.0	12/01/2024 4:30	4.8	4.8	0.0	7.0	12.9	0.0
12/01/2024 4:45	4.5	0.1	0.0	6.7	12.1	0.0	12/01/2024 4:45	4.6	4.5	0.0	7.0	12.9	0.0
12/01/2024 5:00	4.4	50.9	0.0	7.1	11.4	0.0	12/01/2024 5:00	5.4	59.9	0.0	6.8	11.9	0.0
12/01/2024 5:15	4.4	50.1	0.0	7.2	11.4	0.0	12/01/2024 5:15	5.4	58.9	0.0	6.8	12.0	0.0
12/01/2024 5:30	4.4	49.3	0.0	7.3	11.4	0.0	12/01/2024 5:30	5.4	58.5	0.0	6.8	12.0	0.0
12/01/2024 5:45	4.4	49.1	0.0	7.3	11.4	0.0	12/01/2024 5:45	5.4	72.2	0.0	6.8	12.0	0.0
12/01/2024 6:00	4.4	49.0	0.0	7.4	11.4	0.0	12/01/2024 6:00	5.4	72.0	0.0	6.8	12.0	0.0
12/01/2024 6:15	4.3	48.8	0.0	7.3	11.4	0.0	12/01/2024 6:15	5.4	73.4	0.0	6.8	12.0	0.0
12/01/2024 6:30	4.4	50.6	0.0	7.3	11.4	0.0	12/01/2024 6:30	5.5	78.5	0.0	6.8	11.8	0.0
12/01/2024 6:45	4.4	51.4	0.0	7.4	11.3	0.0	12/01/2024 6:45	5.4	75.6	0.0	6.8	11.8	0.0
12/01/2024 7:00	4.4	51.0	0.0	7.4	11.3	0.0	12/01/2024 7:00	5.4	73.8	0.0	6.8	11.9	0.0
12/01/2024 7:15	4.3	49.8	0.0	7.3	11.4	0.0	12/01/2024 7:15	5.3	72.2	0.0	6.8	11.9	0.0
12/01/2024 7:30	4.3	48.8	0.0	7.4	11.4	0.0	12/01/2024 7:30	5.3	72.1	0.0	6.8	12.0	0.0
12/01/2024 7:45	4.3	48.6	0.0	7.4	11.5	0.0	12/01/2024 7:45	5.3	73.3	0.0	6.8	12.0	0.0
12/01/2024 8:00	4.3	48.8	0.0	7.4	11.5	0.0	12/01/2024 8:00	5.3	73.9	0.0	6.8	12.0	0.0
12/01/2024 8:15	4.3	49.2	0.0	7.4	11.5	0.0	12/01/2024 8:15	5.3	73.0	0.0	6.8	12.0	0.0
12/01/2024 8:30	4.2	49.0	0.0	7.4	11.5	0.0	12/01/2024 8:30	5.3	74.1	0.0	6.8	12.1	0.0
12/01/2024 8:45	4.2	49.5	0.0	7.4	11.5	0.0	12/01/2024 8:45	5.3	75.6	0.0	6.9	12.0	0.0
12/01/2024 9:00	4.2	50.0	0.0	7.4	11.6	0.0	12/01/2024 9:00	5.3	77.4	0.0	6.9	12.0	0.0
12/01/2024 9:15	4.2	50.4	0.0	7.4	11.6	0.0	12/01/2024 9:15	5.3	76.7	0.0	6.9	12.0	0.0
12/01/2024 9:30	4.2	50.8	0.0	7.5	11.5	0.0	12/01/2024 9:30	5.3	76.4	0.0	6.9	12.1	0.0
12/01/2024 9:45	4.2	50.7	0.0	7.4	11.6	0.0	12/01/2024 9:45	5.3	78.0	0.0	6.9	12.0	0.0
12/01/2024 10:00	4.2	51.2	0.0	7.4	11.5	0.0	12/01/2024 10:00	5.3	77.8	0.0	6.9	12.0	0.0
12/01/2024 10:15	4.2	51.8	0.0	7.4	11.5	0.0	12/01/2024 10:15	5.3	82.5	0.0	6.8	12.0	0.0
12/01/2024 10:30	4.2	53.4	0.0	7.4	11.5	0.0	12/01/2024 10:30	5.4	84.1	0.0	6.8	11.9	0.0
12/01/2024 10:45	4.3	54.5	0.0	7.4	11.5	0.0	12/01/2024 10:45	5.4	82.5	0.0	6.9	11.9	0.0
12/01/2024 11:00	4.3	53.4	0.0	7.4	11.5	0.0	12/01/2024 11:00	5.4	79.7	0.0	6.8	12.0	0.0
12/01/2024 11:15	4.3	52.7	0.0	7.4	11.5	0.0	12/01/2024 11:15	5.4	79.5	0.0	6.8	11.9	0.0
12/01/2024 11:30	4.3	52.5	0.0	7.4	11.4	0.0	12/01/2024 11:30	5.4	79.8	0.0	6.8	11.9	0.0
12/01/2024 11:45	4.3	52.7	0.0	7.4	11.4	0.0	12/01/2024 11:45	5.5	78.5	0.0	6.8	11.9	0.0
12/01/2024 12:00	4.4	51.8	0.0	7.3	11.4	0.0	12/01/2024 12:00	5.5	76.6	0.0	6.8	11.9	0.0
12/01/2024 12:15	4.4	52.3	0.0	7.4	11.4	0.0	12/01/2024 12:15	5.6	79.2	0.0	6.8	11.9	0.0
12/01/2024 12:30	4.5	53.5	0.0	7.3	11.4	0.0	12/01/2024 12:30	5.6	81.6	0.0	6.8	11.8	0.0
12/01/2024 12:45	4.5	53.6	0.0	7.3	11.4	0.0	12/01/2024 12:45	5.7	78.8	0.0	6.8	11.9	0.0
12/01/2024 13:00	4.5	52.4	0.0	7.4	11.4	0.0	12/01/2024 13:00	5.7	78.1	0.0	6.8	11.9	0.0
12/01/2024 13:15	4.6	52.1	0.0	7.2	11.4	0.0	12/01/2024 13:15	5.7	79.4	0.0	6.7	11.9	0.0
12/01/2024 13:30	4.6	52.6	0.0	7.3	11.4	0.0	12/01/2024 13:30	5.8	79.4	0.0	6.7	11.9	0.0
12/01/2024 13:45	4.6	52.6	0.0	7.3	11.4	0.0	12/01/2024 13:45	5.8	79.2	0.0	6.7	11.8	0.0
12/01/2024 14:00	4.7	52.2	0.0	7.3	11.4	0.0	12/01/2024 14:00	5.8	78.0	0.0	6.7	11.9	0.0

12/01/2024 14:15	4.7	51.5	0.0	7.4	11.4	0.0	12/01/2024 14:15	5.8	75.4	0.0	6.7	11.9	0.0
12/01/2024 14:30	4.7	50.2	0.0	7.4	11.4	0.0	12/01/2024 14:30	5.8	74.2	0.0	6.7	12.0	0.0
12/01/2024 14:45	4.7	49.8	0.0	7.3	11.5	0.0	12/01/2024 14:45	5.8	74.5	0.0	6.8	12.0	0.0
12/01/2024 15:00	4.7	49.9	0.0	7.3	11.5	0.0	12/01/2024 15:00	5.8	74.2	0.0	6.8	12.0	0.0
12/01/2024 15:15	4.7	49.8	0.0	7.4	11.5	0.0	12/01/2024 15:15	5.8	74.1	0.0	6.8	12.0	0.0
12/01/2024 15:30	4.7	49.8	0.0	7.4	11.5	0.0	12/01/2024 15:30	5.8	74.0	0.0	6.8	12.0	0.0
12/01/2024 15:45	4.7	49.7	0.0	7.4	11.5	0.0	12/01/2024 15:45	5.8	74.4	0.0	6.8	12.0	0.0
12/01/2024 16:00	4.7	50.0	0.0	7.4	11.5	0.0	12/01/2024 16:00	5.8	74.5	0.0	6.8	12.0	0.0
12/01/2024 16:15	4.7	50.0	0.0	7.4	11.5	0.0	12/01/2024 16:15	5.8	75.3	0.0	6.8	12.0	0.0
12/01/2024 16:30	4.7	50.3	0.0	7.4	11.4	0.0	12/01/2024 16:30	5.8	77.7	0.0	6.8	12.0	0.0
12/01/2024 16:45	4.6	51.6	0.0	7.4	11.4	0.0	12/01/2024 16:45	5.8	82.6	0.0	6.8	11.9	0.0
12/01/2024 17:00	4.7	53.6	0.0	7.4	11.4	0.0	12/01/2024 17:00	5.8	83.7	0.0	6.8	11.8	0.0
12/01/2024 17:15	4.6	53.9	0.0	7.4	11.4	0.0	12/01/2024 17:15	5.7	81.3	0.0	6.8	11.8	0.0
12/01/2024 17:30	4.6	53.0	0.0	7.4	11.4	0.0	12/01/2024 17:30	5.7	83.5	0.0	6.8	11.8	0.0
12/01/2024 17:45	4.5	54.4	0.0	7.3	11.4	0.0	12/01/2024 17:45	5.7	83.5	0.0	6.8	11.8	0.0
12/01/2024 18:00	4.5	54.3	0.0	7.4	11.3	0.0	12/01/2024 18:00	5.6	82.2	0.0	6.8	11.9	0.0
12/01/2024 18:15	4.5	53.8	0.0	7.4	11.3	0.0	12/01/2024 18:15	5.6	83.0	0.0	6.8	11.8	0.0
12/01/2024 18:30	4.4	54.1	0.0	7.4	11.3	0.0	12/01/2024 18:30	5.6	82.8	0.0	6.7	11.8	0.0
12/01/2024 18:45	4.4	54.3	0.0	7.3	11.3	0.1	12/01/2024 18:45	5.6	85.6	0.0	6.7	11.7	0.0
12/01/2024 19:00	4.4	56.0	0.0	7.3	11.3	0.0	12/01/2024 19:00	5.6	88.7	0.0	6.6	11.6	0.0
12/01/2024 19:15	4.4	58.0	0.0	7.3	11.2	0.0	12/01/2024 19:15	5.7	93.4	0.0	6.5	11.3	0.0
12/01/2024 19:30	4.6	60.4	0.0	7.3	10.9	1.2	12/01/2024 19:30	5.7	13.8	0.0	6.5	11.7	1.9
12/01/2024 19:45	4.6	0.1	0.0	7.4	12.1	0.0	12/01/2024 19:45	5.3	4.4	0.0	6.8	12.7	0.0
12/01/2024 20:00	4.4	0.1	0.0	7.4	12.1	0.0	12/01/2024 20:00	4.8	4.4	0.0	7.0	12.8	0.0
12/01/2024 20:15	4.3	0.1	0.0	7.4	12.2	0.0	12/01/2024 20:15	4.6	4.6	0.0	6.9	12.9	0.0
12/01/2024 20:30	4.2	0.1	0.0	7.4	12.2	0.0	12/01/2024 20:30	4.3	4.7	0.0	6.9	13.0	0.0
12/01/2024 20:45	4.2	0.1	0.0	7.4	12.2	0.0	12/01/2024 20:45	4.3	4.4	0.0	6.9	13.0	0.0
12/01/2024 21:00	4.2	0.1	0.0	7.4	12.2	0.0	12/01/2024 21:00	4.1	4.5	0.0	6.9	13.1	0.0
12/01/2024 21:15	4.0	0.1	0.0	7.4	12.2	0.0	12/01/2024 21:15	4.0	4.7	0.0	6.9	13.1	0.0
12/01/2024 21:30	4.1	0.1	0.0	7.3	12.2	0.0	12/01/2024 21:30	3.9	4.8	0.0	6.9	13.2	0.0
12/01/2024 21:45	4.0	0.1	0.0	7.3	12.3	0.0	12/01/2024 21:45	3.8	4.6	0.0	6.9	13.2	0.0
12/01/2024 22:00	4.0	0.1	0.0	7.3	12.2	0.0	12/01/2024 22:00	3.8	4.7	0.0	7.0	13.2	0.0
12/01/2024 22:15	4.0	0.1	0.0	7.3	12.2	0.0	12/01/2024 22:15	3.7	4.8	0.0	7.0	13.2	0.0
12/01/2024 22:30	4.0	0.1	0.0	7.3	12.2	0.0	12/01/2024 22:30	3.7	4.8	0.0	7.0	13.2	0.0
12/01/2024 22:45	3.9	0.1	0.0	7.2	12.3	0.0	12/01/2024 22:45	3.6	4.4	0.0	6.9	13.3	0.0
12/01/2024 23:00	3.9	0.1	0.0	7.2	12.3	0.0	12/01/2024 23:00	3.4	4.5	0.0	6.9	13.3	0.0
12/01/2024 23:15	3.9	0.1	0.0	7.2	12.3	0.0	12/01/2024 23:15	3.4	4.7	0.0	6.9	13.3	0.0
12/01/2024 23:30	3.7	0.1	0.0	7.2	12.3	0.0	12/01/2024 23:30	3.3	4.8	0.0	6.9	13.4	0.0
12/01/2024 23:45	3.8	0.1	0.0	7.2	12.3	0.0	12/01/2024 23:45	3.3	4.6	0.0	6.9	13.4	0.0

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

Woodfibre Site Sample Analysis

TRITON	Sample ID	Reviewed and signed off by:			Farshad Shafiei Ph.D., R.P.Bio.	WLNG EOP	Sample or value notes	BCWQ FAL - Short Term	BCWQ FAL - Long Term	BCWQ MAL - Short Term	BCWQ MAL - Long Term
	LAB ID					VA24D2004-001					
	Date Sampled					26-Nov-2024					
	Time Sampled					11:48					
Analyte	Units	FAL-ST [1,2]	FAL-LT [1,2]	MAL-ST [1]	MAL-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	7.60		If natural pH < 6.5, no statisticaly 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 is 19°C, or Max +/- from BKG 1°C	-	Max +/- from BKG 1°C	-	8.8		Guideline is species-dependent. Short-term daily temperature is 15°C for streams with Bull Trout &/or Dolly Varden, Max +/- 1°C from the optimum range as shown in Table 43B of the BCWG for aquatic life for each life history phase of the most sensitive salmoind species present, Mean Weekly Max Temperature guideline is18°C, Short-term daily temperature guideline is 19°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	-	-	-	-	145					
Turbidity (field)	NTU	Varies with background, see note US1 (background) guideline = 12.0	Varies with background, see note US1 (background) guideline = 4.26 5-week discrete sampling average = 3.0 (EOP)	Varies with background, see note US1 (background) guideline = 12.0	Varies with background, see note US1 (background) guideline = 4.26 5-week discrete sampling average = 3.0 (EOP)	1.50		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.
General Parameters											
Hardness (as $CaCO_3$) (total)	mg/L	-	-	-	-	57.3					
Total Dissolved Solids	mg/L	-	-	-	-	77					
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 = 4.34 (EOP)	Varies with background, see note US1 (background) guideline = 28	Varies with background, see note US1 (background) guideline = 8.00 5-week discrete sampling average = 4.34 (EOP)	< 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	-	-	-	-	< 0.50			Long-term (30-day) median within 20% of background median [3]		
Total Alkalinity ($CaCO_3$)	mg/L	-	Categorical	-	-	61.5			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					
Total Sulfide (un-ionized as H_2S)	mg/L	-	0.002	-	-	< 0.0015			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 = 15	Varies with pH and temperature. See note. Guideline = 1.86	Varies with pH and temperature. See note. Guideline = 777	Varies with pH, temperature and salinity. See note. Guideline = 12.0	0.0103		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					
Chloride	mg/L	600	150	+/- 10% from BKG	+/- 10% from BKG	1.29				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
Fluoride	mg/L	Varies with hardness US1 (background) guideline = 0.485	-	1.5	-	0.192		Guideline has interim status. Guideline is calculated with the following equation: Guideline = [-51.73 + 92.57 log10 (hardness)] * 0.01			
Nitrate (as N)	mg/L	32.8	3	-	3.7	0.0211					
Nitrite (as N)	mg/L	Varies with chloride. Table 27B, see note. US1 (background) guideline = 0.06	Varies with chloride. Table 27B, see note. US1 (background) guideline = 0.02	-	-	< 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.		
Sulfate (as SO_4)	mg/L	-	Varies with hardness. See note. US1 (background) guideline = 128	-	-	4.59			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 US1 (background) guideline = 0.104 5-week discrete sampling averages = 12.816 (EOP), 0.184 (US), 0.196 (DS)	-	-	0.108			Guideline varies with pH, hardness and Dissolved Organic Carbon (DOC). Guideline is calculated with the following equation: Guideline = (EXP((0.645 * LN(DOC)) + (2.255 * LN(hardness)) + (1.995 * pH) + (-0.284 * (LN(hardness) * pH))-9.898)/3/1000) 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	0.00058					Interim guideline status
Barium (Ba)-Total	mg/L	-	1	-	-	0.00353			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	< 0.010					
Cadmium (Cd)-Total	mg/L	-	-	-	0.00012	< 0.0000100					Working guideline status
Calcium (Ca)-Total	mg/L	-	-	-	-	21.2					
Cesium (Cs)-Total	mg/L	-	-	-	-	0.000013					
Chromium (Cr) - Total	mg/L	-	-	-	-	< 0.00050					
Chromium (Cr(III))-Total	mg/L	-	0.0089	-	0.056	< 0.00050			Working guideline status		Working guideline status
Chromium (Cr(VI))-Total	mg/L	-	0.0025	-	0.0015	< 0.00050			Working guideline status		Working guideline status
Cobalt (Co)-Total	mg/L	0.11	0.004	-	-	< 0.00010					
Copper (Cu)-Total	mg/L	-	-	0.003	0.002 5-week discrete sampling averages = 0.00267 (EOP), 0.00151 (US), 0.00108 (DS)	0.0025					
Iron (Fe)-Total	mg/L	1	-	-	-	0.026					
Lead (Pb)-Total	mg/L			0.14	0.002 5-week discrete sampling averages = 0.00118 (EOP), 0.000102 (US), 0.00009 (DS)	0.000781					
Lithium (Li)-Total	mg/L	-	-	-	-	0.002					
Magnesium (Mg)-Total	mg/L	-	-	-	-	1.07					
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 averages = 0.0046 (EOP), 0.0035 (US), 0.0032 (DS)	-	-	0.00201		Guideline varies with hardness. The guideline is calculated using the following equation: Guideline = (0.0044 * hardness + 0.605) Guideline applies to samples with hardness 25-259 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 = (0.01102 * 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 US1 (background) guideline = N/A	-	-	< 0.0000050			When MeHg ≤ 0.5% of total Hg, guideline is equal to 0.02 mg/L Guideline = 0.1/[MeHg/totalHg]. When MeHg ≤ 0.5% of total Hg, guideline is equal to 0.02 mg/L		
Molybdenum (Mo)-Total	mg/L	46	7.6	-	-	0.0156					
Nickel (Ni)-Total	mg/L	-		-	0.008	< 0.00050					Working guideline status
Phosphorus (P)-Total	mg/L	-	0.005 to 0.015	-	-	< 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	-	-	-	-	0.909					
Rubidium (Rb)-Total	mg/L	-	-	-	-	0.00158					
Selenium (Se)-Total	mg/L	-	0.002	-	0.002	0.000086			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 guideliens and sampling guidance.		Guideline for marine aquatic life (water column). Alert concentration is 0.001 mg/L, with separate guideliens for sediment, invertebrate and fish tissue. Refer to BC Water Quality Guidelines for more information on guideliens and sampling guidance.
Silicon (Si)-Total	mg/L	-	-	-	-	6.26					
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	< 0.000010		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	-	-	-	-	3.27					
Strontium (Sr)-Total	mg/L	-	-	-	-	0.0413					
Sulfur (S)-Total	mg/L	-	-	-	-	1.58					
Tellurium (Te)-Total	mg/L	-	-	-	-	< 0.00020					
Thallium (Tl)-Total	mg/L	-	0.00003 5-week discrete sampling averages = 0.000018 (EOP), <0.000010 (US), 0.00001 (DS)	-	-	< 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					
Tin (Sn)-Total	mg/L	-	-	-	-	< 0.00010					
Titanium (Ti)-Total	mg/L	-	-	-	-	0.0009					
Tungsten (W)-Total	mg/L	-	-	-	-	0.00025					
Uranium (U)-Total	mg/L	0.0165	0.0075	-	-	0.00149			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 averages = 0.0204 (EOP), 0.003 (US), 0.003 (DS)	0.0075					
Zirconium (Zr)-Total	mg/L	-	-	-	-	< 0.00020					
Dissolved Metals											
Aluminum (Al)-Dissolved	mg/L	-	-	-	-	0.0032					
Antimony (Sb)-Dissolved	mg/L	-	-	-	-	< 0.00010					
Arsenic (As)-Dissolved	mg/L	-	-	-	-	0.00036					
Barium (Ba)-Dissolved	mg/L	-	-	-	-	0.00348					
Beryllium (Be)-Dissolved	mg/L	-	-	-	-	< 0.000100					
Bismuth (Bi)-Dissolved	mg/L	-	-	-	-	< 0.000050					
Boron (B)-Dissolved	mg/L	-	-	-	-	< 0.010					
Cadmium (Cd)-Dissolved	mg/L	Varies with hardness, see note US1 (background) guideline = 0.000067	Varies with hardness, see note US1 (background) guideline = 0.000037 5-week discrete sampling averages = 0.000011 (EOP), 0.0000068 (US), 0.0000059 (DS)	-	-	< 0.0000050		Guideline is hardness dependent. Guideline is appilcable to water hardness between 7.0 and 455 mg/L. Guideline is calculated with the following formula: Guideline = (EXP(1.03 * (LN(hardness)) - 5.274)/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	-	-	20.9			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	-	-	-	-	< 0.000010					
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	< 0.00050					
Cobalt (Co)-Dissolved	mg/L	-	-	-	-	< 0.00010					
Copper (Cu)-Dissolved	mg/L	Guideline varies with other parameters, see note US1 (background) guideline = 0.0036	Guideline varies with other parameters, see note US1 (background) guideline = 0.0006 5-week discrete sampling averages = 0.00422 (EOP), 0.00116 (US), 0.00083 (DS)	-	-	0.0022		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	-	-	-	< 0.010					
Lead (Pb)-Dissolved	mg/L	-	Guideline varies with DOC and hardness Guideline: 0.00233 5-week discrete sampling averages = 0.00179 (EOP), <0.00005 (US),	-	-	0.000359			Guideline varies with DOC and hardness, refer to BC Water Quality Guidelines for more information. Guideline uses equation (EXP((0.514*LN(DOC))+(0.214*(LN(Hardness)))+0.4354))/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	-	-	-	-	0.0021					
Magnesium (Mg)-Dissolved	mg/L	-	-	-	-	0.996					
Manganese (Mn)-Dissolved	mg/L	-	-	-	-	0.00152					
Mercury (Hg)-Dissolved	mg/L	-	-	-	-	< 0.0000050					
Molybdenum (Mo)-Dissolved	mg/L	-	-	-	-	0.0165					
Nickel (Ni)-Dissolved	mg/L	Guideline varies with pH, temperature, DOC, and hardness US1 (background) guideline: 0.0205	Guideline varies with pH, temperature, DOC, and hardness US1 (background) guideline: 0.00142 5-week discrete sampling averages = 0.0009 (EOP), 0.000534 (US), 0.000506 (DS)	-	-	< 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					
Potassium (K)-Dissolved	mg/L	-	-	-	-	0.819					
Rubidium (Rb)-Dissolved	mg/L	-	-	-	-	0.00147					
Selenium (Se)-Dissolved	mg/L	-	-	-	-	0.000053					
Silicon (Si)-Dissolved	mg/L	-	-	-	-	5.76					
Silver (Ag)-Dissolved	mg/L	-	-	-	-	< 0.000010					
Sodium (Na)-Dissolved	mg/L	-	-	-	-	3.1					
Strontium (Sr)-Dissolved	mg/L	-	-	-	-	0.0416					
Sulfur (S)-Dissolved	mg/L	-	-	-	-	1.41					
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	-	-	-	-	0.000577					
Vanadium (V)-Dissolved	mg/L	-	-	-	-	< 0.00050					
Zinc (Zn)-Dissolved	mg/L	Varies with DOC and hardness US1 (background) guideline = 0.010	Varies with pH, DOC, hardness US1 (background) guideline = 0.0046 5-week discrete sampling average = 0.0198 (EOP), 0.0015 (US), 0.0026 (DS)	-	-	0.0047		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, anmd 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					
Volatile Organic Compounds											
Chlorobenzene	µg/L	-	-	-	-	< 0.50					
Chloromethane	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	-	150	-	-	< 0.50			Working guideline status		
Dichlorobenzene, 1,4-	µg/L	-	26	-	-	< 0.50			Working guideline status		
Dichloropropane, 1,2-	µg/L	-	-	-	-	< 0.50					
Dichloropropylene, cis+trans-1,3-	µg/L	-	-	-	-	< 0.75					
Dichloropropylene, cis-1,3-	µg/L	-	-	-	-	< 0.50					
Tetrachloroethane, 1,1,1,2-	µg/L	-	-	-	-	< 0.50					
Tetrachloroethane, 1,1,2,2-	µg/L	-	-	-	-	< 0.20					
Trichloroethane, 1,1,2-	µg/L	-	-	-	-	< 0.50					
Trichlorofluoromethane	µg/L	-	-	-	-	< 0.50					
Carbon tetrachloride	µg/L	-	-	-	-	< 0.50					
Chloroethane	µg/L	-	-	-	-	< 0.50					
Dichloroethane, 1,1-	µg/L	-	-	-	-	< 0.50					
Dichloroethane, 1,2-	µg/L	-	100	-	-	< 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		
Dichloropropylene, trans-1,3-	µg/L	-	-	-	-	< 0.50					
Tetrachloroethylene	µg/L	-	110	-	-	< 0.50			Working guideline status		
Trichloroethane, 1,1,1-	µg/L	-	-	-	-	< 0.50					
Trichloroethylene	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	-	250	< 0.50			Interim guideline status		Interim guideline status
Methyl-tert-butyl ether [MTBE]	µg/L	3400	-	440	-	< 0.50					
Styrene	µg/L	-	72	-	-	< 0.50			Working guideline status		
Toluene	µg/L	-	0.5	-	-	< 0.40					
Xylene, m+p-	µg/L	-	-	-	-	< 0.40					
Xylene, o-	µg/L	-	-	-	-	< 0.30					
Xylenes, 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		
Dibromochloromethane	µg/L	-	-	-	-	< 0.50					
Hydrocarbons											
EPH (C10-C19)	µg/L	-	-	-	-	< 250					
EPH (C19-C32)	µg/L	-	-	-	-	< 250					
VHw (C6-C10)	µg/L	-	-	-	-	< 100					
LEPHw	µg/L	-	-	-	-	-					
VPHw	µg/L	-	-	-	-	< 100					
HEPHw	µg/L	-	-	-	-	-					
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	< 0.0050					
Benzo(b+j)fluoranthene	µg/L	-	-	-	-	< 0.010					
Benzo(b+j+k)fluoranthene	µg/L	-	-	-	-	< 0.015					
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	-	-	< 0.010		Guideline is for phototoxic effects			
Fluorene	µg/L	-	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 napthalene and is presented here for reference.
Methylnaphthalene, 2-	µg/L	-	-	-	1	< 0.010					Guideline is for total methylated napthalene 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	-	-	-	< 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	-	500	-	-	< 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 MAL Guidelines***	**Exceeds MAL Short term Guideline**							

[1]BC MOECCS. 2023. BC Water Qualtiy Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: wqg_summary_aquaticlife_wildlife_agri.pdf (gov.bc.ca)
[2]BC MOECCS. 2021. BC Working Water Qualtiy Guidelines for the Protection of Aquatic Life, Widlife & Agriculture. Accessed from: bc_env_working_water_quality_guidelines.pdf (gov.bc.ca)
[3]Note that long-term (**LT**) 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 (**ST**).
[4]Background temperature ranges: Dec-Feb: 0.3-8.0C; Mar-Apr: 3.0-10.2C; May-June: 6.8-15.1C; Jul-present: 12.9-18.2C
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 EOP	Values: WLNG US 19-Nov-2024
pH (field)	pH units	Field pH taken using handheld meters during sampling used in calculations	7.6	7.36
Temperature (field)	°C	Field temperature taken using handheld meters during sampling used in calculations	8.8	6.2
Turbidity (field)	NTU	Field turbidity taken using handheld meters during sampling used in calculations	1.50	4.02
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	57.3	12.1
Dissolved Organic Carbon (DOC)	mg/L	Laboratory tested dissolved organic carbon tested at the lab used in guideline calculations	0.5	2.93
Total Alkalinity ($CaCO_3$)	mg/L	Laboratory tested total alkalinity used in calculations	61.5	7.9
Chloride	mg/L	Laboratory tested chloride taken at each respective sample site on the day of sampling used in guideline calculations	1.29	1.16
Total Suspended Solids	mg/L	Laboratory tested total suspended solids tested at the lab used in guideline calculations	3	< 3.0

Woodfibre Site Sample Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order	: **VA24D2004**		
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 26-Nov-2024 17:10
PO	: 11964 - Task 40 - Phase 3C-4C	Date Analysis Commenced	: 27-Nov-2024
C-O-C number	: ----	Issue Date	: 04-Dec-2024 09:53
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
		Metals, Burnaby, British Columbia
		Metals, Burnaby, British Columbia
		Organics, Burnaby, British Columbia
		Inorganics, Burnaby, British Columbia
		Metals, Burnaby, British Columbia
		Inorganics, Burnaby, British Columbia
		Administration, Burnaby, British Columbia

General Comments

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

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

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

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

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

Unit	*Description*
mg/L	milligrams per litre
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
pH units	pH units
°C	degrees celsius
-	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	----	----	----	----
				Client sampling date / time	26-Nov-2024 11:48	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D2004-001	----	----	----	----
					Result	----	----	----	----
Field Tests									
Conductivity, field	----	EF001/VA	0.10	µS/cm	145.00	----	----	----	----
pH, field	----	EF001/VA	0.10	pH units	7.60	----	----	----	----
Temperature, field	----	EF001/VA	0.10	°C	8.80	----	----	----	----
Physical Tests									
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	56.3	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	57.3	----	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	77	----	----	----	----
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	<3.0	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L	61.5	----	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0103	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	1.29	----	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.192	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.0211	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	4.59	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	<0.50	----	----	----	----
Total Sulfides									
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID				
					WLNG EOP	----	----	----	----
					Client sampling date / time				
					26-Nov-2024 11:48	----	----	----	----
					VA24D2004-001	----	----	----	----
					Result	----	----	----	----
Total Sulfides									
Sulfide, un-ionized (as H2S), from total	7783-06-4	EC395/VA	0.0015	mg/L	<0.0015	----	----	----	----
Sulfide, total (as H2S)	7783-06-4	E395/VA	0.0016	mg/L	<0.0016	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.108	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00058	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00353	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	<0.010	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000100 DLM	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	21.2	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000013	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00250	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.026	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000781	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0020	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	1.07	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00201	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID				
					WLNG EOP	----	----	----	----
					Client sampling date / time				
					26-Nov-2024 11:48	----	----	----	----
					VA24D2004-001	----	----	----	----
					Result	----	----	----	----
Total Metals									
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0156	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	0.909	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00158	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000086	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	6.26	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	3.27	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0413	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	1.58	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00090	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00025	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00149	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0075	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: WLNG EOP	----	----	----	----
					Client sampling date / time: 26-Nov-2024 11:48	----	----	----	----
					VA24D2004-001	----	----	----	----
					Result	----	----	----	----
Total Metals									
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	----	----	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0032	----	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	<0.00010	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00036	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.00348	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	----	----	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	<0.010	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000050	----	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	20.9	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	<0.000010	----	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	----	----	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00220	----	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	<0.010	----	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.000359	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0021	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	0.996	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00152	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	26-Nov-2024 11:48	----	----	----	----
						VA24D2004-001	----	----	----	----
						Result	----	----	----	----
Dissolved Metals										
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L		0.0165	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L		<0.00050	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L		<0.050	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		0.819	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00147	----	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L		0.000053	----	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L		5.76	----	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L		<0.000010	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		3.10	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		0.0416	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		1.41	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L		<0.00020	----	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L		<0.00010	----	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L		<0.00030	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		0.00026	----	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		0.000577	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L		0.0047	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L		<0.00020	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	26-Nov-2024 11:48	----	----	----	----
						VA24D2004-001	----	----	----	----
						Result	----	----	----	----
Dissolved Metals										
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Speciated Metals										
Chromium, hexavalent [Cr VI], total	18540-29-9	E532/VA	0.00050	mg/L		<0.00050	----	----	----	----
Chromium, trivalent [Cr III], total	16065-83-1	EC535/VA	0.00050	mg/L		<0.00050	----	----	----	----
Volatile Organic Compounds										
Chlorobenzene	108-90-7	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Chloromethane	74-87-3	E611C/VA	5.0	µg/L		<5.0	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.75	µg/L		<0.75	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.20	µg/L		<0.20	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Trichlorofluoromethane	75-69-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Volatile Organic Compounds [Drycleaning]										
Carbon tetrachloride	56-23-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Chloroethane	75-00-3	E611C/VA	0.50	µg/L		<0.50	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	26-Nov-2024 11:48	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24D2004-001	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds [Drycleaning]										
Dichloroethane, 1,1-	75-34-3	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloromethane	75-09-2	E611C/VA	1.0	µg/L		<1.0	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Tetrachloroethylene	127-18-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Vinyl chloride	75-01-4	E611C/VA	0.40	µg/L		<0.40	----	----	----	----
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Ethylbenzene	100-41-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Styrene	100-42-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Toluene	108-88-3	E611C/VA	0.40	µg/L		<0.40	----	----	----	----
Xylene, m+p-	179601-23-1	E611C/VA	0.40	µg/L		<0.40	----	----	----	----
Xylene, o-	95-47-6	E611C/VA	0.30	µg/L		<0.30	----	----	----	----
Xylenes, total	1330-20-7	E611C/VA	0.50	µg/L		<0.50	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	26-Nov-2024 11:48	----	----	----	----
						VA24D2004-001	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Bromoform	75-25-2	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Chloroform	67-66-3	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dibromochloromethane	124-48-1	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		<250	----	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L		<250	----	----	----	----
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	----	----	----	----
HEPHw	----	EC600A/VA	250	µg/L		<250	----	----	----	----
LEPHw	----	EC600A/VA	250	µg/L		<250	----	----	----	----
VPHw	----	EC580A/VA	100	µg/L		<100	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		92.0	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		111	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	1.0	%		91.8	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611C/VA	1.0	%		101	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	26-Nov-2024 11:48	----	----	----	----
						VA24D2004-001	----	----	----	----
						Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	----	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		<0.050	----	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		<0.020	----	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		109	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		112	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	26-Nov-2024 11:48	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24D2004-001	----	----	----	----
						Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		112	----	----	----	----
Glycols										
Diethylene glycol	111-46-6	E680E/VA	5.0	mg/L		<5.0	----	----	----	----
Ethylene glycol	107-21-1	E680E/VA	5.0	mg/L		<5.0	----	----	----	----
Propylene glycol, 1,2-	57-55-6	E680E/VA	5.0	mg/L		<5.0	----	----	----	----
Triethylene glycol	112-27-6	E680E/VA	5.0	mg/L		<5.0	----	----	----	----
Glycols, total (EG+DEG+PG)	----	E680E/VA	10	mg/L		<10	----	----	----	----
Glycols Surrogates										
Propanediol, 1,3-	504-63-2	E680E/VA	1.0	%		102	----	----	----	----

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

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24D2004**	Page	: 1 of 13
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone	: ----	Telephone	
Project	: 11964	Date Samples Received	: 26-Nov-2024 17:10
PO	: 11964 - Task 40 - Phase 3C-4C	Issue Date	: 04-Dec-2024 09:52
C-O-C number	: ----		
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 1		
No. of samples analysed	: 1		

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) WLNG EOP	E298	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	01-Dec-2024	28 days	5 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE WLNG EOP	E235.Br-L	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE WLNG EOP	E235.Cl	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE WLNG EOP	E235.F	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE WLNG EOP	E235.NO3-L	26-Nov-2024	27-Nov-2024	3 days	1 days	✓	27-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE WLNG EOP	E235.NO2-L	26-Nov-2024	27-Nov-2024	3 days	1 days	✓	27-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE WLNG EOP	E235.SO4	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-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
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) WLNG EOP	E509	26-Nov-2024	03-Dec-2024	28 days	7 days	✓	03-Dec-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) WLNG EOP	E421	26-Nov-2024	28-Nov-2024	180 days	2 days	✓	29-Nov-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) WLNG EOP	EF001	26-Nov-2024	----	----	----		27-Nov-2024	----	1 days	
Glycols : Glycols (4 analytes) by GC-FID										
Glass vial WLNG EOP	E680E	26-Nov-2024	27-Nov-2024	7 days	1 days	✓	27-Nov-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) WLNG EOP	E601A	26-Nov-2024	03-Dec-2024	14 days	7 days	✓	03-Dec-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) WLNG EOP	E581.VH+F1	26-Nov-2024	30-Nov-2024	14 days	4 days	✓	01-Dec-2024	14 days	5 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) WLNG EOP	E358-L	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	28-Nov-2024	28 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE WLNG EOP	E290	26-Nov-2024	27-Nov-2024	14 days	1 days	✓	27-Nov-2024	14 days	1 days	✓
Physical Tests : TDS by Gravimetry										
HDPE WLNG EOP	E162	26-Nov-2024	----	----	----		29-Nov-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 : TSS by Gravimetry										
HDPE										
WLNG EOP	E160	26-Nov-2024	----	----	----		29-Nov-2024	7 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
WLNG EOP	E641A	26-Nov-2024	03-Dec-2024	14 days	7 days	✓	03-Dec-2024	40 days	0 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
WLNG EOP	E532	26-Nov-2024	----	----	----		26-Nov-2024	28 days	0 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
WLNG EOP	E508	26-Nov-2024	02-Dec-2024	28 days	6 days	✓	02-Dec-2024	28 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
WLNG EOP	E420	26-Nov-2024	28-Nov-2024	180 days	2 days	✓	29-Nov-2024	180 days	3 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
WLNG EOP	E395	26-Nov-2024	----	----	----		27-Nov-2024	7 days	1 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
WLNG EOP	E611C	26-Nov-2024	30-Nov-2024	14 days	4 days	✓	01-Dec-2024	14 days	5 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	1785195	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1786827	1	14	7.1	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1785191	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1785188	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794302	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1785768	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1786828	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1785190	1	7	14.2	5.0	✓
Glycols (4 analytes) by GC-FID	E680E	1785314	1	5	20.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1785192	1	7	14.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1785193	1	7	14.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1785189	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1792002	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1785748	1	19	5.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1785867	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1790715	1	12	8.3	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1790716	1	14	7.1	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1785195	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1786827	1	14	7.1	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1792746	1	9	11.1	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1785191	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1785188	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794302	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1785768	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1786828	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1785190	1	7	14.2	5.0	✓
Glycols (4 analytes) by GC-FID	E680E	1785314	1	5	20.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1785192	1	7	14.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1785193	1	7	14.2	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1792748	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1785189	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	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*
Laboratory Control Samples (LCS) - Continued							
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1792002	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1785748	1	19	5.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1785867	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1790715	1	12	8.3	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1790716	1	14	7.1	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1785195	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	1786827	1	14	7.1	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1792746	1	9	11.1	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1785191	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1785188	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794302	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1785768	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1786828	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1785190	1	7	14.2	5.0	✓
Glycols (4 analytes) by GC-FID	E680E	1785314	1	5	20.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1785192	1	7	14.2	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1785193	1	7	14.2	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1792748	1	14	7.1	5.0	✓
Sulfate in Water by IC	E235.SO4	1785189	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1792002	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1785748	1	19	5.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1785867	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1790715	1	12	8.3	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1790716	1	14	7.1	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1786827	1	14	7.1	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1785191	1	7	14.2	5.0	✓
Chloride in Water by IC	E235.Cl	1785188	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794302	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1785768	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1786828	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1785190	1	7	14.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1785192	1	7	14.2	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							
Nitrite in Water by IC (Low Level)	E235.NO2-L	1785193	1	7	14.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1785189	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1792002	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1785748	1	19	5.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1785867	1	7	14.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1790715	1	12	8.3	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1790716	1	14	7.1	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 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.
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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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 CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in $CaCO_3$ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in $CaCO_3$ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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
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.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.

QUALITY CONTROL REPORT

Work Order	: **VA24D2004**	Page	: 1 of 23
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone	: ----	Telephone	
Project	: 11964	Date Samples Received	: 26-Nov-2024 17:10
PO	: 11964 - Task 40 - Phase 3C-4C	Date Analysis Commenced	: 26-Nov-2024
C-O-C number	: ----	Issue Date	: 04-Dec-2024 09:52
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- 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*
		Vancouver Metals, Burnaby, British Columbia
		Vancouver Metals, Burnaby, British Columbia
		Vancouver Organics, Burnaby, British Columbia
		Vancouver Inorganics, Burnaby, British Columbia
		Vancouver Metals, Burnaby, British Columbia
		Vancouver Inorganics, Burnaby, British Columbia
		Vancouver Administration, Burnaby, British Columbia

General Comments

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

Key :

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

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1785195)											
VA24D2015-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	49.3	49.3	0.00%	20%	----
Physical Tests (QC Lot: 1790007)											
FJ2403573-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	8.7	9.9	1.2	Diff <2x LOR	----
Physical Tests (QC Lot: 1790009)											
FJ2403573-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	290	302	4.05%	20%	----
Anions and Nutrients (QC Lot: 1785188)											
VA24D2004-001	WLNG EOP	Chloride	16887-00-6	E235.Cl	0.50	mg/L	1.29	1.28	0.007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1785189)											
VA24D2004-001	WLNG EOP	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	4.59	4.59	0.0736%	20%	----
Anions and Nutrients (QC Lot: 1785190)											
VA24D2004-001	WLNG EOP	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.192	0.194	0.003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1785191)											
VA24D2004-001	WLNG EOP	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1785192)											
VA24D2004-001	WLNG EOP	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0211	0.0210	0.00008	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1785193)											
VA24D2004-001	WLNG EOP	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1786827)											
VA24D1887-001	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: 1786828)											
VA24D1887-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.48	2.50	0.02	Diff <2x LOR	----
Total Sulfides (QC Lot: 1785867)											
VA24D2004-001	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: 1785748)											
VA24D1939-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0094	0.0088	0.0006	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00076	0.00077	0.000008	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0903	0.0894	0.903%	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	----

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: 1785748) - continued											
VA24D1939-001	Anonymous	Boron, total	7440-42-8	E420	0.010	mg/L	0.039	0.038	0.0008	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	156	154	1.48%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000011	0.000001	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	0.00130	0.00130	0.000004	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.021	0.020	0.0009	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0094	0.0091	0.0003	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.100	mg/L	53.4	53.2	0.354%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0226	0.0224	0.905%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0405	0.0409	1.05%	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	0.300	mg/L	<0.300	<0.300	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	12.9	12.4	3.50%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00170	0.00153	0.00017	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000477	0.000480	0.000002	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	13.3	13.2	0.644%	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	82.3	81.9	0.426%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	1.11	1.12	1.26%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	185	184	0.650%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00022	0.00023	0.000008	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	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00397	0.00408	2.66%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00207	0.00210	0.00003	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: 1792002)											

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: 1792002) - continued											
VA24D1962-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1785768)											
VA24D1844-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00012	0.00013	0.000003	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00300	0.00286	4.60%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0745	0.0743	0.263%	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	0.00134	0.00134	0.596%	20%	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	175	175	0.128%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.00159	0.00164	3.08%	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	0.00012	0.00013	0.00001	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00300	0.00287	4.12%	20%	----
		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	0.0117	0.0120	2.65%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.100	mg/L	43.8	44.2	0.960%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0196	0.0190	3.41%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00102	0.00104	2.12%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.0114	0.0112	1.57%	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	1.80	1.79	0.573%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00408	0.00398	2.30%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.0275	0.0271	1.18%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	9.36	9.08	2.94%	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	12.1	11.6	3.98%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.511	0.508	0.625%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	20.5	20.5	0.178%	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	----

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: 1785768) - continued											
VA24D1844-001	Anonymous	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	0.00436	0.00429	1.66%	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	0.0789	0.0780	1.14%	20%	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1794302)											
VA24D1844-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1785004)											
FJ2403566-004	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1790716)											
VA24D1917-001	Anonymous	Benzene	71-43-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroethane	75-00-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		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	----

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: 1790716) - continued											
VA24D1917-001	Anonymous	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: 1790715)											
VA24D1917-001	Anonymous	VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
Glycols (QC Lot: 1785314)											
VA24D1897-001	Anonymous	Diethylene glycol	111-46-6	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Ethylene glycol	107-21-1	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Propylene glycol, 1,2-	57-55-6	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Triethylene glycol	112-27-6	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1785195)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1790007)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1790009)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1785188)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1785189)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1785190)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1785191)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1785192)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1785193)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1786827)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1786828)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1785867)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1785748)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1785748) - continued						
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	----
Total Metals (QCLot: 1792002)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1785768)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1785768) - continued						
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1785768) - continued						
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: 1794302)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1785004)						
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	<0.00050	----
Volatile Organic Compounds (QCLot: 1790716)						
Benzene	71-43-2	E611C	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611C	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	<0.50	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	<0.50	----
Chloroethane	75-00-3	E611C	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611C	0.5	µg/L	<0.50	----
Chloromethane	74-87-3	E611C	5	µg/L	<5.0	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611C	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	<0.50	----
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1790716) - continued						
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: 1790715)						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1792746)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1792748)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
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: 1785314)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Glycols (QCLot: 1785314) - continued						
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: 1785195)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	108	85.0	115	----
Physical Tests (QCLot: 1790007)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	99.5	85.0	115	----
Physical Tests (QCLot: 1790009)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1785188)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	96.8	90.0	110	----
Anions and Nutrients (QCLot: 1785189)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	97.2	90.0	110	----
Anions and Nutrients (QCLot: 1785190)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	96.2	90.0	110	----
Anions and Nutrients (QCLot: 1785191)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	108	85.0	115	----
Anions and Nutrients (QCLot: 1785192)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	96.3	90.0	110	----
Anions and Nutrients (QCLot: 1785193)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	95.1	90.0	110	----
Anions and Nutrients (QCLot: 1786827)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.4	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1786828)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	107	80.0	120	----
Total Sulfides (QCLot: 1785867)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	100	80.0	120	----
Total Metals (QCLot: 1785748)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	107	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	107	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	102	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: 1785748) - continued									
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	101	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	97.9	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	97.7	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	95.5	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	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	95.0	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	103	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	101	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	109	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	96.6	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	102	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	105	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	106	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	110	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	91.0	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	97.0	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	95.9	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	95.6	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	104	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	99.3	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.3	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	104	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	104	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	107	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.7	80.0	120	----
Total Metals (QCLot: 1792002)									

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: 1792002) - continued									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	100	80.0	120	----
Dissolved Metals (QCLot: 1785768)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	96.4	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	101	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	102	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	97.0	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	97.7	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	97.0	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	96.6	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.5	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	98.8	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	98.6	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.4	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	99.7	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	95.5	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	99.2	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	93.6	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	100	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	98.1	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	96.0	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	93.5	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	98.8	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	99.3	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	100	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	96.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	99.6	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	90.2	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	96.4	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	97.1	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.4	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: 1785768) - continued									
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	92.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	96.0	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	98.7	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	100.0	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	98.9	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	96.5	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	100	80.0	120	----
Speciated Metals (QCLot: 1785004)									
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Volatile Organic Compounds (QCLot: 1790716)									
Benzene	71-43-2	E611C	0.5	µg/L	100 µg/L	96.3	70.0	130	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	100 µg/L	91.0	70.0	130	----
Bromoform	75-25-2	E611C	0.5	µg/L	100 µg/L	102	70.0	130	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	100 µg/L	95.7	70.0	130	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	100 µg/L	101	70.0	130	----
Chloroethane	75-00-3	E611C	0.5	µg/L	100 µg/L	113	60.0	140	----
Chloroform	67-66-3	E611C	0.5	µg/L	100 µg/L	97.2	70.0	130	----
Chloromethane	74-87-3	E611C	5	µg/L	100 µg/L	104	60.0	140	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	100 µg/L	94.1	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	100 µg/L	105	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	110	70.0	130	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	100 µg/L	82.2	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	100 µg/L	94.5	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	100 µg/L	97.7	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	100 µg/L	96.6	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	100 µg/L	97.9	70.0	130	----
Dichloromethane	75-09-2	E611C	1	µg/L	100 µg/L	96.1	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	100 µg/L	97.6	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	100 µg/L	86.1	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	100 µg/L	87.4	70.0	130	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	100 µg/L	102	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	100 µg/L	102	70.0	130	----
Styrene	100-42-5	E611C	0.5	µg/L	100 µg/L	104	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: 1790716) - continued									
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	100 µg/L	98.2	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	100 µg/L	96.6	70.0	130	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	100 µg/L	99.9	70.0	130	----
Toluene	108-88-3	E611C	0.4	µg/L	100 µg/L	102	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	100 µg/L	97.4	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	100 µg/L	96.2	70.0	130	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	100 µg/L	96.2	70.0	130	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	100 µg/L	103	60.0	140	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	100 µg/L	103	60.0	140	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	200 µg/L	108	70.0	130	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	100 µg/L	97.4	70.0	130	----
Hydrocarbons (QCLot: 1790715)									
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	99.4	70.0	130	----
Hydrocarbons (QCLot: 1792746)									
EPH (C10-C19)	----	E601A	250	µg/L	6490 µg/L	97.4	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3360 µg/L	99.4	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1792748)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	119	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	89.8	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	90.0	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	90.5	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	124	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	99.0	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	109	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	120	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	115	50.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1792748) - continued									
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	115	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	107	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	107	60.0	130	----
Glycols (QCLot: 1785314)									
Diethylene glycol	111-46-6	E680E	5	mg/L	25 mg/L	85.9	70.0	130	----
Ethylene glycol	107-21-1	E680E	5	mg/L	25 mg/L	90.9	70.0	130	----
Propylene glycol, 1,2-	57-55-6	E680E	5	mg/L	25 mg/L	91.7	70.0	130	----
Triethylene glycol	112-27-6	E680E	5	mg/L	25 mg/L	82.0	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: 1785188)										
VA24D2015-001	Anonymous	Chloride	16887-00-6	E235.Cl	97.7 mg/L	100 mg/L	97.7	75.0	125	----
Anions and Nutrients (QCLot: 1785189)										
VA24D2015-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.6 mg/L	100 mg/L	99.6	75.0	125	----
Anions and Nutrients (QCLot: 1785190)										
VA24D2015-001	Anonymous	Fluoride	16984-48-8	E235.F	0.987 mg/L	1 mg/L	98.7	75.0	125	----
Anions and Nutrients (QCLot: 1785191)										
VA24D2015-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.526 mg/L	0.5 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1785192)										
VA24D2015-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.45 mg/L	2.5 mg/L	98.0	75.0	125	----
Anions and Nutrients (QCLot: 1785193)										
VA24D2015-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.471 mg/L	0.5 mg/L	94.2	75.0	125	----
Anions and Nutrients (QCLot: 1786827)										
VA24D1911-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0995 mg/L	0.1 mg/L	99.5	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1786828)										
VA24D1911-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.32 mg/L	5 mg/L	106	70.0	130	----
Total Sulfides (QCLot: 1785867)										
VA24D2007-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.184 mg/L	0.2 mg/L	92.2	75.0	125	----
Total Metals (QCLot: 1785748)										
VA24D1968-001	Anonymous	Aluminum, total	7429-90-5	E420	0.197 mg/L	0.2 mg/L	98.3	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0197 mg/L	0.02 mg/L	98.3	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0211 mg/L	0.02 mg/L	105	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0374 mg/L	0.04 mg/L	93.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00968 mg/L	0.01 mg/L	96.8	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00414 mg/L	0.004 mg/L	104	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00963 mg/L	0.01 mg/L	96.3	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Copper, total	7440-50-8	E420	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Iron, total	7439-89-6	E420	ND mg/L	----	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.0196 mg/L	0.02 mg/L	98.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0887 mg/L	0.1 mg/L	88.7	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
Total Metals (QCLot: 1785748) - continued										
VA24D1968-001	Anonymous	Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.1 mg/L	10 mg/L	101	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	0.0406 mg/L	0.04 mg/L	101	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00378 mg/L	0.004 mg/L	94.6	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.9 mg/L	20 mg/L	99.5	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00390 mg/L	0.004 mg/L	97.4	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0180 mg/L	0.02 mg/L	90.3	70.0	130	----
		Tin, total	7440-31-5	E420	0.0195 mg/L	0.02 mg/L	97.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0404 mg/L	0.04 mg/L	101	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00424 mg/L	0.004 mg/L	106	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
Total Metals (QCLot: 1792002)										
VA24D1963-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000927 mg/L	0 mg/L	92.7	70.0	130	----
Dissolved Metals (QCLot: 1785768)										
VA24D1844-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.367 mg/L	0.4 mg/L	91.8	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0756 mg/L	0.08 mg/L	94.6	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0176 mg/L	0.02 mg/L	88.2	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.197 mg/L	0.2 mg/L	98.3	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00751 mg/L	0.008 mg/L	93.9	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0749 mg/L	0.08 mg/L	93.6	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0377 mg/L	0.04 mg/L	94.2	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0367 mg/L	0.04 mg/L	91.7	70.0	130	----
		Iron, dissolved	7439-89-6	E421	ND mg/L	----	ND	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0367 mg/L	0.04 mg/L	91.6	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.184 mg/L	0.2 mg/L	92.2	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1785768) - continued										
VA24D1844-002	Anonymous	Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0400 mg/L	0.04 mg/L	99.9	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0719 mg/L	0.08 mg/L	89.9	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	18.7 mg/L	20 mg/L	93.6	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	7.58 mg/L	8 mg/L	94.8	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0847 mg/L	0.08 mg/L	106	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	ND mg/L	----	ND	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00767 mg/L	0.008 mg/L	95.9	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	0.0828 mg/L	0.08 mg/L	103	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00727 mg/L	0.008 mg/L	90.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0337 mg/L	0.04 mg/L	84.3	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0383 mg/L	0.04 mg/L	95.7	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0784 mg/L	0.08 mg/L	98.0	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0371 mg/L	0.04 mg/L	92.8	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.196 mg/L	0.2 mg/L	97.8	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.728 mg/L	0.8 mg/L	91.1	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0778 mg/L	0.08 mg/L	97.2	70.0	130	----
Dissolved Metals (QCLot: 1794302)										
VA24D1844-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000984 mg/L	0 mg/L	98.4	70.0	130	----
Speciated Metals (QCLot: 1785004)										
FJ2403566-005	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.260 mg/L	0.25 mg/L	104	70.0	130	----
Volatile Organic Compounds (QCLot: 1790716)										
VA24D1917-002	Anonymous	Benzene	71-43-2	E611C	92.9 µg/L	100 µg/L	92.9	60.0	140	----
		Bromodichloromethane	75-27-4	E611C	90.5 µg/L	100 µg/L	90.5	60.0	140	----
		Bromoform	75-25-2	E611C	94.8 µg/L	100 µg/L	94.8	60.0	140	----
		Carbon tetrachloride	56-23-5	E611C	89.5 µg/L	100 µg/L	89.5	60.0	140	----
		Chlorobenzene	108-90-7	E611C	95.5 µg/L	100 µg/L	95.5	60.0	140	----
		Chloroethane	75-00-3	E611C	102 µg/L	100 µg/L	102	50.0	150	----
		Chloroform	67-66-3	E611C	93.6 µg/L	100 µg/L	93.6	60.0	140	----
		Chloromethane	74-87-3	E611C	96.8 µg/L	100 µg/L	96.8	50.0	150	----
		Dibromochloromethane	124-48-1	E611C	91.4 µg/L	100 µg/L	91.4	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	97.7 µg/L	100 µg/L	97.7	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	95.7 µg/L	100 µg/L	95.7	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	97.9 µg/L	100 µg/L	97.9	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611C	97.1 µg/L	100 µg/L	97.1	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611C	94.5 µg/L	100 µg/L	94.5	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611C	88.6 µg/L	100 µg/L	88.6	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	93.0 µg/L	100 µg/L	93.0	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1790716) - continued										
VA24D1917-002	Anonymous	Dichloroethylene, trans-1,2-	156-60-5	E611C	90.6 µg/L	100 µg/L	90.6	60.0	140	----
		Dichloromethane	75-09-2	E611C	91.1 µg/L	100 µg/L	91.1	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611C	96.8 µg/L	100 µg/L	96.8	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	88.9 µg/L	100 µg/L	88.9	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	86.5 µg/L	100 µg/L	86.5	60.0	140	----
		Ethylbenzene	100-41-4	E611C	94.0 µg/L	100 µg/L	94.0	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	97.7 µg/L	100 µg/L	97.7	60.0	140	----
		Styrene	100-42-5	E611C	97.7 µg/L	100 µg/L	97.7	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	93.8 µg/L	100 µg/L	93.8	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	96.8 µg/L	100 µg/L	96.8	60.0	140	----
		Tetrachloroethylene	127-18-4	E611C	87.8 µg/L	100 µg/L	87.8	60.0	140	----
		Toluene	108-88-3	E611C	92.6 µg/L	100 µg/L	92.6	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	92.0 µg/L	100 µg/L	92.0	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	93.8 µg/L	100 µg/L	93.8	60.0	140	----
		Trichloroethylene	79-01-6	E611C	91.4 µg/L	100 µg/L	91.4	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611C	90.8 µg/L	100 µg/L	90.8	50.0	150	----
		Vinyl chloride	75-01-4	E611C	91.1 µg/L	100 µg/L	91.1	50.0	150	----
		Xylene, m+p-	179601-23-1	E611C	198 µg/L	200 µg/L	98.9	60.0	140	----
		Xylene, o-	95-47-6	E611C	91.5 µg/L	100 µg/L	91.5	60.0	140	----
Hydrocarbons (QCLot: 1790715)										
VA24D1917-003	Anonymous	VHw (C6-C10)	----	E581.VH+F1	6030 µg/L	6310 µg/L	95.6	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

Page of

Canada Toll Free: 1 800 668 9878

ALS www.alsglobal.com

Report To	Contact and company name below will appear on the final report
Company:	Triton Environmental
Contact:	
Phone:	
	ial report
Street:	
City/Province:	
Postal Code:	
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Project Information	
ALS Account # / Quote #:	VA23-TRIT100-012
Job #:	11964
PO / AFE:	11964 - Task 40 - Phase 3C-4C
LSD:	
ALS Lab Work Order # (ALS use only):	

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☑ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax

Email 2

Email 3

Select Invoice D

Email 1 or Fax

Email 2

Oi

AFE/Cost Center:

Major/Minor Code:

Requisitioner:

Location:

ALS Contact:

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: 4-DEC-24

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

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 (F)	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) (P)	Nutrients (ammonia, ammonium, total (P)	VOC/VPH (P)	EPH, PAH, LEPH/HEPH (P)	DOC (F/P)	Glycols	General parameters (alkalinity)			SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	WLNG EOP	26-NOV-24	11:48	Water	15	R	R	R	R	R	R	R	R	R	R	R	R					
	pH: 7.6 cond: 145 µS/cm temp: 8.8 °C																					

Environmental Division
Vancouver
Work Order Reference
VA24D2004

Telephone : +1 604 253 4188

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 (Excel COC only)

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: 6

LEASE (client use)		INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Date: 26 NOV 24	Time: 17:00	Received by:	Date:	Time:	Received by: DJ	Date: Nov 26	Time: 5:10pm

IONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

2024-11-26-Chycoski-1DBA4

Project Component:	Tunnel	**Site Name:**	WLNG Treatment Discharge
Inspection Date:	11/26/2024	**Location:**	WLNG
Triton QP:	Lily Chycoski	**Latitude/Longitude:**	49.669268 -123.249734
Temperature(c):	Low 2 High 7	**Permit:**	PE 110136
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 11:48:15 **Flow Volume (visual):** N/A

Notes:

Odour Detected?:	No	**Notes:**	
Unusual Colour?	No	**Notes:**	
Unusual Observations?	No	**Notes:**	
Sheen on Water?	No	**Notes:**	

Samples Collected - Parameters

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

Logger Maintenance

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

Describe Logger Maintenance

Photos

Photo: 1

Location: WLNG EOP

Description: Sampling location

Photo: 2

Location: WLNG EOP

Description: Discharging water from tap

2024-11-26-Chycoski-1DBA4

Photos

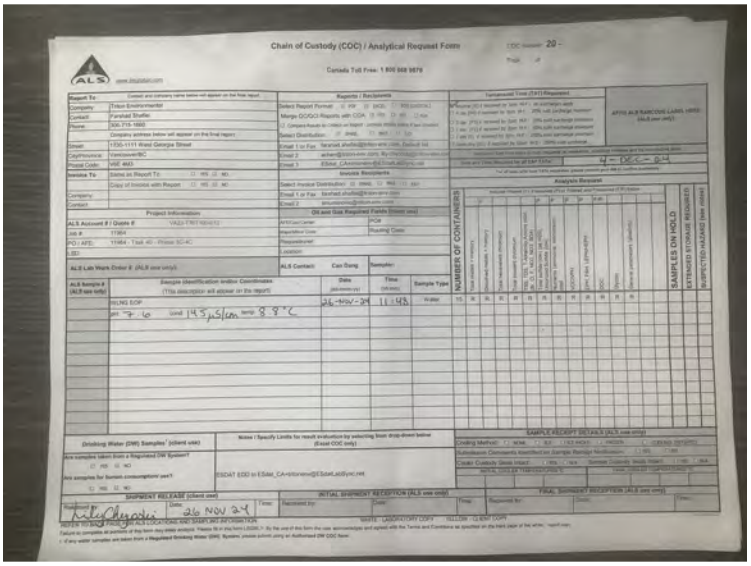


Photo: 3

Location: WLNG EOP

Description: Lab COC

Sign Off

Report Prepared By:	Lily Chycoski	**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	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Table of Contents:

Appendices:

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 November 25th was 27,979 m³.

Note there were errors reported from the WTP NTU probe on November 25 between 3:15–3:30 and 5:45–6:00, as well as on November 30 between 4:15–4:30 and 10:15–10:30, which displayed elevated levels of NTU in the discharge water. The WTP operator was aware and has confirmed the probe malfunctioned, which is consistent with the DS NTU data for these periods where no exceedances were identified.

Daily Volume Summary:

Table 1: Discharge Volumes Daily Summary

Date	Location	Volume (m3)	Comments
November 25	WoodFibre (WF)	392	None
November 26	WF	388	None
November 27	WF	375	None
November 28	WF	435	None
November 29	WF	304	None
November 30	WF	426	None
December 1	WF	410	None
	Total	2,730	None

2. Discharge Parameter Summary:

Table 2: Discharge Parameter Summary

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	1:00:00	7.6	0.851	0	27,979	10.6	118
11/25/2024	2:15:00	7.6	0.828	0	27,991	12.9	119
11/25/2024	2:30:00	7.6	0.869	1.7	28,000	10.5	116
11/25/2024	2:45:00	7.6	0.885	8.8	28,013	10.4	119
11/25/2024	3:15:00	7.6	0.877	38	28,026	10.4	117
11/25/2024	3:30:00	7.6	0.873	70.7	28,039	10.5	118
11/25/2024	5:45:00	7.6	0.450	131.2	28,049	12	119
11/25/2024	6:00:00	7.6	0.937	124.2	28,057	10.4	115
11/25/2024	6:15:00	7.6	0.892	8.4	28,070	10.2	116
11/25/2024	6:30:00	7.6	0.869	3.2	28,084	10.2	116
11/25/2024	8:30:00	7.6	0.858	0	28,096	10.4	119
11/25/2024	8:45:00	7.6	0.877	0	28,109	10.4	118
11/25/2024	9:00:00	7.7	0.847	0	28,122	10.4	119
11/25/2024	11:15:00	7.6	0.854	0	28,135	11.5	119
11/25/2024	11:30:00	7.6	0.881	0	28,148	10.5	119
11/25/2024	11:45:00	7.6	0.847	0	28,161	10.5	119
11/25/2024	13:45:00	7.6	0.873	0	28,179	10.8	119
11/25/2024	14:00:00	7.6	0.885	0	28,192	10.8	119
11/25/2024	15:15:00	7.6	0.854	0	28,205	10.9	119
11/25/2024	16:15:00	7.6	0.858	0	28,218	11.2	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	16:30:00	7.7	0.877	0	28,231	10.9	119
11/25/2024	16:45:00	7.7	0.843	0	28,244	10.9	119
11/25/2024	18:30:00	7.6	0.866	0	28,254	11.1	120
11/25/2024	18:45:00	7.6	0.873	0	28,268	10.9	119
11/25/2024	19:45:00	7.6	0.873	0	28,278	10.2	114
11/25/2024	20:00:00	7.6	0.862	0	28,292	10.3	116
11/25/2024	20:15:00	7.7	0.869	0	28,304	10.4	117
11/25/2024	22:15:00	7.6	0.851	0	28,325	10.3	118
11/25/2024	22:30:00	7.6	0.427	0	28,336	10.9	118
11/25/2024	22:45:00	7.7	0.835	3	28,342	10.4	118
11/25/2024	23:00:00	7.7	0.828	0	28,355	10.4	118
11/26/2024	0:00:00	7.6	0.809	0	28,361	9.9	114
11/26/2024	0:15:00	7.6	0.786	0	28,371	10.3	113
11/26/2024	2:30:00	7.7	0.847	17.4	28,381	10.6	119
11/26/2024	2:45:00	7.7	0.828	0	28,394	10	118
11/26/2024	3:00:00	7.7	0.832	0	28,407	10	118
11/26/2024	3:15:00	7.7	0.862	0	28,419	10	118
11/26/2024	4:45:00	7.7	0.847	0	28,434	9.8	117
11/26/2024	5:00:00	7.7	0.851	0	28,447	9.9	118
11/26/2024	5:45:00	7.7	0.854	0	28,453	10.3	116
11/26/2024	6:00:00	7.7	0.851	0	28,461	9.8	114
11/26/2024	8:45:00	7.7	0.847	0	28,474	9.7	118
11/26/2024	9:00:00	7.7	0.869	0	28,487	9.8	118
11/26/2024	9:15:00	7.7	0.839	0	28,500	9.7	118
11/26/2024	11:30:00	7.7	0.851	0	28,514	10.2	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/26/2024	11:45:00	7.7	0.839	0	28,526	10	118
11/26/2024	12:00:00	7.7	0.847	0	28,536	10	119
11/26/2024	12:15:00	7.7	0.858	0	28,549	10	118
11/26/2024	12:30:00	7.7	0.790	0	28,561	10	119
11/26/2024	13:00:00	7.7	0.767	1.4	28,575	10.1	119
11/26/2024	15:00:00	7.7	0.782	0	28,587	10.3	119
11/26/2024	15:15:00	7.7	0.779	0	28,599	10.3	119
11/26/2024	15:30:00	7.7	0.794	0	28,611	10.3	119
11/26/2024	18:00:00	7.7	0.794	0	28,631	10.3	119
11/26/2024	18:15:00	7.7	0.794	0	28,642	10.4	119
11/26/2024	18:30:00	7.7	0.782	0	28,654	10.4	118
11/26/2024	19:00:00	7.7	0.620	10.1	28,657	12.6	118
11/26/2024	20:30:00	7.7	0.828	0	28,670	10.1	116
11/26/2024	20:45:00	7.7	0.832	0	28,682	9.9	113
11/26/2024	21:00:00	7.7	0.809	1.1	28,695	9.8	114
11/26/2024	22:00:00	7.7	0.782	0	28,707	10.1	116
11/26/2024	23:00:00	7.7	0.816	3.4	28,713	10.2	118
11/26/2024	23:15:00	7.7	0.832	5.4	28,719	9.9	116
11/26/2024	23:30:00	7.7	0.851	0	28,732	9.8	115
11/26/2024	23:45:00	7.7	0.862	0	28,745	9.9	116
11/27/2024	1:45:00	7.7	0.824	0	28,750	10.1	118
11/27/2024	2:00:00	7.7	0.866	0	28,763	10.2	118
11/27/2024	2:15:00	7.7	0.843	0	28,776	10	116
11/27/2024	2:30:00	7.7	0.847	0	28,789	9.9	113
11/27/2024	4:45:00	7.7	0.446	0	28,802	10.6	116

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	5:00:00	7.7	0.847	1.3	28,810	9.9	113
11/27/2024	5:15:00	7.7	0.862	0	28,823	9.7	112
11/27/2024	7:00:00	7.7	0.858	0	28,842	10.1	118
11/27/2024	7:15:00	7.7	0.873	0	28,854	10.2	118
11/27/2024	7:30:00	7.7	0.862	0	28,867	10.2	118
11/27/2024	7:45:00	7.7	0.862	0	28,880	10.3	119
11/27/2024	9:45:00	7.6	0.181	4	28,881	16.8	243
11/27/2024	10:00:00	7.7	0.820	0	28,894	10.2	118
11/27/2024	10:15:00	7.7	0.473	0	28,906	10.2	118
11/27/2024	11:30:00	7.7	0.646	0	28,910	10.1	115
11/27/2024	12:15:00	7.7	0.854	0	28,913	10	115
11/27/2024	12:30:00	7.7	0.843	0	28,923	10.3	116
11/27/2024	12:45:00	7.7	0.854	0	28,936	10.2	118
11/27/2024	13:00:00	7.7	0.828	0	28,949	10.2	117
11/27/2024	14:30:00	7.7	0.828	0	28,961	10.5	119
11/27/2024	14:45:00	7.7	0.851	0	28,973	10.5	119
11/27/2024	15:00:00	7.7	0.824	0	28,986	10.4	117
11/27/2024	16:45:00	7.7	0.847	0	28,998	10.6	119
11/27/2024	17:45:00	7.7	0.824	0	29,010	11.2	119
11/27/2024	18:00:00	7.7	0.843	0	29,023	10.5	118
11/27/2024	18:15:00	7.7	0.866	0	29,036	10.3	114
11/27/2024	18:30:00	7.7	0.257	0	29,048	10.2	113
11/27/2024	20:00:00	7.7	0.813	0	29,049	13.6	119
11/27/2024	20:15:00	7.7	0.839	0	29,062	10.5	119
11/27/2024	20:30:00	7.7	0.847	0	29,074	10.3	116

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	20:45:00	7.7	0.832	0	29,087	10.2	116
11/27/2024	22:15:00	7.7	0.858	0	29,101	9.7	111
11/27/2024	22:30:00	7.7	0.835	0	29,113	9.7	111
11/28/2024	1:00:00	7.7	0.816	0	29,132	10	116
11/28/2024	1:15:00	7.7	0.828	0	29,144	10	113
11/28/2024	1:30:00	7.7	0.446	0	29,155	10.2	114
11/28/2024	1:45:00	7.8	0.813	0	29,161	9.8	116
11/28/2024	2:00:00	7.7	0.828	0	29,169	9.8	116
11/28/2024	4:15:00	7.7	0.832	0	29,184	10.1	118
11/28/2024	4:30:00	7.7	0.828	0	29,196	10.2	119
11/28/2024	4:45:00	7.7	0.786	0	29,209	10.2	118
11/28/2024	5:00:00	7.7	0.839	0	29,221	10.2	118
11/28/2024	7:15:00	7.7	0.423	0	29,233	10.9	119
11/28/2024	7:30:00	7.7	0.832	0	29,244	9.9	117
11/28/2024	7:45:00	7.7	0.843	0	29,257	9.9	117
11/28/2024	8:00:00	7.8	0.832	0	29,269	10	118
11/28/2024	10:15:00	7.7	0.824	0	29,288	10	119
11/28/2024	10:30:00	7.7	0.824	0	29,301	10	119
11/28/2024	10:45:00	7.8	0.824	0	29,314	10	118
11/28/2024	12:30:00	7.7	0.824	0	29,319	12	119
11/28/2024	12:45:00	7.7	0.854	0	29,332	10.3	119
11/28/2024	13:45:00	7.7	0.779	1.2	29,338	14.1	119
11/28/2024	14:15:00	7.7	0.809	5.7	29,339	12.2	119
11/28/2024	14:30:00	7.7	0.809	0	29,352	10.4	119
11/28/2024	14:45:00	7.7	0.824	0	29,364	10.4	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/28/2024	15:00:00	7.8	0.809	0	29,376	10.4	118
11/28/2024	15:15:00	7.8	0.832	0	29,389	10.4	118
11/28/2024	17:30:00	7.7	0.820	0	29,407	10.5	119
11/28/2024	17:45:00	7.7	0.881	0	29,419	10.5	119
11/28/2024	19:30:00	7.7	0.832	0	29,437	10.5	119
11/28/2024	19:45:00	7.7	0.851	0	29,449	10.5	119
11/28/2024	20:00:00	7.8	0.847	0	29,462	10.5	119
11/28/2024	20:15:00	7.8	0.824	0	29,474	10.4	119
11/28/2024	20:45:00	7.8	0.839	0	29,481	10.1	116
11/28/2024	21:00:00	7.8	0.824	0	29,494	10.1	117
11/28/2024	21:30:00	7.7	0.779	0	29,499	9.9	114
11/28/2024	21:45:00	7.8	0.858	0	29,512	9.9	114
11/28/2024	22:00:00	7.8	0.858	0	29,524	9.8	112
11/28/2024	23:00:00	7.8	0.813	0	29,534	10	115
11/28/2024	23:15:00	7.8	0.832	0.7	29,546	9.9	117
11/29/2024	0:15:00	7.7	0.276	0	29,556	10.4	111
11/29/2024	1:30:00	7.7	0.824	0	29,566	9.7	114
11/29/2024	1:45:00	7.7	0.378	0	29,576	10.1	112
11/29/2024	4:00:00	7.7	0.839	2.8	29,589	9.4	115
11/29/2024	4:15:00	7.7	0.140	4.4	29,602	9.6	114
11/29/2024	5:15:00	7.7	0.809	0	29,606	9.4	110
11/29/2024	5:30:00	7.7	0.854	0	29,616	9.4	111
11/29/2024	6:45:00	7.7	0.805	0	29,625	11.4	118
11/29/2024	7:00:00	7.8	0.809	0	29,637	10.1	118
11/29/2024	8:15:00	7.7	0.193	0.6	29,648	14	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/29/2024	8:30:00	7.8	0.828	0	29,660	10.4	118
11/29/2024	14:00:00	7.8	0.805	0	29,671	9.8	113
11/29/2024	14:15:00	7.8	0.832	0	29,673	9.8	114
11/29/2024	14:30:00	7.8	0.824	0	29,685	9.9	114
11/29/2024	14:45:00	7.8	0.820	0	29,698	10	116
11/29/2024	15:00:00	7.8	0.801	0	29,710	10.1	116
11/29/2024	15:15:00	7.8	0.809	0	29,722	10.2	117
11/29/2024	17:15:00	7.8	0.771	2.7	29,735	12.8	118
11/29/2024	17:30:00	7.8	0.828	0	29,747	10	118
11/29/2024	17:45:00	7.8	0.839	0	29,759	10.1	118
11/29/2024	18:00:00	7.8	0.809	0	29,772	10.2	118
11/29/2024	18:15:00	7.8	0.420	0	29,783	10.7	118
11/29/2024	20:15:00	7.8	0.828	0.5	29,792	10.3	119
11/29/2024	20:30:00	7.8	0.835	1	29,805	10.1	116
11/29/2024	20:45:00	7.8	0.843	2.2	29,817	9.9	114
11/29/2024	21:00:00	7.8	0.839	2.4	29,830	9.8	113
11/29/2024	23:00:00	7.8	0.798	3.8	29,831	13	116
11/29/2024	23:30:00	7.8	0.873	2.6	29,846	10	116
11/29/2024	23:45:00	7.8	0.869	1.8	29,859	9.9	113
11/30/2024	1:00:00	7.8	0.851	0	29,877	10	116
11/30/2024	1:15:00	7.8	0.851	0	29,889	9.8	115
11/30/2024	1:30:00	7.8	0.843	0	29,902	9.7	113
11/30/2024	1:45:00	7.8	0.862	0	29,915	9.6	113
11/30/2024	3:45:00	7.8	0.862	0	29,932	10	118
11/30/2024	4:00:00	7.8	0.824	8.9	29,944	10	117

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/30/2024	4:15:00	7.8	0.824	40.7	29,957	9.8	113
11/30/2024	4:30:00	7.8	0.835	98.9	29,970	9.8	113
11/30/2024	6:45:00	7.7	0.843	7.3	29,972	13.5	117
11/30/2024	7:00:00	7.8	0.862	0	29,985	10.2	118
11/30/2024	7:15:00	7.8	0.847	2.8	29,998	10	114
11/30/2024	7:30:00	7.8	0.866	0.7	30,010	10	115
11/30/2024	7:45:00	7.8	0.839	1.6	30,023	10.2	117
11/30/2024	10:15:00	7.8	0.839	19.8	30,024	10.9	119
11/30/2024	10:30:00	7.8	0.851	20.2	30,035	10.5	119
11/30/2024	10:45:00	7.8	0.858	3.3	30,048	10.5	119
11/30/2024	11:00:00	7.8	0.450	2.8	30,059	11.2	119
11/30/2024	13:00:00	7.7	0.866	0	30,071	16.5	119
11/30/2024	13:15:00	7.8	0.877	1.1	30,084	10.7	119
11/30/2024	13:30:00	7.8	0.866	1.4	30,097	10.7	119
11/30/2024	13:45:00	7.8	0.885	1.5	30,111	10.7	119
11/30/2024	14:00:00	7.8	0.866	0.4	30,124	10.7	119
11/30/2024	16:00:00	7.8	0.885	0.1	30,132	11	119
11/30/2024	16:15:00	7.8	0.873	1.1	30,145	10.8	119
11/30/2024	16:30:00	7.8	0.896	1.5	30,158	10.8	119
11/30/2024	16:45:00	7.8	0.877	1.7	30,171	10.8	119
11/30/2024	19:00:00	7.8	0.885	16.1	30,177	16	120
11/30/2024	19:15:00	7.8	0.851	0.2	30,185	10.9	119
11/30/2024	19:30:00	7.8	0.866	0.5	30,198	10.8	118
11/30/2024	19:45:00	7.8	0.835	0.5	30,211	10.8	118
11/30/2024	20:00:00	7.8	0.919	0.5	30,224	10.8	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/30/2024	21:45:00	7.7	0.862	0.9	30,234	10.4	111
11/30/2024	22:00:00	7.8	0.877	0.7	30,247	10	111
11/30/2024	22:15:00	7.8	0.862	0.5	30,260	10	111
11/30/2024	22:30:00	7.8	0.888	0.9	30,273	10	111
12/1/2024	1:00:00	7.7	0.881	5	30,291	9.9	114
12/1/2024	1:15:00	7.8	0.858	0	30,303	10.2	116
12/1/2024	1:30:00	7.8	0.854	0	30,316	10.2	116
12/1/2024	1:45:00	7.8	0.851	0	30,329	10.1	115
12/1/2024	4:00:00	7.7	0.835	0	30,339	10.8	116
12/1/2024	4:15:00	7.8	0.843	0	30,352	10.3	116
12/1/2024	4:30:00	7.8	0.839	0	30,362	10.3	115
12/1/2024	4:45:00	7.8	0.847	0	30,375	10.2	114
12/1/2024	7:15:00	7.8	0.847	0	30,394	10.4	118
12/1/2024	7:30:00	7.8	0.866	0	30,407	10.4	118
12/1/2024	7:45:00	7.8	0.854	0	30,420	10.4	119
12/1/2024	8:00:00	7.8	0.866	0	30,433	10.5	119
12/1/2024	10:15:00	7.8	0.877	0	30,441	10.6	121
12/1/2024	10:30:00	7.8	0.873	0	30,454	10.5	119
12/1/2024	10:45:00	7.8	0.873	0	30,467	10.4	119
12/1/2024	11:00:00	7.8	0.851	0	30,479	10.5	119
12/1/2024	13:30:00	7.8	0.873	0	30,501	11	121
12/1/2024	13:45:00	7.8	0.854	0	30,512	10.9	119
12/1/2024	14:00:00	7.8	0.824	0	30,525	11	119
12/1/2024	14:15:00	7.8	0.851	0	30,538	11	119
12/1/2024	16:30:00	7.8	0.873	0	30,548	11.6	121

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/1/2024	16:45:00	7.8	0.866	0	30,561	11.3	119
12/1/2024	18:00:00	7.8	0.892	0	30,580	11.2	119
12/1/2024	19:30:00	7.8	0.873	0	30,601	11.1	121
12/1/2024	19:45:00	7.8	0.835	1.2	30,614	11.1	119
12/1/2024	20:00:00	7.8	0.885	1.6	30,627	11	119
12/1/2024	20:15:00	7.8	0.847	1.9	30,640	11	119
12/1/2024	22:30:00	7.8	0.854	1.8	30,656	10	112
12/1/2024	22:45:00	7.8	0.869	1.3	30,669	10.2	114
12/1/2024	23:00:00	7.8	0.858	1.5	30,681	10.4	116
12/1/2024	23:15:00	7.8	0.851	1.2	30,694	10.3	114

Table 3. In-Situ Parameters

Date	Time	Temperature °C	DO mg/L	Conductivity SPC-uS/cm	SAL-ppt	pH	ORP (mV)	NTU
11/25/2024	10:22:18PM	11.3	12.53	130.8	0.06	8.05	120.2	1.77
11/26/2024	12:47:51PM	10.7	11.86	128.6	0.06	7.93	139.8	0.27
11/27/2024	04:35:42AM	11.9	11.38	130.9	0.06	8.20	112.2	0.09
11/28/2024	01:03:12AM	9.5	12.06	128.8	0.06	8.15	127.2	1.03
11/29/2024	02:09:28PM	10	12.56	128.4	0.06	8.07	140.6	0.23
11/30/2024	10:33:20AM	10.6	12.47	130.1	0.06	8.11	151.5	3.03
12/01/2024	01:46:36PM	11.8	11.47	130.1	0.06	8.00	134.0	0.15

3. Calibration Log:

Table 4. Calibration Log

Date	Unit	pH	Conductivity/Temp.	Salinity	NTU
11/25/2024	YSI	✓	✓	✓	✓
11/26/2024	WTP	✓	N/A	N/A	✓

APPENDIX A: WTP Log

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	0:00:00	7.6	0.000	3.2	27,968	Open	13.5	118
11/25/2024	0:15:00	7.6	0.000	6	27,968	Open	14	119
11/25/2024	0:30:00	7.6	0.000	11.2	27,968	Open	14.4	118
11/25/2024	0:45:00	7.6	0.000	17	27,968	Open	15.1	119
11/25/2024	1:00:00	7.6	0.851	0	27,979	Open	10.6	118
11/25/2024	1:15:00	7.6	0.000	7.7	27,989	Open	10.7	116
11/25/2024	1:30:00	7.6	0.000	12.8	27,989	Open	11.4	118
11/25/2024	1:45:00	7.6	0.000	18.4	27,989	Open	12.3	118
11/25/2024	2:00:00	7.6	0.000	24.5	27,989	Open	13.3	119
11/25/2024	2:15:00	7.6	0.828	0	27,991	Open	12.9	119
11/25/2024	2:30:00	7.6	0.869	1.7	28,000	Open	10.5	116
11/25/2024	2:45:00	7.6	0.885	8.8	28,013	Open	10.4	119
11/25/2024	3:00:00	7.6	0.000	17.4	28,017	Open	10.9	117
11/25/2024	3:15:00	7.6	0.877	38	28,026	Open	10.4	117

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	3:30:00	7.6	0.873	70.7	28,039	Open	10.5	118
11/25/2024	3:45:00	7.6	0.000	91.4	28,044	Open	11	117
11/25/2024	4:00:00	7.6	0.000	103.1	28,044	Open	12	118
11/25/2024	4:15:00	7.6	0.000	2.1	28,044	Open	13	118
11/25/2024	4:30:00	7.6	0.000	11.6	28,044	Open	13.7	119
11/25/2024	4:45:00	7.6	0.000	26.8	28,044	Open	14.6	119
11/25/2024	5:00:00	7.6	0.000	48.1	28,044	Open	15.3	119
11/25/2024	5:15:00	7.6	0.000	68.2	28,044	Open	15.8	119
11/25/2024	5:30:00	7.6	0.000	91.3	28,044	Open	16.4	119
11/25/2024	5:45:00	7.6	0.450	131.2	28,049	Open	12	119
11/25/2024	6:00:00	7.6	0.937	124.2	28,057	Open	10.4	115
11/25/2024	6:15:00	7.6	0.892	8.4	28,070	Open	10.2	116
11/25/2024	6:30:00	7.6	0.869	3.2	28,084	Open	10.2	116
11/25/2024	6:45:00	7.6	0.000	3.6	28,087	Open	10.8	117
11/25/2024	7:00:00	7.6	0.000	4.1	28,087	Open	11.8	118

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	7:15:00	7.6	0.000	6.2	28,087	Open	12.8	118
11/25/2024	7:30:00	7.6	0.000	11.2	28,087	Open	13.7	119
11/25/2024	7:45:00	7.6	0.000	21.9	28,087	Open	14.5	119
11/25/2024	8:00:00	7.6	0.000	38.7	28,087	Open	15.3	119
11/25/2024	8:15:00	7.6	0.000	19.6	28,087	Open	16	119
11/25/2024	8:30:00	7.6	0.858	0	28,096	Open	10.4	119
11/25/2024	8:45:00	7.6	0.877	0	28,109	Open	10.4	118
11/25/2024	9:00:00	7.7	0.847	0	28,122	Open	10.4	119
11/25/2024	9:15:00	7.7	0.000	0	28,132	Open	10.6	118
11/25/2024	9:30:00	7.6	0.000	0	28,132	Open	11.5	119
11/25/2024	9:45:00	7.6	0.000	0	28,132	Open	12.6	119
11/25/2024	10:00:00	7.6	0.000	0	28,132	Open	13.5	119
11/25/2024	10:15:00	7.6	0.000	0	28,132	Open	14.4	119
11/25/2024	10:30:00	7.6	0.000	0	28,132	Open	15.2	119
11/25/2024	10:45:00	7.6	0.000	0	28,132	Open	15.7	118

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	11:00:00	7.6	0.000	0	28,132	Open	16.3	119
11/25/2024	11:15:00	7.6	0.854	0	28,135	Open	11.5	119
11/25/2024	11:30:00	7.6	0.881	0	28,148	Open	10.5	119
11/25/2024	11:45:00	7.6	0.847	0	28,161	Open	10.5	119
11/25/2024	12:00:00	7.7	0.000	0	28,172	Open	10.7	118
11/25/2024	12:15:00	7.6	0.000	0	28,172	Open	11.6	120
11/25/2024	12:30:00	7.6	0.000	0	28,172	Open	12.8	119
11/25/2024	12:45:00	7.6	0.000	0	28,172	Open	13.6	119
11/25/2024	13:00:00	7.6	0.000	0	28,172	Open	14.5	119
11/25/2024	13:15:00	7.6	0.000	0	28,172	Open	15.3	119
11/25/2024	13:30:00	7.6	0.000	0	28,172	Open	16.1	119
11/25/2024	13:45:00	7.6	0.873	0	28,179	Open	10.8	119
11/25/2024	14:00:00	7.6	0.885	0	28,192	Open	10.8	119
11/25/2024	14:15:00	7.6	0.000	0	28,196	Open	11.4	119
11/25/2024	14:30:00	7.6	0.000	0	28,196	Open	12.6	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	14:45:00	7.6	0.000	0	28,196	Open	13.6	119
11/25/2024	15:00:00	7.6	0.000	0	28,196	Open	14.6	120
11/25/2024	15:15:00	7.6	0.854	0	28,205	Open	10.9	119
11/25/2024	15:30:00	7.6	0.000	0	28,215	Open	11.1	119
11/25/2024	15:45:00	7.6	0.000	0	28,215	Open	12.1	119
11/25/2024	16:00:00	7.6	0.000	0	28,215	Open	13.2	119
11/25/2024	16:15:00	7.6	0.858	0	28,218	Open	11.2	119
11/25/2024	16:30:00	7.7	0.877	0	28,231	Open	10.9	119
11/25/2024	16:45:00	7.7	0.843	0	28,244	Open	10.9	119
11/25/2024	17:00:00	7.7	0.000	0	28,250	Open	11.4	119
11/25/2024	17:15:00	7.6	0.000	0	28,250	Open	12.5	119
11/25/2024	17:30:00	7.6	0.000	0	28,250	Open	13.7	119
11/25/2024	17:45:00	7.6	0.000	0	28,250	Open	14.7	119
11/25/2024	18:00:00	7.6	0.000	0	28,250	Open	15.5	119
11/25/2024	18:15:00	7.6	0.000	0	28,250	Open	16.3	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	18:30:00	7.6	0.866	0	28,254	Open	11.1	120
11/25/2024	18:45:00	7.6	0.873	0	28,268	Open	10.9	119
11/25/2024	19:00:00	7.6	0.000	0	28,268	Open	11.3	116
11/25/2024	19:15:00	7.6	0.000	0	28,268	Open	11.7	114
11/25/2024	19:30:00	7.6	0.000	0	28,268	Open	11.8	112
11/25/2024	19:45:00	7.6	0.873	0	28,278	Open	10.2	114
11/25/2024	20:00:00	7.6	0.862	0	28,292	Open	10.3	116
11/25/2024	20:15:00	7.7	0.869	0	28,304	Open	10.4	117
11/25/2024	20:30:00	7.6	0.000	0	28,315	Open	10.5	116
11/25/2024	20:45:00	7.6	0.000	0	28,315	Open	10.8	113
11/25/2024	21:00:00	7.6	0.000	0	28,315	Open	11.2	114
11/25/2024	21:15:00	7.6	0.000	0	28,315	Open	11.9	116
11/25/2024	21:30:00	7.6	0.000	0	28,315	Open	12.7	117
11/25/2024	21:45:00	7.6	0.000	0	28,315	Open	13.6	118
11/25/2024	22:00:00	7.6	0.000	0	28,315	Open	14.3	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/25/2024	22:15:00	7.6	0.851	0	28,325	Open	10.3	118
11/25/2024	22:30:00	7.6	0.427	0	28,336	Open	10.9	118
11/25/2024	22:45:00	7.7	0.835	3	28,342	Open	10.4	118
11/25/2024	23:00:00	7.7	0.828	0	28,355	Open	10.4	118
11/25/2024	23:15:00	7.7	0.000	0	28,357	Open	10.9	118
11/25/2024	23:30:00	7.6	0.000	0	28,357	Open	11.9	118
11/25/2024	23:45:00	7.6	0.000	0	28,357	Open	12.8	116
11/26/2024	0:00:00	7.6	0.809	0	28,361	Open	9.9	114
11/26/2024	0:15:00	7.6	0.786	0	28,371	Open	10.3	113
11/26/2024	0:30:00	7.7	0.000	0	28,378	Open	10	116
11/26/2024	0:45:00	7.6	0.000	0	28,378	Open	10.9	116
11/26/2024	1:00:00	7.6	0.000	0	28,378	Open	11.8	118
11/26/2024	1:15:00	7.6	0.000	0	28,378	Open	12.7	118
11/26/2024	1:30:00	7.6	0.000	0	28,378	Open	13.5	118
11/26/2024	1:45:00	7.6	0.000	0	28,378	Open	14.3	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/26/2024	2:00:00	7.6	0.000	0	28,378	Open	15	119
11/26/2024	2:15:00	7.6	0.000	0	28,378	Open	15.7	119
11/26/2024	2:30:00	7.7	0.847	17.4	28,381	Open	10.6	119
11/26/2024	2:45:00	7.7	0.828	0	28,394	Open	10	118
11/26/2024	3:00:00	7.7	0.832	0	28,407	Open	10	118
11/26/2024	3:15:00	7.7	0.862	0	28,419	Open	10	118
11/26/2024	3:30:00	7.7	0.000	0	28,421	Open	10.8	119
11/26/2024	3:45:00	7.7	0.000	0	28,421	Open	11.9	118
11/26/2024	4:00:00	7.6	0.000	0	28,421	Open	12.9	119
11/26/2024	4:15:00	7.6	0.000	0	28,421	Open	13.8	119
11/26/2024	4:30:00	7.7	0.000	0	28,424	Open	10.4	117
11/26/2024	4:45:00	7.7	0.847	0	28,434	Open	9.8	117
11/26/2024	5:00:00	7.7	0.851	0	28,447	Open	9.9	118
11/26/2024	5:15:00	7.7	0.000	0	28,449	Open	10.7	117
11/26/2024	5:30:00	7.7	0.000	0	28,449	Open	11.7	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/26/2024	5:45:00	7.7	0.854	0	28,453	Open	10.3	116
11/26/2024	6:00:00	7.7	0.851	0	28,461	Open	9.8	114
11/26/2024	6:15:00	7.7	0.000	0	28,462	Open	10.1	115
11/26/2024	6:30:00	7.6	0.000	0	28,462	Open	10.9	117
11/26/2024	6:45:00	7.6	0.000	0	28,462	Open	11.8	117
11/26/2024	7:00:00	7.7	0.000	0	28,465	Open	10.2	117
11/26/2024	7:15:00	7.6	0.000	0	28,465	Open	11	117
11/26/2024	7:30:00	7.6	0.000	0	28,465	Open	12	119
11/26/2024	7:45:00	7.6	0.000	0	28,465	Open	12.9	118
11/26/2024	8:00:00	7.6	0.000	0	28,465	Open	13.7	118
11/26/2024	8:15:00	7.6	0.000	0	28,465	Open	14.5	119
11/26/2024	8:30:00	7.6	0.000	0	28,465	Open	15.2	119
11/26/2024	8:45:00	7.7	0.847	0	28,474	Open	9.7	118
11/26/2024	9:00:00	7.7	0.869	0	28,487	Open	9.8	118
11/26/2024	9:15:00	7.7	0.839	0	28,500	Open	9.7	118

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/26/2024	9:30:00	7.7	0.000	0	28,509	Open	10	119
11/26/2024	9:45:00	7.7	0.000	0	28,509	Open	11	118
11/26/2024	10:00:00	7.7	0.000	0	28,509	Open	12.1	119
11/26/2024	10:15:00	7.7	0.000	0	28,509	Open	13.1	119
11/26/2024	10:30:00	7.6	0.000	0	28,509	Open	14	119
11/26/2024	10:45:00	7.6	0.000	0	28,509	Open	14.8	119
11/26/2024	11:00:00	7.6	0.000	0	28,509	Open	20.2	245
11/26/2024	11:15:00	7.6	0.000	0	28,509	Open	20	247
11/26/2024	11:30:00	7.7	0.851	0	28,514	Open	10.2	119
11/26/2024	11:45:00	7.7	0.839	0	28,526	Open	10	118
11/26/2024	12:00:00	7.7	0.847	0	28,536	Open	10	119
11/26/2024	12:15:00	7.7	0.858	0	28,549	Open	10	118
11/26/2024	12:30:00	7.7	0.790	0	28,561	Open	10	119
11/26/2024	12:45:00	7.7	0.000	0	28,564	Open	10.6	118
11/26/2024	13:00:00	7.7	0.767	1.4	28,575	Open	10.1	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/26/2024	13:15:00	7.7	0.000	0	28,577	Open	10.8	119
11/26/2024	13:30:00	7.7	0.000	0	28,577	Open	12	119
11/26/2024	13:45:00	7.7	0.000	0	28,577	Open	13.1	119
11/26/2024	14:00:00	7.7	0.000	0	28,577	Open	14.1	119
11/26/2024	14:15:00	7.6	0.000	0	28,577	Open	15	119
11/26/2024	14:30:00	7.6	0.000	0	28,577	Open	15.8	119
11/26/2024	14:45:00	7.6	0.000	0	28,577	Open	16.5	119
11/26/2024	15:00:00	7.7	0.782	0	28,587	Open	10.3	119
11/26/2024	15:15:00	7.7	0.779	0	28,599	Open	10.3	119
11/26/2024	15:30:00	7.7	0.794	0	28,611	Open	10.3	119
11/26/2024	15:45:00	7.7	0.000	0	28,622	Open	10.3	117
11/26/2024	16:00:00	7.7	0.000	0	28,622	Open	11.1	118
11/26/2024	16:15:00	7.7	0.000	0	28,622	Open	12.1	118
11/26/2024	16:30:00	7.7	0.000	0	28,622	Open	13.2	120
11/26/2024	16:45:00	7.7	0.000	0	28,622	Open	14.2	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/26/2024	17:00:00	7.6	0.000	0	28,622	Open	15	119
11/26/2024	17:15:00	7.6	0.000	0	28,622	Open	15.8	119
11/26/2024	17:30:00	7.6	0.000	0	28,622	Open	16.5	119
11/26/2024	17:45:00	7.6	0.000	0	28,622	Open	17.1	245
11/26/2024	18:00:00	7.7	0.794	0	28,631	Open	10.3	119
11/26/2024	18:15:00	7.7	0.794	0	28,642	Open	10.4	119
11/26/2024	18:30:00	7.7	0.782	0	28,654	Open	10.4	118
11/26/2024	18:45:00	7.7	0.000	0	28,656	Open	11.2	119
11/26/2024	19:00:00	7.7	0.620	10.1	28,657	Open	12.6	118
11/26/2024	19:15:00	7.7	0.000	0	28,662	Open	10.6	116
11/26/2024	19:30:00	7.7	0.000	0.3	28,662	Open	11.5	116
11/26/2024	19:45:00	7.7	0.000	1.9	28,662	Open	12.5	119
11/26/2024	20:00:00	7.6	0.000	4.3	28,662	Open	13.5	119
11/26/2024	20:15:00	7.6	0.000	9.6	28,662	Open	14.4	119
11/26/2024	20:30:00	7.7	0.828	0	28,670	Open	10.1	116

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/26/2024	20:45:00	7.7	0.832	0	28,682	Open	9.9	113
11/26/2024	21:00:00	7.7	0.809	1.1	28,695	Open	9.8	114
11/26/2024	21:15:00	7.7	0.000	5.5	28,705	Open	9.8	113
11/26/2024	21:30:00	7.7	0.000	8.5	28,705	Open	10.1	112
11/26/2024	21:45:00	7.7	0.000	10.2	28,705	Open	10.5	113
11/26/2024	22:00:00	7.7	0.782	0	28,707	Open	10.1	116
11/26/2024	22:15:00	7.7	0.000	0	28,709	Open	10.3	116
11/26/2024	22:30:00	7.6	0.000	0	28,709	Open	11.2	116
11/26/2024	22:45:00	7.6	0.000	1.4	28,709	Open	12.1	118
11/26/2024	23:00:00	7.7	0.816	3.4	28,713	Open	10.2	118
11/26/2024	23:15:00	7.7	0.832	5.4	28,719	Open	9.9	116
11/26/2024	23:30:00	7.7	0.851	0	28,732	Open	9.8	115
11/26/2024	23:45:00	7.7	0.862	0	28,745	Open	9.9	116
11/27/2024	0:00:00	7.7	0.000	0	28,746	Open	10.7	116
11/27/2024	0:15:00	7.7	0.000	0	28,746	Open	11.7	118

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	0:30:00	7.7	0.000	0	28,746	Open	12.4	116
11/27/2024	0:45:00	7.6	0.000	0	28,746	Open	13.1	118
11/27/2024	1:00:00	7.6	0.000	0	28,746	Open	13.8	118
11/27/2024	1:15:00	7.6	0.000	0	28,746	Open	14.6	119
11/27/2024	1:30:00	7.6	0.000	0	28,746	Open	14.9	118
11/27/2024	1:45:00	7.7	0.824	0	28,750	Open	10.1	118
11/27/2024	2:00:00	7.7	0.866	0	28,763	Open	10.2	118
11/27/2024	2:15:00	7.7	0.843	0	28,776	Open	10	116
11/27/2024	2:30:00	7.7	0.847	0	28,789	Open	9.9	113
11/27/2024	2:45:00	7.7	0.000	0	28,793	Open	10.2	114
11/27/2024	3:00:00	7.7	0.000	0	28,793	Open	11.1	116
11/27/2024	3:15:00	7.7	0.000	0	28,793	Open	12	116
11/27/2024	3:30:00	7.7	0.000	0	28,793	Open	12.8	118
11/27/2024	3:45:00	7.6	0.000	0	28,793	Open	13.6	118
11/27/2024	4:00:00	7.6	0.000	0	28,793	Open	14.3	118

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	4:15:00	7.6	0.000	0	28,793	Open	14.7	118
11/27/2024	4:30:00	7.6	0.000	0	28,793	Open	15.4	119
11/27/2024	4:45:00	7.7	0.446	0	28,802	Open	10.6	116
11/27/2024	5:00:00	7.7	0.847	1.3	28,810	Open	9.9	113
11/27/2024	5:15:00	7.7	0.862	0	28,823	Open	9.7	112
11/27/2024	5:30:00	7.7	0.000	0	28,835	Open	9.6	111
11/27/2024	5:45:00	7.7	0.000	0	28,835	Open	10.1	114
11/27/2024	6:00:00	7.7	0.000	0	28,835	Open	10.7	116
11/27/2024	6:15:00	7.7	0.000	0	28,835	Open	11.6	118
11/27/2024	6:30:00	7.6	0.000	0	28,835	Open	12.5	118
11/27/2024	6:45:00	7.6	0.000	0	28,835	Open	13.4	118
11/27/2024	7:00:00	7.7	0.858	0	28,842	Open	10.1	118
11/27/2024	7:15:00	7.7	0.873	0	28,854	Open	10.2	118
11/27/2024	7:30:00	7.7	0.862	0	28,867	Open	10.2	118
11/27/2024	7:45:00	7.7	0.862	0	28,880	Open	10.3	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	8:00:00	7.7	0.000	0	28,881	Open	11	118
11/27/2024	8:15:00	7.7	0.000	0	28,881	Open	12.1	119
11/27/2024	8:30:00	7.7	0.000	0	28,881	Open	13.1	119
11/27/2024	8:45:00	7.6	0.000	0	28,881	Open	14.1	119
11/27/2024	9:00:00	7.6	0.000	0	28,881	Open	14.9	119
11/27/2024	9:15:00	7.6	0.000	0	28,881	Open	15.6	119
11/27/2024	9:30:00	7.6	0.000	0	28,881	Open	16.3	119
11/27/2024	9:45:00	7.6	0.181	4	28,881	Open	16.8	243
11/27/2024	10:00:00	7.7	0.820	0	28,894	Open	10.2	118
11/27/2024	10:15:00	7.7	0.473	0	28,906	Open	10.2	118
11/27/2024	10:30:00	7.7	0.000	0	28,906	Open	11	117
11/27/2024	10:45:00	7.7	0.000	0	28,906	Open	11.8	116
11/27/2024	11:00:00	7.6	0.000	0	28,906	Open	12.3	114
11/27/2024	11:15:00	7.6	0.000	0	28,906	Open	12.6	116
11/27/2024	11:30:00	7.7	0.646	0	28,910	Open	10.1	115

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	11:45:00	7.7	0.000	0	28,910	Open	10.6	116
11/27/2024	12:00:00	7.6	0.000	0	28,910	Closed	11.3	115
11/27/2024	12:15:00	7.7	0.854	0	28,913	Open	10	115
11/27/2024	12:30:00	7.7	0.843	0	28,923	Open	10.3	116
11/27/2024	12:45:00	7.7	0.854	0	28,936	Open	10.2	118
11/27/2024	13:00:00	7.7	0.828	0	28,949	Open	10.2	117
11/27/2024	13:15:00	7.7	0.000	0	28,953	Closed	10.6	118
11/27/2024	13:30:00	7.6	0.000	0	28,953	Closed	11.7	118
11/27/2024	13:45:00	7.6	0.000	0	28,953	Closed	12.8	119
11/27/2024	14:00:00	7.6	0.000	0	28,953	Closed	13.8	119
11/27/2024	14:15:00	7.6	0.000	0	28,953	Closed	14.7	120
11/27/2024	14:30:00	7.7	0.828	0	28,961	Open	10.5	119
11/27/2024	14:45:00	7.7	0.851	0	28,973	Open	10.5	119
11/27/2024	15:00:00	7.7	0.824	0	28,986	Open	10.4	117
11/27/2024	15:15:00	7.7	0.000	0	28,992	Closed	10.8	118

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	15:30:00	7.7	0.000	0	28,992	Closed	11.5	117
11/27/2024	15:45:00	7.6	0.000	0	28,992	Closed	12.4	118
11/27/2024	16:00:00	7.6	0.000	0	28,992	Closed	13.4	119
11/27/2024	16:15:00	7.6	0.000	0	28,992	Closed	14.3	119
11/27/2024	16:30:00	7.6	0.000	0	28,992	Closed	15.2	119
11/27/2024	16:45:00	7.7	0.847	0	28,998	Open	10.6	119
11/27/2024	17:00:00	7.7	0.000	0	29,009	Closed	10.7	119
11/27/2024	17:15:00	7.7	0.000	0	29,009	Closed	11.6	118
11/27/2024	17:30:00	7.6	0.000	0	29,009	Closed	12.8	119
11/27/2024	17:45:00	7.7	0.824	0	29,010	Open	11.2	119
11/27/2024	18:00:00	7.7	0.843	0	29,023	Open	10.5	118
11/27/2024	18:15:00	7.7	0.866	0	29,036	Open	10.3	114
11/27/2024	18:30:00	7.7	0.257	0	29,048	Closed	10.2	113
11/27/2024	18:45:00	7.7	0.000	0	29,048	Closed	10.8	116
11/27/2024	19:00:00	7.6	0.000	0	29,048	Closed	11.8	117

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	19:15:00	7.6	0.000	0	29,048	Closed	12.8	118
11/27/2024	19:30:00	7.6	0.000	0	29,048	Closed	13.7	118
11/27/2024	19:45:00	7.6	0.000	0	29,048	Closed	14.6	119
11/27/2024	20:00:00	7.7	0.813	0	29,049	Open	13.6	119
11/27/2024	20:15:00	7.7	0.839	0	29,062	Open	10.5	119
11/27/2024	20:30:00	7.7	0.847	0	29,074	Open	10.3	116
11/27/2024	20:45:00	7.7	0.832	0	29,087	Open	10.2	116
11/27/2024	21:00:00	7.7	0.000	0	29,091	Closed	10.4	117
11/27/2024	21:15:00	7.7	0.000	0	29,091	Closed	11	116
11/27/2024	21:30:00	7.6	0.000	0	29,091	Closed	11.9	116
11/27/2024	21:45:00	7.6	0.000	0	29,091	Closed	12.2	113
11/27/2024	22:00:00	7.6	0.000	0	29,091	Closed	12.3	111
11/27/2024	22:15:00	7.7	0.858	0	29,101	Open	9.7	111
11/27/2024	22:30:00	7.7	0.835	0	29,113	Open	9.7	111
11/27/2024	22:45:00	7.7	0.000	0	29,120	Closed	9.9	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	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/27/2024	23:00:00	7.7	0.000	0	29,120	Closed	10.6	115
11/27/2024	23:15:00	7.6	0.000	0	29,120	Closed	11	114
11/27/2024	23:30:00	7.6	0.000	0	29,120	Closed	11.3	114
11/27/2024	23:45:00	7.6	0.000	0	29,120	Closed	11.8	116
11/28/2024	0:00:00	7.6	0.000	0	29,120	Closed	12.5	117
11/28/2024	0:15:00	7.6	0.000	0	29,120	Closed	13.3	119
11/28/2024	0:30:00	7.6	0.000	0	29,120	Closed	13.8	116
11/28/2024	0:45:00	7.6	0.000	0	29,120	Closed	14	116
11/28/2024	1:00:00	7.7	0.816	0	29,132	Open	10	116
11/28/2024	1:15:00	7.7	0.828	0	29,144	Open	10	113
11/28/2024	1:30:00	7.7	0.446	0	29,155	Open	10.2	114
11/28/2024	1:45:00	7.8	0.813	0	29,161	Open	9.8	116
11/28/2024	2:00:00	7.7	0.828	0	29,169	Open	9.8	116
11/28/2024	2:15:00	7.7	0.000	0	29,179	Open	9.9	117
11/28/2024	2:30:00	7.7	0.000	0	29,179	Open	10.4	116

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/28/2024	2:45:00	7.7	0.000	0	29,179	Open	11.3	117
11/28/2024	3:00:00	7.7	0.000	0	29,179	Open	12.1	118
11/28/2024	3:15:00	7.7	0.000	0	29,179	Open	13	119
11/28/2024	3:30:00	7.6	0.000	0	29,179	Open	13.8	119
11/28/2024	3:45:00	7.6	0.000	0	29,179	Open	14.6	118
11/28/2024	4:00:00	7.6	0.000	0	29,179	Open	15.2	119
11/28/2024	4:15:00	7.7	0.832	0	29,184	Open	10.1	118
11/28/2024	4:30:00	7.7	0.828	0	29,196	Open	10.2	119
11/28/2024	4:45:00	7.7	0.786	0	29,209	Open	10.2	118
11/28/2024	5:00:00	7.7	0.839	0	29,221	Open	10.2	118
11/28/2024	5:15:00	7.7	0.000	0	29,230	Open	10.4	118
11/28/2024	5:30:00	7.7	0.000	0	29,230	Open	11.4	119
11/28/2024	5:45:00	7.7	0.000	0	29,230	Open	12.6	119
11/28/2024	6:00:00	7.7	0.000	0	29,230	Open	13.6	119
11/28/2024	6:15:00	7.7	0.000	0	29,230	Open	14.5	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/28/2024	6:30:00	7.6	0.000	0	29,230	Open	15.3	119
11/28/2024	6:45:00	7.6	0.000	0	29,230	Open	16	119
11/28/2024	7:00:00	7.6	0.000	0	29,230	Open	16.7	245
11/28/2024	7:15:00	7.7	0.423	0	29,233	Open	10.9	119
11/28/2024	7:30:00	7.7	0.832	0	29,244	Open	9.9	117
11/28/2024	7:45:00	7.7	0.843	0	29,257	Open	9.9	117
11/28/2024	8:00:00	7.8	0.832	0	29,269	Open	10	118
11/28/2024	8:15:00	7.7	0.000	0	29,278	Open	10.2	118
11/28/2024	8:30:00	7.7	0.000	0	29,278	Open	11.3	118
11/28/2024	8:45:00	7.7	0.000	0	29,278	Open	12.4	119
11/28/2024	9:00:00	7.7	0.000	0	29,278	Open	13.4	119
11/28/2024	9:15:00	7.7	0.000	0	29,278	Open	14.3	119
11/28/2024	9:30:00	7.6	0.000	0	29,278	Open	15.1	119
11/28/2024	9:45:00	7.6	0.000	0	29,278	Open	15.9	119
11/28/2024	10:00:00	7.6	0.000	0	29,278	Open	16.5	245

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/28/2024	10:15:00	7.7	0.824	0	29,288	Open	10	119
11/28/2024	10:30:00	7.7	0.824	0	29,301	Open	10	119
11/28/2024	10:45:00	7.8	0.824	0	29,314	Open	10	118
11/28/2024	11:00:00	7.7	0.000	0	29,317	Open	10.7	119
11/28/2024	11:15:00	7.7	0.000	0	29,317	Open	11.8	119
11/28/2024	11:30:00	7.7	0.000	0	29,317	Open	13	119
11/28/2024	11:45:00	7.7	0.000	0	29,317	Open	14	120
11/28/2024	12:00:00	7.6	0.000	0	29,317	Open	14.9	119
11/28/2024	12:15:00	7.6	0.000	0	29,317	Open	15.8	119
11/28/2024	12:30:00	7.7	0.824	0	29,319	Open	12	119
11/28/2024	12:45:00	7.7	0.854	0	29,332	Open	10.3	119
11/28/2024	13:00:00	7.7	0.000	0	29,337	Open	10.8	119
11/28/2024	13:15:00	7.7	0.000	0	29,337	Open	12	120
11/28/2024	13:30:00	7.7	0.000	0	29,337	Open	13.1	119
11/28/2024	13:45:00	7.7	0.779	1.2	29,338	Open	14.1	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/28/2024	14:00:00	7.7	0.000	0	29,339	Open	11.7	119
11/28/2024	14:15:00	7.7	0.809	5.7	29,339	Open	12.2	119
11/28/2024	14:30:00	7.7	0.809	0	29,352	Open	10.4	119
11/28/2024	14:45:00	7.7	0.824	0	29,364	Open	10.4	119
11/28/2024	15:00:00	7.8	0.809	0	29,376	Open	10.4	118
11/28/2024	15:15:00	7.8	0.832	0	29,389	Open	10.4	118
11/28/2024	15:30:00	7.8	0.000	0	29,395	Closed	10.7	119
11/28/2024	15:45:00	7.7	0.000	0	29,395	Closed	11.8	119
11/28/2024	16:00:00	7.7	0.000	0	29,395	Closed	13	119
11/28/2024	16:15:00	7.7	0.000	0	29,395	Closed	14	119
11/28/2024	16:30:00	7.7	0.000	0	29,395	Closed	15	119
11/28/2024	16:45:00	7.6	0.000	0	29,395	Closed	15.9	119
11/28/2024	17:00:00	7.6	0.000	0	29,395	Closed	16.6	247
11/28/2024	17:15:00	7.6	0.000	0	29,395	Closed	17.3	245
11/28/2024	17:30:00	7.7	0.820	0	29,407	Open	10.5	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/28/2024	17:45:00	7.7	0.881	0	29,419	Open	10.5	119
11/28/2024	18:00:00	7.7	0.000	0	29,429	Closed	10.7	119
11/28/2024	18:15:00	7.7	0.000	0	29,429	Closed	11.7	119
11/28/2024	18:30:00	7.7	0.000	0	29,429	Closed	12.8	119
11/28/2024	18:45:00	7.7	0.000	0	29,429	Closed	13.9	119
11/28/2024	19:00:00	7.6	0.000	0	29,429	Closed	14.9	119
11/28/2024	19:15:00	7.6	0.000	0	29,429	Closed	15.8	119
11/28/2024	19:30:00	7.7	0.832	0	29,437	Open	10.5	119
11/28/2024	19:45:00	7.7	0.851	0	29,449	Open	10.5	119
11/28/2024	20:00:00	7.8	0.847	0	29,462	Open	10.5	119
11/28/2024	20:15:00	7.8	0.824	0	29,474	Open	10.4	119
11/28/2024	20:30:00	7.8	0.000	0	29,475	Closed	10.9	117
11/28/2024	20:45:00	7.8	0.839	0	29,481	Open	10.1	116
11/28/2024	21:00:00	7.8	0.824	0	29,494	Open	10.1	117
11/28/2024	21:15:00	7.8	0.000	0	29,496	Closed	10.6	117

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/28/2024	21:30:00	7.7	0.779	0	29,499	Open	9.9	114
11/28/2024	21:45:00	7.8	0.858	0	29,512	Open	9.9	114
11/28/2024	22:00:00	7.8	0.858	0	29,524	Open	9.8	112
11/28/2024	22:15:00	7.8	0.000	0	29,529	Open	10.1	114
11/28/2024	22:30:00	7.7	0.000	0	29,529	Open	11	116
11/28/2024	22:45:00	7.7	0.000	0	29,529	Open	11.9	118
11/28/2024	23:00:00	7.8	0.813	0	29,534	Open	10	115
11/28/2024	23:15:00	7.8	0.832	0.7	29,546	Open	9.9	117
11/28/2024	23:30:00	7.8	0.000	9.5	29,555	Open	10	115
11/28/2024	23:45:00	7.7	0.000	0	29,555	Open	12.2	114
11/29/2024	0:00:00	7.7	0.000	380.2	29,555	Open	12.3	113
11/29/2024	0:15:00	7.7	0.276	0	29,556	Open	10.4	111
11/29/2024	0:30:00	7.7	0.000	0	29,556	Open	10.1	111
11/29/2024	0:45:00	7.7	0.000	0	29,556	Open	10.1	110
11/29/2024	1:00:00	7.7	0.000	0.2	29,556	Open	10.2	113

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/29/2024	1:15:00	7.7	0.000	0	29,556	Open	10.9	115
11/29/2024	1:30:00	7.7	0.824	0	29,566	Open	9.7	114
11/29/2024	1:45:00	7.7	0.378	0	29,576	Open	10.1	112
11/29/2024	2:00:00	7.7	0.000	0.9	29,581	Open	9.8	111
11/29/2024	2:15:00	7.7	0.000	1.9	29,581	Open	10.2	113
11/29/2024	2:30:00	7.7	0.000	3.2	29,581	Open	11	116
11/29/2024	2:45:00	7.7	0.000	5.9	29,581	Open	11.8	116
11/29/2024	3:00:00	7.7	0.000	9.4	29,581	Open	12.5	115
11/29/2024	3:15:00	7.6	0.000	0	29,581	Open	12.6	113
11/29/2024	3:30:00	7.6	0.000	0	29,581	Open	12.5	111
11/29/2024	3:45:00	7.6	0.000	0	29,581	Open	12.3	112
11/29/2024	4:00:00	7.7	0.839	2.8	29,589	Open	9.4	115
11/29/2024	4:15:00	7.7	0.140	4.4	29,602	Open	9.6	114
11/29/2024	4:30:00	7.7	0.000	11.9	29,602	Open	9.9	114
11/29/2024	4:45:00	7.7	0.000	23	29,602	Open	10.1	111

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/29/2024	5:00:00	7.7	0.000	34.3	29,602	Open	10.2	111
11/29/2024	5:15:00	7.7	0.809	0	29,606	Open	9.4	110
11/29/2024	5:30:00	7.7	0.854	0	29,616	Open	9.4	111
11/29/2024	5:45:00	7.7	0.000	0	29,623	Open	9.5	110
11/29/2024	6:00:00	7.7	0.000	0	29,623	Open	10	114
11/29/2024	6:15:00	7.7	0.000	0	29,623	Open	10.8	116
11/29/2024	6:30:00	7.7	0.000	0	29,623	Open	11.7	117
11/29/2024	6:45:00	7.7	0.805	0	29,625	Open	11.4	118
11/29/2024	7:00:00	7.8	0.809	0	29,637	Open	10.1	118
11/29/2024	7:15:00	7.8	0.000	0	29,648	Open	10.3	117
11/29/2024	7:30:00	7.7	0.000	0	29,648	Open	11.2	118
11/29/2024	7:45:00	7.7	0.000	0	29,648	Open	12.1	118
11/29/2024	8:00:00	7.7	0.000	0	29,648	Open	13.1	119
11/29/2024	8:15:00	7.7	0.193	0.6	29,648	Open	14	119
11/29/2024	8:30:00	7.8	0.828	0	29,660	Open	10.4	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	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/29/2024	8:45:00	7.8	0.000	0	29,671	Closed	10.5	119
11/29/2024	9:00:00	7.7	0.000	0	29,671	Closed	11.5	119
11/29/2024	9:15:00	7.7	0.000	0	29,671	Closed	12.5	119
11/29/2024	9:30:00	7.7	0.000	0	29,671	Closed	13.5	119
11/29/2024	9:45:00	7.6	0.000	0	29,671	Closed	14.4	119
11/29/2024	10:00:00	7.6	0.000	0	29,671	Closed	15.2	120
11/29/2024	10:15:00	7.6	0.000	0	29,671	Closed	16	119
11/29/2024	10:30:00	7.6	0.000	0	29,671	Closed	16.7	245
11/29/2024	10:45:00	7.6	0.000	0	29,671	Closed	17.3	245
11/29/2024	11:00:00	7.6	0.000	0	29,671	Closed	17.3	243
11/29/2024	11:15:00	7.6	0.000	0	29,671	Closed	17.2	245
11/29/2024	11:30:00	7.6	0.000	1.9	29,671	Closed	16.9	245
11/29/2024	11:45:00	7.7	0.835	14.7	29,671	Closed	12.9	116
11/29/2024	12:00:00	7.7	0.805	19.4	29,671	Closed	9.9	116
11/29/2024	12:15:00	7.8	0.801	0	29,671	Closed	9.8	116

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/29/2024	12:30:00	7.8	0.813	0	29,671	Closed	9.9	116
11/29/2024	12:45:00	7.8	0.816	0	29,671	Closed	10	117
11/29/2024	13:00:00	7.8	0.000	0	29,671	Closed	9.9	116
11/29/2024	13:15:00	7.8	0.979	0	29,671	Closed	9.9	116
11/29/2024	13:30:00	7.8	0.987	0	29,671	Closed	9.9	116
11/29/2024	13:45:00	7.8	0.782	0	29,671	Closed	10.2	114
11/29/2024	14:00:00	7.8	0.805	0	29,671	Closed	9.8	113
11/29/2024	14:15:00	7.8	0.832	0	29,673	Open	9.8	114
11/29/2024	14:30:00	7.8	0.824	0	29,685	Open	9.9	114
11/29/2024	14:45:00	7.8	0.820	0	29,698	Open	10	116
11/29/2024	15:00:00	7.8	0.801	0	29,710	Open	10.1	116
11/29/2024	15:15:00	7.8	0.809	0	29,722	Open	10.2	117
11/29/2024	15:30:00	7.8	0.000	0	29,734	Open	10.2	118
11/29/2024	15:45:00	7.8	0.000	0	29,734	Open	10.7	114
11/29/2024	16:00:00	7.7	0.000	0	29,734	Open	11	112

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/29/2024	16:15:00	7.7	0.000	0	29,734	Open	11.3	113
11/29/2024	16:30:00	7.7	0.000	0	29,734	Open	11.8	117
11/29/2024	16:45:00	7.7	0.000	0	29,734	Open	12.7	117
11/29/2024	17:00:00	7.7	0.000	0	29,734	Open	13.5	117
11/29/2024	17:15:00	7.8	0.771	2.7	29,735	Open	12.8	118
11/29/2024	17:30:00	7.8	0.828	0	29,747	Open	10	118
11/29/2024	17:45:00	7.8	0.839	0	29,759	Open	10.1	118
11/29/2024	18:00:00	7.8	0.809	0	29,772	Open	10.2	118
11/29/2024	18:15:00	7.8	0.420	0	29,783	Open	10.7	118
11/29/2024	18:30:00	7.8	0.000	0	29,783	Closed	11.3	119
11/29/2024	18:45:00	7.7	0.000	0	29,783	Closed	12.4	119
11/29/2024	19:00:00	7.7	0.000	0	29,783	Closed	13.5	119
11/29/2024	19:15:00	7.7	0.000	0	29,783	Closed	14.4	119
11/29/2024	19:30:00	7.7	0.000	0	29,783	Closed	15.3	119
11/29/2024	19:45:00	7.7	0.000	0	29,783	Closed	16	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/29/2024	20:00:00	7.6	0.000	0	29,783	Closed	16.7	245
11/29/2024	20:15:00	7.8	0.828	0.5	29,792	Open	10.3	119
11/29/2024	20:30:00	7.8	0.835	1	29,805	Open	10.1	116
11/29/2024	20:45:00	7.8	0.843	2.2	29,817	Open	9.9	114
11/29/2024	21:00:00	7.8	0.839	2.4	29,830	Open	9.8	113
11/29/2024	21:15:00	7.8	0.000	0.8	29,831	Closed	10.1	114
11/29/2024	21:30:00	7.7	0.000	0.8	29,831	Closed	10.5	114
11/29/2024	21:45:00	7.7	0.000	1	29,831	Closed	10.7	113
11/29/2024	22:00:00	7.7	0.000	1	29,831	Closed	10.9	111
11/29/2024	22:15:00	7.7	0.000	1	29,831	Closed	11.1	111
11/29/2024	22:30:00	7.7	0.000	0.7	29,831	Closed	11.2	111
11/29/2024	22:45:00	7.7	0.000	0.3	29,831	Closed	11.7	116
11/29/2024	23:00:00	7.8	0.798	3.8	29,831	Open	13	116
11/29/2024	23:15:00	7.7	0.000	0.1	29,840	Open	10.2	118
11/29/2024	23:30:00	7.8	0.873	2.6	29,846	Open	10	116

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/29/2024	23:45:00	7.8	0.869	1.8	29,859	Open	9.9	113
11/30/2024	0:15:00	7.7	0.000	0.5	29,868	Open	10.7	116
11/30/2024	0:30:00	7.7	0.000	0.5	29,868	Open	11.6	116
11/30/2024	0:45:00	7.7	0.000	0.1	29,868	Open	12.6	118
11/30/2024	1:00:00	7.8	0.851	0	29,877	Open	10	116
11/30/2024	1:15:00	7.8	0.851	0	29,889	Open	9.8	115
11/30/2024	1:30:00	7.8	0.843	0	29,902	Open	9.7	113
11/30/2024	1:45:00	7.8	0.862	0	29,915	Open	9.6	113
11/30/2024	2:00:00	7.8	0.000	0	29,922	Open	9.8	114
11/30/2024	2:15:00	7.7	0.000	0	29,922	Open	10.5	116
11/30/2024	2:30:00	7.7	0.000	0	29,922	Open	11.5	117
11/30/2024	2:45:00	7.7	0.000	0	29,922	Open	12.5	118
11/30/2024	3:00:00	7.7	0.000	0	29,922	Open	13.4	118
11/30/2024	3:15:00	7.7	0.000	0	29,922	Open	14.2	118
11/30/2024	3:30:00	7.7	0.000	0	29,922	Open	15	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	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/30/2024	3:45:00	7.8	0.862	0	29,932	Open	10	118
11/30/2024	4:00:00	7.8	0.824	8.9	29,944	Open	10	117
11/30/2024	4:15:00	7.8	0.824	40.7	29,957	Open	9.8	113
11/30/2024	4:30:00	7.8	0.835	98.9	29,970	Open	9.8	113
11/30/2024	4:45:00	7.8	0.000	129.1	29,971	Open	10.2	114
11/30/2024	5:00:00	7.7	0.000	158.8	29,971	Open	11	116
11/30/2024	5:15:00	7.7	0.000	183.4	29,971	Open	12	117
11/30/2024	5:30:00	7.7	0.000	0	29,971	Open	12.8	118
11/30/2024	5:45:00	7.7	0.000	0	29,971	Open	13.5	118
11/30/2024	6:00:00	7.7	0.000	0	29,971	Open	14.2	118
11/30/2024	6:15:00	7.7	0.000	0	29,971	Open	14.5	116
11/30/2024	6:30:00	7.6	0.000	0	29,971	Open	14.6	116
11/30/2024	6:45:00	7.7	0.843	7.3	29,972	Open	13.5	117
11/30/2024	7:00:00	7.8	0.862	0	29,985	Open	10.2	118
11/30/2024	7:15:00	7.8	0.847	2.8	29,998	Open	10	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	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/30/2024	7:30:00	7.8	0.866	0.7	30,010	Open	10	115
11/30/2024	7:45:00	7.8	0.839	1.6	30,023	Open	10.2	117
11/30/2024	8:00:00	7.8	0.000	0.1	30,024	Open	11	117
11/30/2024	8:15:00	7.7	0.000	0.2	30,024	Open	12	118
11/30/2024	8:30:00	7.7	0.000	0.2	30,024	Open	13	119
11/30/2024	8:45:00	7.7	0.000	0	30,024	Open	14	118
11/30/2024	9:00:00	7.7	0.000	0	30,024	Open	14.8	120
11/30/2024	9:15:00	7.6	0.000	0	30,024	Closed	15.5	119
11/30/2024	9:30:00	7.6	0.000	2.4	30,024	Closed	16.2	119
11/30/2024	9:45:00	7.6	0.000	5.8	30,024	Closed	16.7	119
11/30/2024	10:00:00	7.6	0.000	12	30,024	Closed	17.2	242
11/30/2024	10:15:00	7.8	0.839	19.8	30,024	Closed	10.9	119
11/30/2024	10:30:00	7.8	0.851	20.2	30,035	Open	10.5	119
11/30/2024	10:45:00	7.8	0.858	3.3	30,048	Open	10.5	119
11/30/2024	11:00:00	7.8	0.450	2.8	30,059	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	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/30/2024	11:15:00	7.8	0.000	2.4	30,071	Closed	10.5	118
11/30/2024	11:30:00	7.8	0.000	1.5	30,071	Closed	11.4	119
11/30/2024	11:45:00	7.7	0.000	1.8	30,071	Closed	12.6	119
11/30/2024	12:00:00	7.7	0.000	1	30,071	Closed	13.7	119
11/30/2024	12:15:00	7.7	0.000	0.9	30,071	Closed	14.7	119
11/30/2024	12:30:00	7.7	0.000	1.1	30,071	Closed	15.6	120
11/30/2024	12:45:00	7.6	0.000	0.7	30,071	Closed	16.3	119
11/30/2024	13:00:00	7.7	0.866	0	30,071	Open	16.5	119
11/30/2024	13:15:00	7.8	0.877	1.1	30,084	Open	10.7	119
11/30/2024	13:30:00	7.8	0.866	1.4	30,097	Open	10.7	119
11/30/2024	13:45:00	7.8	0.885	1.5	30,111	Open	10.7	119
11/30/2024	14:00:00	7.8	0.866	0.4	30,124	Open	10.7	119
11/30/2024	14:15:00	7.8	0.000	0	30,128	Closed	11.2	119
11/30/2024	14:30:00	7.7	0.000	0	30,128	Closed	12.4	119
11/30/2024	14:45:00	7.7	0.000	0	30,128	Closed	13.5	119

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/30/2024	15:00:00	7.7	0.000	0	30,128	Closed	14.5	118
11/30/2024	15:15:00	7.6	0.000	0	30,128	Closed	15.1	119
11/30/2024	15:30:00	7.6	0.000	0	30,128	Closed	15.9	119
11/30/2024	15:45:00	7.6	0.000	0	30,128	Closed	16.6	119
11/30/2024	16:00:00	7.8	0.885	0.1	30,132	Open	11	119
11/30/2024	16:15:00	7.8	0.873	1.1	30,145	Open	10.8	119
11/30/2024	16:30:00	7.8	0.896	1.5	30,158	Open	10.8	119
11/30/2024	16:45:00	7.8	0.877	1.7	30,171	Open	10.8	119
11/30/2024	17:00:00	7.8	0.000	0.7	30,177	Closed	11.3	119
11/30/2024	17:15:00	7.8	0.000	0.7	30,177	Closed	12.4	119
11/30/2024	17:30:00	7.7	0.000	0.4	30,177	Closed	13.5	119
11/30/2024	17:45:00	7.7	0.000	0.7	30,177	Closed	14.5	119
11/30/2024	18:00:00	7.6	0.000	0.7	30,177	Closed	15.5	120
11/30/2024	18:15:00	7.6	0.000	0.3	30,177	Closed	16.4	119
11/30/2024	18:30:00	7.6	0.000	0.1	30,177	Closed	17.2	121

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/30/2024	18:45:00	7.6	0.000	0.1	30,177	Closed	17.8	243
11/30/2024	19:00:00	7.8	0.885	16.1	30,177	Closed	16	120
11/30/2024	19:15:00	7.8	0.851	0.2	30,185	Open	10.9	119
11/30/2024	19:30:00	7.8	0.866	0.5	30,198	Open	10.8	118
11/30/2024	19:45:00	7.8	0.835	0.5	30,211	Open	10.8	118
11/30/2024	20:00:00	7.8	0.919	0.5	30,224	Open	10.8	119
11/30/2024	20:15:00	7.8	0.000	0.1	30,232	Closed	11.1	118
11/30/2024	20:30:00	7.8	0.000	0	30,232	Closed	11.7	116
11/30/2024	20:45:00	7.7	0.000	0.2	30,232	Closed	12.1	114
11/30/2024	21:00:00	7.7	0.000	0.1	30,232	Closed	12.6	116
11/30/2024	21:15:00	7.6	0.000	0.1	30,232	Closed	12.9	114
11/30/2024	21:30:00	7.6	0.000	0.9	30,232	Closed	13	111
11/30/2024	21:45:00	7.7	0.862	0.9	30,234	Open	10.4	111
11/30/2024	22:00:00	7.8	0.877	0.7	30,247	Open	10	111
11/30/2024	22:15:00	7.8	0.862	0.5	30,260	Open	10	111

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
11/30/2024	22:30:00	7.8	0.888	0.9	30,273	Open	10	111
11/30/2024	22:45:00	7.8	0.000	0.2	30,285	Closed	10	111
11/30/2024	23:00:00	7.7	0.000	0.1	30,285	Closed	10.3	111
11/30/2024	23:15:00	7.7	0.000	0.1	30,285	Closed	10.6	112
11/30/2024	23:30:00	7.7	0.000	0	30,285	Closed	10.9	111
11/30/2024	23:45:00	7.6	0.000	0	30,285	Closed	11.1	112
12/1/2024	0:00:00	7.6	0.000	0	30,285	Closed	11.5	116
12/1/2024	0:15:00	7.6	0.000	0	30,285	Closed	12.4	116
12/1/2024	0:30:00	7.6	0.000	0	30,285	Closed	12.9	114
12/1/2024	0:45:00	7.6	0.000	0	30,285	Closed	13	113
12/1/2024	1:00:00	7.7	0.881	5	30,291	Open	9.9	114
12/1/2024	1:15:00	7.8	0.858	0	30,303	Open	10.2	116
12/1/2024	1:30:00	7.8	0.854	0	30,316	Open	10.2	116
12/1/2024	1:45:00	7.8	0.851	0	30,329	Open	10.1	115
12/1/2024	2:00:00	7.8	0.000	0	30,336	Closed	10.3	115

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/1/2024	2:15:00	7.7	0.000	0	30,336	Closed	10.6	114
12/1/2024	2:30:00	7.7	0.000	0	30,336	Closed	10.9	113
12/1/2024	2:45:00	7.7	0.000	0	30,336	Closed	11.5	116
12/1/2024	3:00:00	7.7	0.000	0	30,336	Closed	12.4	117
12/1/2024	3:15:00	7.6	0.000	0	30,336	Closed	13.3	118
12/1/2024	3:30:00	7.6	0.000	0	30,336	Closed	14.1	118
12/1/2024	3:45:00	7.6	0.000	0	30,336	Closed	14.5	117
12/1/2024	4:00:00	7.7	0.835	0	30,339	Open	10.8	116
12/1/2024	4:15:00	7.8	0.843	0	30,352	Open	10.3	116
12/1/2024	4:30:00	7.8	0.839	0	30,362	Open	10.3	115
12/1/2024	4:45:00	7.8	0.847	0	30,375	Open	10.2	114
12/1/2024	5:00:00	7.8	0.000	0	30,385	Closed	10.3	116
12/1/2024	5:15:00	7.8	0.000	0	30,385	Closed	10.8	116
12/1/2024	5:30:00	7.7	0.000	0	30,385	Closed	11.2	114
12/1/2024	5:45:00	7.7	0.000	0	30,385	Closed	11.9	117

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/1/2024	6:00:00	7.7	0.000	0	30,385	Closed	12.7	117
12/1/2024	6:15:00	7.6	0.000	0	30,385	Closed	13.6	119
12/1/2024	6:30:00	7.6	0.000	0	30,385	Closed	14.2	117
12/1/2024	6:45:00	7.6	0.000	0	30,385	Closed	14.6	118
12/1/2024	7:00:00	7.6	0.000	0	30,385	Closed	15.2	118
12/1/2024	7:15:00	7.8	0.847	0	30,394	Open	10.4	118
12/1/2024	7:30:00	7.8	0.866	0	30,407	Open	10.4	118
12/1/2024	7:45:00	7.8	0.854	0	30,420	Open	10.4	119
12/1/2024	8:00:00	7.8	0.866	0	30,433	Open	10.5	119
12/1/2024	8:15:00	7.8	0.000	0	30,436	Closed	11.1	119
12/1/2024	8:30:00	7.8	0.000	0	30,436	Closed	12.2	119
12/1/2024	8:45:00	7.7	0.000	0	30,436	Closed	13.3	119
12/1/2024	9:00:00	7.7	0.000	0	30,436	Open	14.2	119
12/1/2024	9:15:00	7.6	0.000	0	30,436	Closed	15.1	119
12/1/2024	9:30:00	7.6	0.000	0	30,436	Closed	15.8	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	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/1/2024	9:45:00	7.6	0.000	0	30,436	Closed	16.6	120
12/1/2024	10:00:00	7.6	0.000	0	30,436	Closed	17.2	245
12/1/2024	10:15:00	7.8	0.877	0	30,441	Open	10.6	121
12/1/2024	10:30:00	7.8	0.873	0	30,454	Open	10.5	119
12/1/2024	10:45:00	7.8	0.873	0	30,467	Open	10.4	119
12/1/2024	11:00:00	7.8	0.851	0	30,479	Open	10.5	119
12/1/2024	11:15:00	7.8	0.000	0	30,492	Closed	10.5	119
12/1/2024	11:30:00	7.8	0.000	0	30,492	Closed	11.5	119
12/1/2024	11:45:00	7.7	0.000	0	30,492	Closed	12.8	119
12/1/2024	12:00:00	7.7	0.000	0	30,492	Closed	14	119
12/1/2024	12:15:00	7.7	0.000	0	30,492	Closed	15	119
12/1/2024	12:30:00	7.6	0.000	0	30,492	Closed	16	121
12/1/2024	12:45:00	7.6	0.000	0	30,492	Closed	16.9	121
12/1/2024	13:00:00	7.6	0.000	0	30,492	Closed	17.7	243
12/1/2024	13:15:00	7.6	0.000	0	30,492	Closed	18.4	242

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/1/2024	13:30:00	7.8	0.873	0	30,501	Open	11	121
12/1/2024	13:45:00	7.8	0.854	0	30,512	Open	10.9	119
12/1/2024	14:00:00	7.8	0.824	0	30,525	Open	11	119
12/1/2024	14:15:00	7.8	0.851	0	30,538	Open	11	119
12/1/2024	14:30:00	7.8	0.000	0	30,545	Closed	11.5	119
12/1/2024	14:45:00	7.7	0.000	0	30,545	Closed	12.6	119
12/1/2024	15:00:00	7.7	0.000	0	30,545	Closed	13.9	119
12/1/2024	15:15:00	7.7	0.000	0	30,545	Closed	14.8	119
12/1/2024	15:30:00	7.6	0.000	0	30,545	Closed	15.6	119
12/1/2024	15:45:00	7.6	0.000	0	30,545	Closed	16.5	121
12/1/2024	16:00:00	7.6	0.000	0	30,545	Closed	17.2	121
12/1/2024	16:15:00	7.6	0.000	0	30,545	Closed	17.9	242
12/1/2024	16:30:00	7.8	0.873	0	30,548	Open	11.6	121
12/1/2024	16:45:00	7.8	0.866	0	30,561	Open	11.3	119
12/1/2024	17:00:00	7.8	0.000	0	30,569	Closed	11.5	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	**November 25th to December 1st, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 4th 2024**

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/1/2024	17:15:00	7.7	0.000	0	30,569	Closed	12.6	119
12/1/2024	17:30:00	7.7	0.000	0	30,569	Closed	13.7	119
12/1/2024	17:45:00	7.6	0.000	0	30,569	Closed	14.8	119
12/1/2024	18:00:00	7.8	0.892	0	30,580	Open	11.2	119
12/1/2024	18:15:00	7.8	0.000	0	30,593	Closed	11.1	118
12/1/2024	18:30:00	7.8	0.000	0	30,593	Closed	12.1	119
12/1/2024	18:45:00	7.7	0.000	0	30,593	Closed	13.3	119
12/1/2024	19:00:00	7.7	0.000	0	30,593	Closed	14.4	119
12/1/2024	19:15:00	7.6	0.000	0	30,593	Closed	15.3	119
12/1/2024	19:30:00	7.8	0.873	0	30,601	Open	11.1	121
12/1/2024	19:45:00	7.8	0.835	1.2	30,614	Open	11.1	119
12/1/2024	20:00:00	7.8	0.885	1.6	30,627	Open	11	119
12/1/2024	20:15:00	7.8	0.847	1.9	30,640	Open	11	119
12/1/2024	20:30:00	7.8	0.000	0.7	30,644	Closed	11.3	116
12/1/2024	20:45:00	7.8	0.000	1.5	30,644	Closed	11.7	114

Date	Time	Discharge pH	Flow Total (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/1/2024	21:00:00	7.7	0.000	1.4	30,644	Closed	11.9	114
12/1/2024	21:15:00	7.7	0.000	1.3	30,644	Closed	12.1	113
12/1/2024	21:30:00	7.6	0.000	1.1	30,644	Closed	12.2	112
12/1/2024	21:45:00	7.6	0.000	1.5	30,644	Closed	12.2	111
12/1/2024	22:00:00	7.6	0.000	0.9	30,644	Closed	12.3	112
12/1/2024	22:15:00	7.6	0.000	0.6	30,644	Closed	12.3	111
12/1/2024	22:30:00	7.8	0.854	1.8	30,656	Open	10	112
12/1/2024	22:45:00	7.8	0.869	1.3	30,669	Open	10.2	114
12/1/2024	23:00:00	7.8	0.858	1.5	30,681	Open	10.4	116
12/1/2024	23:15:00	7.8	0.851	1.2	30,694	Open	10.3	114
12/1/2024	23:30:00	7.8	0.000	0.3	30,695	Closed	11	116
12/1/2024	23:45:00	7.7	0.000	0.6	30,695	Closed	11.5	116

Photos:

Photo 1: No visible sheen observed in the WTP water, November 25th

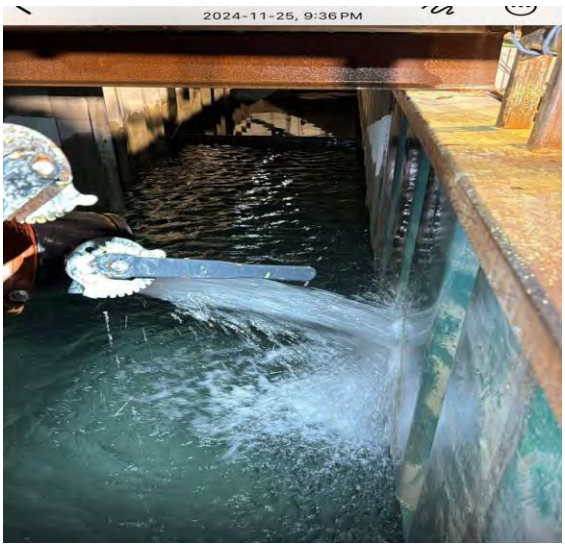



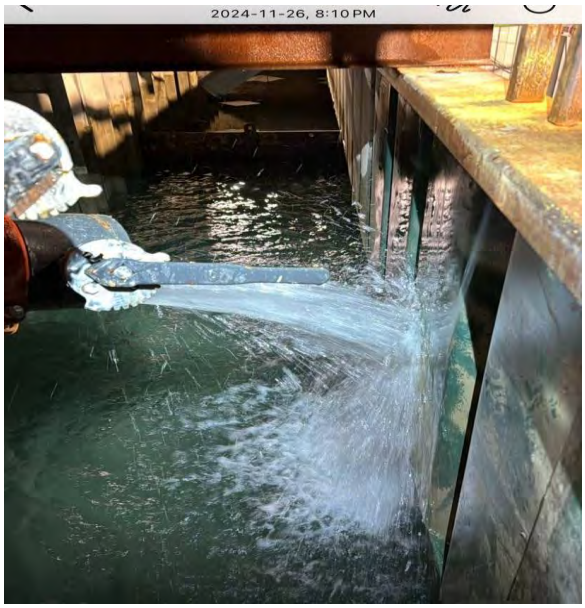
Photo 2: No visible sheen observed in the WTP water, November 26th


Photo 3: No visible sheen observed in the WTP water, November 27th

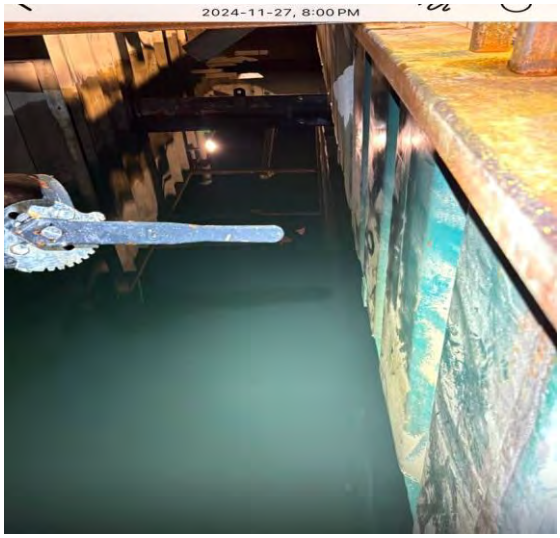



Photo 4: No visible sheen observed in the WTP water, November 28th


Photo 5: No visible sheen observed in the WTP water, November 29th

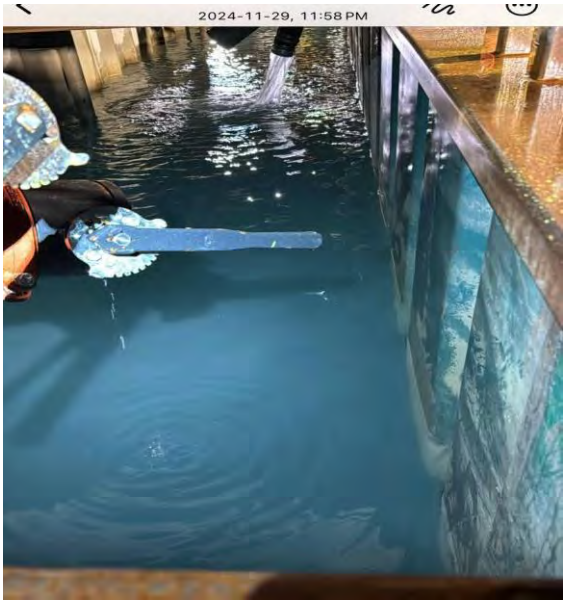



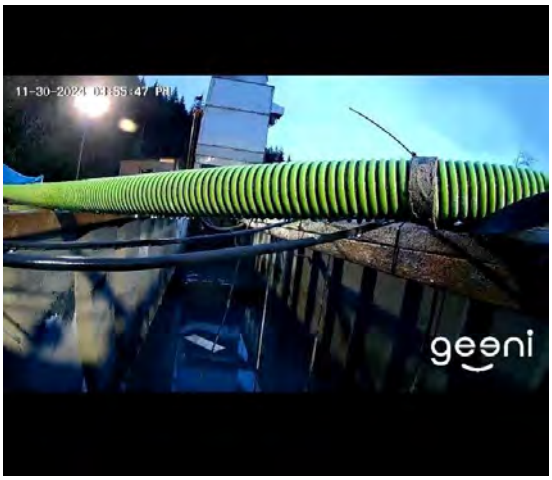
Photo 6: No visible sheen observed in the WTP water, November 30th


Photo 7: No visible sheen observed in the WTP water, December 1st


Appendix D: Woodfibre Site Receiving Environment Documentation

Woodfibre Site Receiving Environment Sample Analysis

TRITON	Sample ID	Reviewed and signed off by:	COLLEGE OF APPLIED BIOLOGISTS Farshad Shafiei RPBio 3781 CAB		Farshad Shafiei Ph.D., R.P.Bio.	EAS US1 (Upstream)	EAS DS 1 (Downstream)	Sample or value notes	BCWQ FAL - Short Term	BCWQ FAL - Long Term	BCWQ MAL - Short Term	BCWQ MAL - Long Term
	LAB ID					VA24D2007-001	VA24D2007-002					
	Date Sampled					26-Nov-2024	26-Nov-2024					
	Time Sampled					10:45	11:16					
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	6.4	7.3		If natural pH < 6.5, no statisticaly 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	Short-term daily temperature guideline is 19°C for streams with unknown fish distribution Max +/- from BKG 1°C [4]	-	Short-term daily temperature guideline is 19°C for streams with unknown fish distribution Max +/- from BKG 1°C [4]	-	5.9	6.8		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 East Creek. 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. treams with unknown fish distribution. Refer to footnote 4 for background temperature range for East Creek. Calculation: US value +/- 1 = guideline range	
Conductivity (field)	µS/cm	-	-	-	-	26	70					
Turbidity (field)	NTU	Varies with background, see note Guideline = 13.1	Varies with background, see note Guideline = 5.12 5-week discrete sampling average = 1.44 (DS)	Varies with background, see note Guideline = 13.1	Varies with background, see note Guideline = 5.12 5-week discrete sampling average = 1.44 (DS)	5.09	0.95		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.
General Parameters												
Hardness (as $CaCO_3$) (total)	mg/L	-	-	-	-	6.25	24.3					
Total Dissolved Solids	mg/L	-	-	-	-	17	38					
Total Suspended Solids	mg/L	Varies with background, see note Guideline = 28	Varies with background, see note Guideline = 8.00 5-week discrete sampling average = 3.2 (DS)	Varies with background, see note Guideline = 28	Varies with background, see note Guideline = 8.00 5-week discrete sampling average = 3.2 (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	-	-	-	-	2.42	1.61			Long-term (30-day) median within 20% of background median [3]		
Total Alkalinity ($CaCO_3$)	mg/L	-	Categorical	-	-	5.4	26.5			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 = 26.5	Varies with pH and temperature. See note. Guideline = 1.88	Varies with pH and temperature. See note. Guideline = 191	Varies with pH, temperature and salinity. See note. Guideline = 20.0	0.0052	0.0063		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	> 110% of background	< 90% of background	0.79	0.96				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 =0.219	-	1.5	-	< 0.020	0.084		Guideline has interim status. Guideline is calculated with the following equation: Guideline = [-51.73 + 92.57 log10 (hardness)] * 0.01			
Nitrate (as N)	mg/L	32.8	3	-	3.7	0.0411	0.0249					
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	-	-	-	-	0.125	0.101					
Total Phosphorous	mg/L	-	0.005 to 0.015	-	-	0.0287	0.0142			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	-	-	2.62	3.19			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 = 0.078 5-week field average = 0.176 (US), 0.197 (DS)	-	-	0.102	0.149			Guideline varies with pH, hardness and Dissolved Organic Carbon (DOC). Guideline is calculated with the following equation: Guideline = (EXP((0.645 * LN(DOC)) + (2.255 * LN(hardness)) + (1.995 * pH) + (-0.284 * (LN(hardness) * pH))-9.898)/3/1000) 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	-	-	< 0.0001	< 0.0001					
Arsenic (As)-Total	mg/L	-	0.005	-	0.0125	0.00012	0.00027					Interim guideline status
Barium (Ba)-Total	mg/L	-	1	-	-	0.00298	0.00376			Working guideline status		
Beryllium (Be)-Total	mg/L	-	0.00013	-	0.100	< 0.0001	< 0.0001			Working guideline status		Working guideline status
Bismuth (Bi)-Total	mg/L	-	-	-	-	< 0.00005	< 0.00005					
Boron (B)-Total	mg/L	-	1.2	-	1.2	< 0.010	< 0.010					
Cadmium (Cd)-Total	mg/L	-	-	-	0.00012	0.0000105	0.0000052					Working guideline status
Calcium (Ca)-Total	mg/L	-	-	-	-	1.99	8.78					
Cesium (Cs)-Total	mg/L	-	-	-	-	< 0.00001	< 0.00001					
Chromium (Cr) - Total	mg/L	-	-	-	-	< 0.0005	< 0.0005					
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	-	-	< 0.0001	< 0.0001					
Copper (Cu)-Total	mg/L	-	-	0.003	0.002 5-week field averages = 0.00145 (US), 0.00099 (DS)	0.00095	< 0.00050					
Iron (Fe)-Total	mg/L	1	-	-	-	0.04	0.032					
Lead (Pb)-Total	mg/L	-	-	0.14	0.002 5-week field averages = 0.000109 (US), 0.000090 (DS)	0.000089	< 0.000050		Guideline varies with hardness, refer to BC Water Quality Guidelines for more information. Guideline is 0.003 where hardness ≤8mg/L. Guideline uses equation EXP[1.273*on(hardness)-1.460] where hardness is 8-360 mg/L. Lowest value for guideline is 0.003 mg/L.	Guideline varies with hardness, refer to BC Water Quality Guidelines for more information. Guideline equation EXP[1.273*on(hardness)-4.704] applies to samples with hardness 8-360 mg/L.		
Lithium (Li)-Total	mg/L	-	-	-	-	< 0.0010	< 0.0010					
Magnesium (Mg)-Total	mg/L	-	-	-	-	0.312	0.574					
Manganese (Mn)-Total	mg/L	Varies with hardness Guideline = 0.82	Varies with hardness Guideline = 0.77	-	-	0.00213	0.00237		Guideline varies with hardness. The guideline is calculated using the following equation: Guideline = (0.0044 * hardness + 0.605) Guideline applies to samples with hardness 25-259 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 = (0.01102 * 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 = 0.1/[MeHg/totalHg]. When MeHg ≤ 0.5% of total Hg, guideline is equal to 0.02 mg/L		
Molybdenum (Mo)-Total	mg/L	46	7.6	-	-	0.000323	0.00619					
Nickel (Ni)-Total	mg/L	-	-	-	0.0083	< 0.00050	< 0.00050			Working guideline status. Guideline varies with hardness. Refer to BC Water Quality Guidelines for more information. Hardness 0 ≤ 60: 0.025 Hardness > 60 ≤ 180: Guideline = (EXP((0.76 * (LN(hardness)) + 1.06))/1000) Hardness ≥ 180: 0.15		Working guideline status
Phosphorus (P)-Total	mg/L	-	0.005 to 0.015	-	-	0.051	< 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	-	-	-	-	0.367	0.427					
Rubidium (Rb)-Total	mg/L	-	-	-	-	0.00036	0.0006					
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 guidleiens and sampling guidance.		Guideline for marine aquatic life (water column). Alert concentration is 0.001 mg/L, with separate guidleiens for sediment, invertebrate and fish tissue. Refer to BC Water Quality Guidelines for more information on guidleiens and sampling guidance.
Silicon (Si)-Total	mg/L	-	-	-	-	3.81	4.58					
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	0.000023	< 0.000010		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	-	-	-	-	1.37	1.94					
Strontium (Sr)-Total	mg/L	-	-	-	-	0.0101	0.0215					
Sulfur (S)-Total	mg/L	-	-	-	-	0.79	1.12					
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	-	-	-	-	0.00121	0.00093					
Tungsten (W)-Total	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Uranium (U)-Total	mg/L	0.0165	0.0075	-	-	0.00013	0.000592			Working guideline status		
Vanadium (V)-Total	mg/L	-	0.06	-	0.005	< 0.00050	< 0.00050					Working guideline status
Zinc (Zn)-Total	mg/L	-	-	0.055	0.010 5-week field average = 0.0039 (US), 0.0030 (DS)	0.0073	0.003					
Zirconium (Zr)-Total	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Dissolved Metals												
Aluminum (Al)-Dissolved	mg/L	-	-	-	-	0.0775	0.0572					
Antimony (Sb)-Dissolved	mg/L	-	-	-	-	< 0.0001	< 0.0001					
Arsenic (As)-Dissolved	mg/L	-	-	-	-	0.00013	0.00019					
Barium (Ba)-Dissolved	mg/L	-	-	-	-	0.00284	0.00342					
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 = 0.000035	-	-	0.0000071	< 0.000005		Guideline is hardness dependent. Guideline is appilcable to water hardness between 7.0 and 455 mg/L. Guideline is calculated with the following formula: Guideline = (EXP(1.03 * (LN(hardness)) - 5.274)/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 guiedeline 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	-	-	2.06	9.04			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	-	-	-	-	< 0.00001	< 0.00001					
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	< 0.0005	< 0.0005					
Chromium (Cr(III))-Dissolved	mg/L	-	-	-	-	-	-					
Chromium (Cr(VI))-Dissolved	mg/L	-	-	-	-	-	-					
Cobalt (Co)-Dissolved	mg/L	-	-	-	-	< 0.0001	< 0.0001					
Copper (Cu)-Dissolved	mg/L	Guideline varies with other parameters, see note Guideline = 0.0005	Guideline varies with other parameters, see note Guideline = 0.0004 5-week field average = 0.00107 (US), 0.00074 (DS)	-	-	0.00069	0.00035		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	-	-	-	0.029	0.012					
Lead (Pb)-Dissolved	mg/L	-	Guideline varies with DOC and hardness Guideline: 0.00213 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((0.514*LN(DOC))+(0.214*(LN(Hardness)))+0.4354))/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	-	-	-	-	< 0.0010	< 0.0010					
Magnesium (Mg)-Dissolved	mg/L	-	-	-	-	0.307	0.549					
Manganese (Mn)-Dissolved	mg/L	-	-	-	-	0.00142	0.00123					
Mercury (Hg)-Dissolved	mg/L	-	-	-	-	< 0.0000050	< 0.0000050					
Molybdenum (Mo)-Dissolved	mg/L	-	-	-	-	0.000318	0.00622					
Nickel (Ni)-Dissolved	mg/L	Guideline varies with pH, temperature, DOC, and hardness Guideline: 0.016	Guideline varies with pH, temperature, DOC, and hardness Guideline: 0.00123 5-week field average = 0.000534 (US), 0.000506 (DS)	-	-	< 0.0005	< 0.0005		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	-	-	-	-	0.219	0.396					
Rubidium (Rb)-Dissolved	mg/L	-	-	-	-	0.00034	0.00061					
Selenium (Se)-Dissolved	mg/L	-	-	-	-	< 0.00005	< 0.00005					
Silicon (Si)-Dissolved	mg/L	-	-	-	-	3.64	4.49					
Silver (Ag)-Dissolved	mg/L	-	-	-	-	< 0.000010	< 0.000010					
Sodium (Na)-Dissolved	mg/L	-	-	-	-	1.29	1.89					
Strontium (Sr)-Dissolved	mg/L	-	-	-	-	0.0102	0.0221					
Sulfur (S)-Dissolved	mg/L	-	-	-	-	0.55	0.79					
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	-	-	-	-	0.00058	< 0.00030					
Tungsten (W)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Uranium (U)-Dissolved	mg/L	-	-	-	-	0.00011	0.00033					
Vanadium (V)-Dissolved	mg/L	-	-	-	-	< 0.00050	< 0.00050					
Zinc (Zn)-Dissolved	mg/L	Varies with DOC and hardness Guideline = 0.009	Varies with pH, DOC, hardness Guideline = 0.0049 5-week field average = 0.0015 (US), 0.0025 (DS)	-	-	0.002	0.0021		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, anmd 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) Short-Term (ST) & Long-Term (LT)**										
Color Key:		**Exceeds FAL Short term Guideline**	***Exceeds both FAL and MAL Guidelines***	**Exceeds MAL Short term Guideline**								

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

[2]BC MOECCS. 2021. BC Working Water Qualtiy Guidelines for the Protection of Aquatic Life, Widlife & 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: 0.3-8.0C; Mar-Apr: 3.0-10.2C; May-June: 6.8-15.1C; Jul-present: 12.9-18.2C
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: EAS US1 (Upstream)	Values: EAS DS 1 (Downstream)
pH (field)	pH units	Field pH taken using handheld meters during sampling used in calculations	6.4	7.3
Temperature (field)	°C	Field temperature taken using handheld meters during sampling used in calculations	5.9	6.8
Turbidity (field)	NTU	Field turbidity taken using handheld meters during sampling used in calculations	5.09	0.95
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	6.25	24.3
Dissolved Organic Carbon (DOC)	mg/L	Laboratory tested dissolved organic carbon tested at the lab used in guideline calculations	2.42	1.61
Total Alkalinity ($CaCO_3$)	mg/L	Laboratory tested total alkalinity used in calculations	5.4	26.5
Chloride	mg/L	Laboratory tested chloride taken at each respective sample site on the day of sampling used in guideline calculations	0.79	0.96

Woodfibre Site Receiving Environment Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order	:	**VA24D2007**			
Client	:	**Triton Environmental Consultants Ltd.**	Laboratory	:	ALS Environmental - Vancouver
Contact	:		Account Manager	:	
Address	:		Address	:	
Telephone	:		Telephone	:	
Project	:		Date Samples Received	:	26-Nov-2024 17:10
PO	:		Date Analysis Commenced	:	27-Nov-2024
C-O-C number	:	----	Issue Date	:	04-Dec-2024 15:43
Sampler	:	----			
Site	:	Water Analysis			
Quote number	:	VA23-TRIT100-012			
No. of samples received	:	2			
No. of samples analysed	:	2			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*

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
pH units	pH units
°C	degrees celsius
-	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.

Analytical Results

Sub-Matrix: Water (Matrix: Water)			Client sample ID		WLNG US 1	WLNG DS 1	----	----	----
			Client sampling date / time		26-Nov-2024 10:45	26-Nov-2024 11:16	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D2007-001	VA24D2007-002	----	----	----
					Result	Result	----	----	----
Field Tests									
Conductivity, field	----	EF001/VA	0.10	µS/cm	26.000	70.000	----	----	----
pH, field	----	EF001/VA	0.10	pH units	6.40	7.30	----	----	----
Temperature, field	----	EF001/VA	0.10	°C	5.90	6.80	----	----	----
Physical Tests									
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	6.41	24.8	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	6.25	24.3	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	17	38	----	----	----
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	<3.0	<3.0	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L	5.4	26.5	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0052	0.0063	----	----	----
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	0.79	0.96	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.020	0.084	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.0411	0.0249	----	----	----
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	0.125	0.101	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0287	0.0142	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	2.62	3.19	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.42	1.61	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time	26-Nov-2024 10:45	26-Nov-2024 11:16	----	----	----
						VA24D2007-001	VA24D2007-002	----	----	----
						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		0.102	0.149	----	----	----
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		0.00012	0.00027	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00298	0.00376	----	----	----
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		0.0000105	0.0000052	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		1.99	8.78	----	----	----
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		0.00095	<0.00050	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.040	0.032	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000089	<0.000050	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		<0.0010	<0.0010	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		0.312	0.574	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time	26-Nov-2024 10:45	26-Nov-2024 11:16	----	----	----
						VA24D2007-001	VA24D2007-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00213	0.00237	----	----	----
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		0.000323	0.00619	----	----	----
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		0.051	<0.050	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		0.367	0.427	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00036	0.00060	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	<0.000050	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		3.81	4.58	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		0.000023	<0.000010	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		1.37	1.94	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0101	0.0215	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		0.79	1.12	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	<0.00020	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	<0.000010	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		0.00121	0.00093	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000130	0.000592	----	----	----
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	WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time	26-Nov-2024 10:45	26-Nov-2024 11:16	----	----	----
						VA24D2007-001	VA24D2007-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0073	0.0030	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	----	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L		0.0775	0.0572	----	----	----
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		0.00013	0.00019	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		0.00284	0.00342	----	----	----
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		0.0000071	<0.0000050	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		2.06	9.04	----	----	----
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		0.00069	0.00035	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		0.029	0.012	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L		<0.000050	<0.000050	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		<0.0010	<0.0010	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		0.307	0.549	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.00142	0.00123	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time	26-Nov-2024 10:45	26-Nov-2024 11:16	----	----	----
						VA24D2007-001	VA24D2007-002	----	----	----
						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		0.000318	0.00622	----	----	----
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		0.219	0.396	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00034	0.00061	----	----	----
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		3.64	4.49	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L		<0.000010	<0.000010	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		1.29	1.89	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		0.0102	0.0221	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		0.55	0.79	----	----	----
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		0.00058	<0.00030	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		0.000110	0.000330	----	----	----
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		0.0020	0.0021	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)			Client sample ID		WLNG US 1	WLNG DS 1	----	----	----
			Client sampling date / time		26-Nov-2024 10:45	26-Nov-2024 11:16	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D2007-001	VA24D2007-002	----	----	----
					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	: **VA24D2007**	Page	: 1 of 14
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact	:	Account Manager	:
Address	:	Address	:
Telephone	:	Telephone	:
Project	:	Date Samples Received	: 26-Nov-2024 17:10
PO	:	Issue Date	: 04-Dec-2024 15:43
C-O-C number	: ----		
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

Key

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

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

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

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

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

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

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

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

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			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) WLNG DS 1	E298	26-Nov-2024	28-Nov-2024	28 days	2 days	✓	03-Dec-2024	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) WLNG US 1	E298	26-Nov-2024	28-Nov-2024	28 days	2 days	✓	03-Dec-2024	28 days	7 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE WLNG DS 1	E235.Br-L	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE WLNG US 1	E235.Br-L	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE WLNG DS 1	E235.Cl	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE WLNG US 1	E235.Cl	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE WLNG DS 1	E235.F	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-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										
WLNG US 1	E235.F	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
WLNG DS 1	E235.NO3-L	26-Nov-2024	27-Nov-2024	3 days	1 days	✓	27-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
WLNG US 1	E235.NO3-L	26-Nov-2024	27-Nov-2024	3 days	1 days	✓	27-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
WLNG DS 1	E235.NO2-L	26-Nov-2024	27-Nov-2024	3 days	1 days	✓	27-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
WLNG US 1	E235.NO2-L	26-Nov-2024	27-Nov-2024	3 days	1 days	✓	27-Nov-2024	3 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
WLNG DS 1	E235.SO4	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
WLNG US 1	E235.SO4	26-Nov-2024	27-Nov-2024	28 days	1 days	✓	27-Nov-2024	28 days	1 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid)										
WLNG DS 1	E366	26-Nov-2024	28-Nov-2024	28 days	2 days	✓	28-Nov-2024	28 days	2 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid)										
WLNG US 1	E366	26-Nov-2024	28-Nov-2024	28 days	2 days	✓	28-Nov-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)										
WLNG DS 1	E372-U	26-Nov-2024	28-Nov-2024	28 days	2 days	✓	28-Nov-2024	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
WLNG US 1	E372-U	26-Nov-2024	28-Nov-2024	28 days	2 days	✓	28-Nov-2024	28 days	2 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
WLNG DS 1	E509	26-Nov-2024	03-Dec-2024	28 days	7 days	✓	03-Dec-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
WLNG US 1	E509	26-Nov-2024	03-Dec-2024	28 days	7 days	✓	03-Dec-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
WLNG DS 1	E421	26-Nov-2024	28-Nov-2024	180 days	2 days	✓	29-Nov-2024	180 days	3 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
WLNG US 1	E421	26-Nov-2024	28-Nov-2024	180 days	2 days	✓	29-Nov-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)										
WLNG DS 1	EF001	26-Nov-2024	----	----	----		27-Nov-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)										
WLNG US 1	EF001	26-Nov-2024	----	----	----		27-Nov-2024	----	1 days	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
WLNG DS 1	E358-L	26-Nov-2024	28-Nov-2024	28 days	2 days	✓	28-Nov-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)										
WLNG US 1	E358-L	26-Nov-2024	28-Nov-2024	28 days	2 days	✓	28-Nov-2024	28 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
WLNG DS 1	E290	26-Nov-2024	27-Nov-2024	14 days	1 days	✓	27-Nov-2024	14 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
WLNG US 1	E290	26-Nov-2024	27-Nov-2024	14 days	1 days	✓	27-Nov-2024	14 days	1 days	✓
Physical Tests : TDS by Gravimetry										
HDPE										
WLNG DS 1	E162	26-Nov-2024	----	----	----		29-Nov-2024	7 days	3 days	✓
Physical Tests : TDS by Gravimetry										
HDPE										
WLNG US 1	E162	26-Nov-2024	----	----	----		29-Nov-2024	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
WLNG DS 1	E160	26-Nov-2024	----	----	----		29-Nov-2024	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
WLNG US 1	E160	26-Nov-2024	----	----	----		29-Nov-2024	7 days	3 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
WLNG DS 1	E532	26-Nov-2024	----	----	----		26-Nov-2024	28 days	0 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
WLNG US 1	E532	26-Nov-2024	----	----	----		26-Nov-2024	28 days	1 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) WLNG DS 1	E508	26-Nov-2024	02-Dec-2024	28 days	6 days	✓	02-Dec-2024	28 days	6 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) WLNG US 1	E508	26-Nov-2024	02-Dec-2024	28 days	6 days	✓	02-Dec-2024	28 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) WLNG DS 1	E420	26-Nov-2024	28-Nov-2024	180 days	2 days	✓	29-Nov-2024	180 days	3 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) WLNG US 1	E420	26-Nov-2024	28-Nov-2024	180 days	2 days	✓	29-Nov-2024	180 days	3 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) WLNG DS 1	E395	26-Nov-2024	----	----	----		27-Nov-2024	7 days	1 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) WLNG US 1	E395	26-Nov-2024	----	----	----		27-Nov-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	1785602	1	11	9.0	5.0	✓
Ammonia by Fluorescence	E298	1787212	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1785608	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1785606	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794302	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1785768	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1787208	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1785607	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1785609	1	10	10.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1785610	1	4	25.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1785605	1	11	9.0	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1792002	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1785748	1	19	5.2	5.0	✓
Total Nitrogen by Colourimetry	E366	1787214	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1787210	1	17	5.8	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1785867	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1785602	1	11	9.0	5.0	✓
Ammonia by Fluorescence	E298	1787212	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1785608	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1785606	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794302	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1785768	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1787208	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1785607	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1785609	1	10	10.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1785610	1	4	25.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1785605	1	11	9.0	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1792002	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1785748	1	19	5.2	5.0	✓
Total Nitrogen by Colourimetry	E366	1787214	1	8	12.5	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	1787210	1	17	5.8	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1785867	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1785602	1	11	9.0	5.0	✓
Ammonia by Fluorescence	E298	1787212	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1785608	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1785606	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794302	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1785768	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1787208	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1785607	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1785609	1	10	10.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1785610	1	4	25.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1785605	1	11	9.0	5.0	✓
TDS by Gravimetry	E162	1790009	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1792002	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1785748	1	19	5.2	5.0	✓
Total Nitrogen by Colourimetry	E366	1787214	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1787210	1	17	5.8	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1785867	1	7	14.2	5.0	✓
TSS by Gravimetry	E160	1790007	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1787212	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1785608	1	4	25.0	5.0	✓
Chloride in Water by IC	E235.Cl	1785606	1	7	14.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794302	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1785768	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1787208	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1785607	1	6	16.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1785609	1	10	10.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1785610	1	4	25.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1785605	1	11	9.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1785004	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	1792002	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1785748	1	19	5.2	5.0	✓
Total Nitrogen by Colourimetry	E366	1787214	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1787210	1	17	5.8	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	1785867	1	7	14.2	5.0	✓

Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
TSS by Gravimetry	E160 ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 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.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **VA24D2007**	Page	: 1 of 17
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact	:	Account Manager	:
Address	:	Address	:
Telephone	:	Telephone	:
Project	:	Date Samples Received	: 26-Nov-2024 17:10
PO	:	Date Analysis Commenced	: 26-Nov-2024
C-O-C number	: ----	Issue Date	: 04-Dec-2024 15:43
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*

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: 1785602)											
VA24D1850-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	164	158	3.13%	20%	----
Physical Tests (QC Lot: 1790007)											
FJ2403573-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	8.7	9.9	1.2	Diff <2x LOR	----
Physical Tests (QC Lot: 1790009)											
FJ2403573-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	290	302	4.05%	20%	----
Anions and Nutrients (QC Lot: 1785605)											
VA24D1939-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	502	500	0.375%	20%	----
Anions and Nutrients (QC Lot: 1785606)											
VA24D1939-001	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	66.3	66.1	0.255%	20%	----
Anions and Nutrients (QC Lot: 1785607)											
VA24D1939-001	Anonymous	Fluoride	16984-48-8	E235.F	0.100	mg/L	0.376	0.374	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1785608)											
VA24D1939-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.250	mg/L	0.260	0.273	0.013	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1785609)											
VA24D1939-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	1.22	1.22	0.0496%	20%	----
Anions and Nutrients (QC Lot: 1785610)											
VA24D1939-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1787210)											
VA24D1876-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0173	0.0183	0.0010	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1787212)											
VA24D1876-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.500	mg/L	12.3	12.1	1.81%	20%	----
Anions and Nutrients (QC Lot: 1787214)											
VA24D1876-001	Anonymous	Nitrogen, total	7727-37-9	E366	15.0	mg/L	108	98.6	9.09	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1787208)											
VA24D1876-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	49.9	52.8	5.64%	20%	----
Total Sulfides (QC Lot: 1785867)											
VA24D2004-001	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: 1785748)											
VA24D1939-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0094	0.0088	0.0006	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: 1785748) - continued											
VA24D1939-001	Anonymous	Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00076	0.00077	0.000008	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0903	0.0894	0.903%	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	0.039	0.038	0.0008	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	156	154	1.48%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000012	0.000011	0.000001	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	0.00130	0.00130	0.000004	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.021	0.020	0.0009	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0094	0.0091	0.0003	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.100	mg/L	53.4	53.2	0.354%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0226	0.0224	0.905%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0405	0.0409	1.05%	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	0.300	mg/L	<0.300	<0.300	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	12.9	12.4	3.50%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00170	0.00153	0.00017	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000477	0.000480	0.000002	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	13.3	13.2	0.644%	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	82.3	81.9	0.426%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	1.11	1.12	1.26%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	185	184	0.650%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	0.00022	0.00023	0.000008	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	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00397	0.00408	2.66%	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: 1785748) - continued											
VA24D1939-001	Anonymous	Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00207	0.00210	0.00003	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: 1792002)											
VA24D1962-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1785768)											
VA24D1844-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00012	0.00013	0.000003	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00300	0.00286	4.60%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0745	0.0743	0.263%	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	0.00134	0.00134	0.596%	20%	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	175	175	0.128%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.00159	0.00164	3.08%	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	0.00012	0.00013	0.00001	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00300	0.00287	4.12%	20%	----
		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	0.0117	0.0120	2.65%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.100	mg/L	43.8	44.2	0.960%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0196	0.0190	3.41%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00102	0.00104	2.12%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.0114	0.0112	1.57%	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	1.80	1.79	0.573%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00408	0.00398	2.30%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.0275	0.0271	1.18%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	9.36	9.08	2.94%	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	12.1	11.6	3.98%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.511	0.508	0.625%	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: 1785768) - continued											
VA24D1844-001	Anonymous	Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	20.5	20.5	0.178%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	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	0.00436	0.00429	1.66%	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	0.0789	0.0780	1.14%	20%	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1794302)											
VA24D1844-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1785004)											
FJ2403566-004	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: 1785602)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1790007)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1790009)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1785605)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1785606)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1785607)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1785608)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1785609)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1785610)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1787210)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1787212)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1787214)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Organic / Inorganic Carbon (QCLot: 1787208)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1785867)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1785748)						
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: 1785748) - 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: 1792002)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1785768)						
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: 1785768) - 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: 1794302)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1785004)						
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: 1785602)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1790007)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	99.5	85.0	115	----
Physical Tests (QCLot: 1790009)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1785605)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	98.6	90.0	110	----
Anions and Nutrients (QCLot: 1785606)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	97.4	90.0	110	----
Anions and Nutrients (QCLot: 1785607)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.2	90.0	110	----
Anions and Nutrients (QCLot: 1785608)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	107	85.0	115	----
Anions and Nutrients (QCLot: 1785609)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	97.7	90.0	110	----
Anions and Nutrients (QCLot: 1785610)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	97.9	90.0	110	----
Anions and Nutrients (QCLot: 1787210)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	95.5	80.0	120	----
Anions and Nutrients (QCLot: 1787212)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	112	85.0	115	----
Anions and Nutrients (QCLot: 1787214)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	99.2	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1787208)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	114	80.0	120	----
Total Sulfides (QCLot: 1785867)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	100	80.0	120	----
Total Metals (QCLot: 1785748)									

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: 1785748) - continued									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	107	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	107	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	101	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	97.9	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	97.7	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	95.5	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	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	95.0	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	103	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	101	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	109	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	96.6	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	102	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	105	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	106	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	110	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	91.0	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	97.0	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	95.9	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	95.6	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	104	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	99.3	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.3	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	104	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	104	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: 1785748) - continued									
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	107	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.7	80.0	120	----
Total Metals (QCLot: 1792002)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	100	80.0	120	----
Dissolved Metals (QCLot: 1785768)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	96.4	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	101	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	102	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	97.0	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	97.7	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	97.0	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	101	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	96.6	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.5	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	98.8	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	98.6	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.4	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	99.7	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	95.5	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	99.2	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	93.6	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	100	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	98.1	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	96.0	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	93.5	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	98.8	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	99.3	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	100	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	96.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	99.6	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	90.2	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: 1785768) - continued									
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	96.4	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	97.1	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.4	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	92.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	96.0	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	98.7	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	100.0	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	98.9	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	96.5	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	100	80.0	120	----
Speciated Metals (QCLot: 1785004)									
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: 1785605)										
VA24D2007-001	WLNG US 1	Sulfate (as SO4)	14808-79-8	E235.SO4	103 mg/L	100 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1785606)										
VA24D2007-001	WLNG US 1	Chloride	16887-00-6	E235.Cl	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1785607)										
VA24D2007-001	WLNG US 1	Fluoride	16984-48-8	E235.F	1.05 mg/L	1 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1785608)										
VA24D2007-001	WLNG US 1	Bromide	24959-67-9	E235.Br-L	0.552 mg/L	0.5 mg/L	110	75.0	125	----
Anions and Nutrients (QCLot: 1785609)										
VA24D2007-001	WLNG US 1	Nitrate (as N)	14797-55-8	E235.NO3-L	2.56 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1785610)										
VA24D2007-001	WLNG US 1	Nitrite (as N)	14797-65-0	E235.NO2-L	0.516 mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1787210)										
VA24D1876-003	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0468 mg/L	0.05 mg/L	93.6	70.0	130	----
Anions and Nutrients (QCLot: 1787212)										
VA24D1876-003	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1787214)										
VA24D1876-003	Anonymous	Nitrogen, total	7727-37-9	E366	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1787208)										
VA24D1876-003	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Total Sulfides (QCLot: 1785867)										
VA24D2007-001	WLNG US 1	Sulfide, total (as S)	18496-25-8	E395	0.184 mg/L	0.2 mg/L	92.2	75.0	125	----
Total Metals (QCLot: 1785748)										
VA24D1968-001	Anonymous	Aluminum, total	7429-90-5	E420	0.197 mg/L	0.2 mg/L	98.3	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0197 mg/L	0.02 mg/L	98.3	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0211 mg/L	0.02 mg/L	105	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0374 mg/L	0.04 mg/L	93.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00968 mg/L	0.01 mg/L	96.8	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00414 mg/L	0.004 mg/L	104	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00963 mg/L	0.01 mg/L	96.3	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0390 mg/L	0.04 mg/L	97.5	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: 1785748) - continued										
VA24D1968-001	Anonymous	Cobalt, total	7440-48-4	E420	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Copper, total	7440-50-8	E420	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Iron, total	7439-89-6	E420	ND mg/L	----	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.0196 mg/L	0.02 mg/L	98.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0887 mg/L	0.1 mg/L	88.7	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	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.1 mg/L	10 mg/L	101	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	0.0406 mg/L	0.04 mg/L	101	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00378 mg/L	0.004 mg/L	94.6	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.9 mg/L	20 mg/L	99.5	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00390 mg/L	0.004 mg/L	97.4	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0180 mg/L	0.02 mg/L	90.3	70.0	130	----
		Tin, total	7440-31-5	E420	0.0195 mg/L	0.02 mg/L	97.6	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0404 mg/L	0.04 mg/L	101	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00424 mg/L	0.004 mg/L	106	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.373 mg/L	0.4 mg/L	93.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
Total Metals (QCLot: 1792002)										
VA24D1963-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000927 mg/L	0 mg/L	92.7	70.0	130	----
Dissolved Metals (QCLot: 1785768)										
VA24D1844-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.367 mg/L	0.4 mg/L	91.8	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	ND mg/L	----	ND	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.0381 mg/L	0.04 mg/L	95.3	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0756 mg/L	0.08 mg/L	94.6	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0176 mg/L	0.02 mg/L	88.2	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.197 mg/L	0.2 mg/L	98.3	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00751 mg/L	0.008 mg/L	93.9	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0749 mg/L	0.08 mg/L	93.6	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0377 mg/L	0.04 mg/L	94.2	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1785768) - continued										
VA24D1844-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0367 mg/L	0.04 mg/L	91.7	70.0	130	----
		Iron, dissolved	7439-89-6	E421	ND mg/L	----	ND	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0367 mg/L	0.04 mg/L	91.6	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.184 mg/L	0.2 mg/L	92.2	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	0.0400 mg/L	0.04 mg/L	99.9	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0719 mg/L	0.08 mg/L	89.9	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	18.7 mg/L	20 mg/L	93.6	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	7.58 mg/L	8 mg/L	94.8	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0847 mg/L	0.08 mg/L	106	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	ND mg/L	----	ND	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00767 mg/L	0.008 mg/L	95.9	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	0.0828 mg/L	0.08 mg/L	103	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00727 mg/L	0.008 mg/L	90.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0337 mg/L	0.04 mg/L	84.3	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0383 mg/L	0.04 mg/L	95.7	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0784 mg/L	0.08 mg/L	98.0	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0371 mg/L	0.04 mg/L	92.8	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.196 mg/L	0.2 mg/L	97.8	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.728 mg/L	0.8 mg/L	91.1	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0778 mg/L	0.08 mg/L	97.2	70.0	130	----
Dissolved Metals (QCLot: 1794302)										
VA24D1844-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000984 mg/L	0 mg/L	98.4	70.0	130	----
Speciated Metals (QCLot: 1785004)										
FJ2403566-005	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.260 mg/L	0.25 mg/L	104	70.0	130	----

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

Report To	Contact and company name below will appear on the final report
Company:	Triton Environmental
Contact:	
Phone:	
Street:	
City/Province:	
Postal Code:	

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
Email 1 or Fax	
Email 2	
Email 3	

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 4 DEC 24

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

Invoice To		
	Same as Report To	☐ YES ☑ NO
	Copy of Invoice with Report	☐ YES ☑ NO
Company:		
Contact:		

Invoice Distribution	
Select Invoice Distribution:	☑ EMAIL ☑ MAIL ☑ FAX
Email 1 or Fax	
Email 2	

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

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (lab use only): VA24D2007

ALS Contact: Can Dang **Sampler:**

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 detail	NUMBER OF CONTAINERS
					F						P	P			F/P						
	WLNG US 1	26-NOV-24	10:45	Water	R	R	R	R	R	R	R	R	R	R	R					N	9
	pH: 6.4 cond: 26 µS/cm temp: 5.9 °C																				
	WLNG DS 1	26-NOV-24	11:16	Water	R	R	R	R	R	R	R	R	R	R	R					N	9
	pH: 7.3 cond: 70 µS/cm temp: 6.8 °C																				

Environmental Division Vancouver

Work Order Reference

VA24D2007

Telephone : +1 604 253 4188

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to (ele
Are samples taken from a Regulated DW System? ☐ ☑ NO	
Are samples for human consumption/ use? ☐ ☑ NO	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			
				6			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
	26 NOV 24	17:00					Nov 26	5:10pm

RE TIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY SEP 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.**

Woodfibre Site Receiving Environment Field Notes and Logs

FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-11-26-Chycoski-E4CFA

Project Component:	Tunnel	**Site Name:**	Receiving Environment - Downstream of Discharge
Inspection Date:	11/26/2024	**Location:**	WLNG
Triton QP:	Lily Chycoski	**Latitude/Longitude:**	49.669246 -123.248128
Temperature(c):	Low 2 High 7	**Permit:**	PE 110136
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 11:16:13 **Flow Volume (visual):** moderate

Notes:

Odour Detected?:	No	**Notes:**	
Unusual Colour?	No	**Notes:**	
Unusual Observations?	No	**Notes:**	
Sheen on Water?	No	**Notes:**	

Samples Collected - Parameters

Total Metals + Mercury	Yes	**General Parameters (Alkalinity)**	Yes	**Other Sample:**	
Dissolved Metals + Mercury	Yes	**Total Sulfide, Unionized Sulfide**	Yes		
TSS	Yes	**Anions**	Yes		
TDS	Yes	**Total Trivalent Chromium**	Yes	**QA Samples:**	No
Nutrients	Yes	**VOC/VPH**	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

Removed wiper to try and diagnose data transmission error. Calibrated pH, and restarted sonde to try and fix error. Left deployed in East Creek to see if problem is resolved over time.

Photos

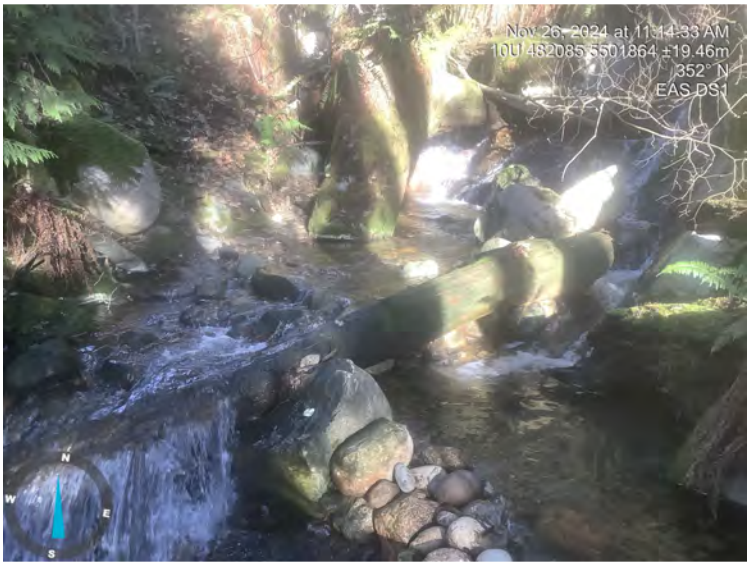


Photo: 1

Location: EAS DS 1

Description: US view

Photo: 2

Location: EAS DS 1

Description: Across view

Photos

Photo: 3

Location: EAS DS 1

Description: DS view

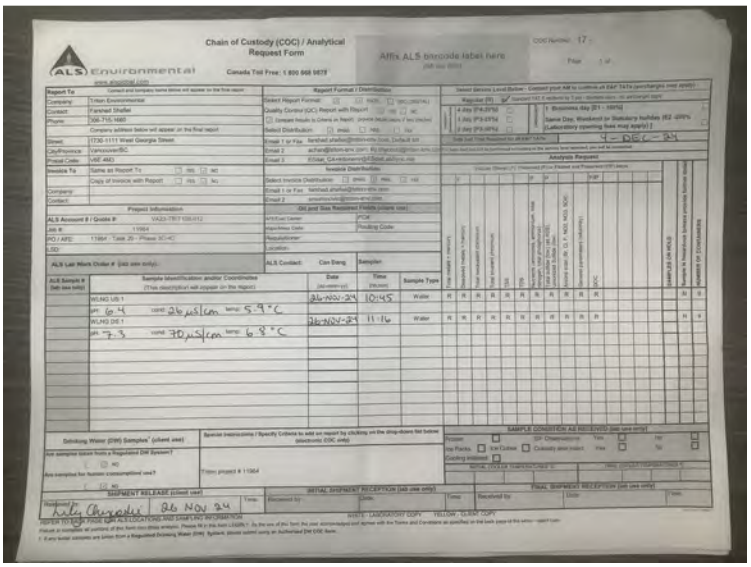


Photo: 4

Location: EAS DS 1

Description: Lab COC

Sign Off

Report Prepared By:	Lily Chycoski	**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

2024-11-26-Chycoski-A15F1

Project Component:	Tunnel	**Site Name:**	Receiving Environment - Upstream of Discharge
Inspection Date:	11/26/2024	**Location:**	WLNG
Triton QP:	Lily Chycoski	**Latitude/Longitude:**	49.669455 -123.25087
Temperature(c):	Low 2 High 7	**Permit:**	PE 110136
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 10:45:38 **Flow Volume (visual):** moderate

Notes:

Odour Detected?:	No	**Notes:**	
Unusual Colour?	No	**Notes:**	
Unusual Observations?	No	**Notes:**	
Sheen on Water?	No	**Notes:**	

Samples Collected - Parameters

Total Metals + Mercury	Yes	**General Parameters (Alkalinity)**	Yes	**Other Sample:**	
Dissolved Metals + Mercury	Yes	**Total Sulfide, Unionized Sulfide**	Yes		
TSS	Yes	**Anions**	Yes		
TDS	Yes	**Total Trivalent Chromium**	Yes	**QA Samples:**	No
Nutrients	Yes	**VOC/VPH**	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: EAS US 1

Description: US view

Photo: 2

Location: EAS US 1

Description: Across view

Photos

Photo: 3

Location: EAS US 1

Description: DS view

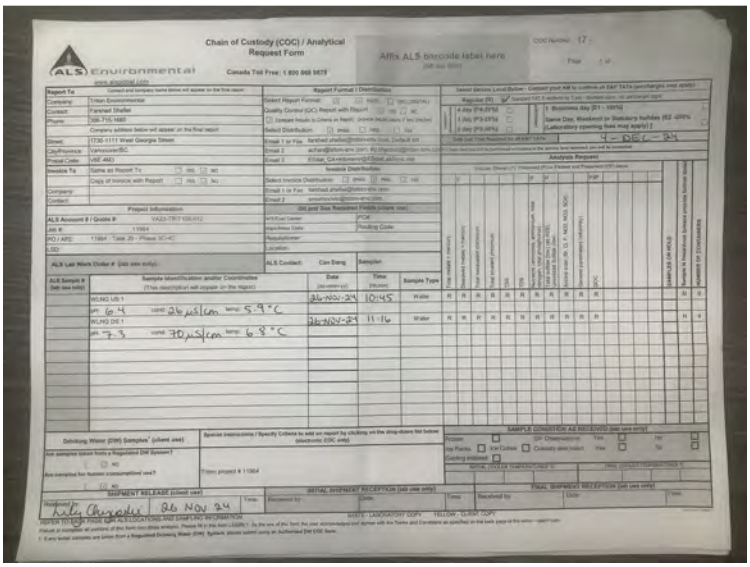


Photo: 4

Location: EAS US 1

Description: Lab COC

Sign Off

Report Prepared By:	Lily Chycoski	**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)
11/25/2024 0:00	6.9	24.2	7.2	11.1	0.0	5.2	11/25/2024 0:00	7.0	18.9	7.3	10.9	0.0	0.1
11/25/2024 0:15	6.9	24.1	7.2	11.1	0.0	5.3	11/25/2024 0:15	7.0	18.7	7.2	10.9	0.0	0.1
11/25/2024 0:30	6.9	24.0	7.2	11.1	0.0	4.9	11/25/2024 0:30	7.1	18.6	7.2	10.9	0.0	0.1
11/25/2024 0:45	6.9	24.1	7.1	11.1	0.0	5.0	11/25/2024 0:45	7.0	18.5	7.2	10.9	0.0	0.1
11/25/2024 1:00	7.7	57.3	0.0	7.2	11.0	4.8	11/25/2024 1:00	7.2	18.8	0.0	7.0	10.9	0.4
11/25/2024 1:15	7.6	50.0	0.0	7.3	11.0	5.3	11/25/2024 1:15	7.2	18.5	0.0	7.0	10.9	0.0
11/25/2024 1:30	7.2	26.8	0.0	7.3	11.1	4.9	11/25/2024 1:30	7.2	18.4	0.0	7.1	10.9	0.1
11/25/2024 1:45	7.1	25.3	0.0	7.1	11.1	5.4	11/25/2024 1:45	7.2	18.6	0.0	7.1	10.9	0.1
11/25/2024 2:00	7.1	24.6	0.0	7.0	11.1	5.0	11/25/2024 2:00	7.1	18.4	0.0	6.9	10.9	0.3
11/25/2024 2:15	7.1	25.2	0.0	7.0	11.1	5.0	11/25/2024 2:15	7.1	18.3	0.0	7.0	10.9	0.2
11/25/2024 2:30	7.6	57.8	0.0	7.2	11.0	7.5	11/25/2024 2:30	7.1	18.3	0.0	7.1	10.9	0.2
11/25/2024 2:45	7.7	58.5	0.0	7.4	11.0	4.9	11/25/2024 2:45	7.1	18.1	0.0	7.0	10.9	0.8
11/25/2024 3:00	7.3	28.3	0.0	7.5	11.0	5.0	11/25/2024 3:00	7.1	18.2	0.0	7.0	10.9	0.1
11/25/2024 3:15	7.6	58.2	0.0	7.3	11.0	5.3	11/25/2024 3:15	7.1	18.0	0.0	6.9	10.9	0.1
11/25/2024 3:30	7.7	58.9	0.0	7.4	11.0	4.8	11/25/2024 3:30	7.1	18.1	0.0	7.1	10.9	0.1
11/25/2024 3:45	7.3	29.1	0.0	7.5	11.0	5.5	11/25/2024 3:45	7.1	18.1	0.0	6.9	10.9	1.0
11/25/2024 4:00	7.1	24.4	0.0	7.2	11.1	4.8	11/25/2024 4:00	7.0	18.1	0.0	7.1	10.9	0.1
11/25/2024 4:15	7.0	24.1	0.0	7.1	11.1	4.9	11/25/2024 4:15	7.0	18.2	0.0	7.0	10.9	0.2
11/25/2024 4:30	7.0	23.9	0.0	7.0	11.2	4.8	11/25/2024 4:30	7.0	18.2	0.0	6.9	10.9	0.3
11/25/2024 4:45	6.9	23.8	0.0	7.0	11.2	5.0	11/25/2024 4:45	7.0	18.2	0.0	6.8	10.9	0.1
11/25/2024 5:00	6.9	23.7	0.0	7.0	11.2	4.8	11/25/2024 5:00	7.0	18.2	0.0	7.0	11.0	0.2
11/25/2024 5:15	6.9	23.6	0.0	6.9	11.2	5.0	11/25/2024 5:15	6.9	18.4	0.0	6.9	11.0	0.5
11/25/2024 5:30	6.8	24.3	0.0	6.9	11.2	5.2	11/25/2024 5:30	6.9	18.1	0.0	7.1	11.0	0.1
11/25/2024 5:45	7.2	51.6	0.0	7.0	11.1	5.5	11/25/2024 5:45	6.9	18.3	0.0	7.0	11.0	0.5
11/25/2024 6:00	7.4	58.1	0.0	7.2	11.1	5.5	11/25/2024 6:00	6.9	17.9	0.0	6.9	11.0	0.4
11/25/2024 6:15	7.5	60.0	0.0	7.4	11.0	5.1	11/25/2024 6:15	6.8	17.8	0.0	7.0	11.0	0.3
11/25/2024 6:30	7.5	60.2	0.0	7.4	11.0	4.9	11/25/2024 6:30	6.8	17.8	0.0	7.0	11.0	0.7
11/25/2024 6:45	7.0	29.8	0.0	7.5	11.1	5.5	11/25/2024 6:45	6.8	17.6	0.0	7.1	11.0	0.5
11/25/2024 7:00	6.8	25.3	0.0	7.2	11.2	6.4	11/25/2024 7:00	6.8	17.5	0.0	6.9	11.0	0.4
11/25/2024 7:15	6.7	24.2	0.0	7.1	11.2	5.5	11/25/2024 7:15	6.7	17.5	0.0	6.9	11.0	0.2
11/25/2024 7:30	6.6	23.6	0.0	7.0	11.3	5.9	11/25/2024 7:30	6.7	17.4	0.0	7.1	11.0	0.3
11/25/2024 7:45	6.6	23.2	0.0	7.0	11.3	5.4	11/25/2024 7:45	6.7	17.4	0.0	7.0	11.0	0.2
11/25/2024 8:00	6.6	23.1	0.0	6.9	11.3	5.4	11/25/2024 8:00	6.7	17.4	0.0	6.9	11.0	0.2
11/25/2024 8:15	6.5	23.6	0.0	6.9	11.3	5.2	11/25/2024 8:15	6.6	17.5	0.0	7.0	11.1	0.2
11/25/2024 8:30	7.1	58.6	0.0	7.1	11.1	5.1	11/25/2024 8:30	6.6	17.5	0.0	7.0	11.1	0.1
11/25/2024 8:45	7.2	60.1	0.0	7.3	11.1	4.7	11/25/2024 8:45	6.6	17.5	0.0	7.0	11.1	0.2
11/25/2024 9:00	7.3	60.3	0.0	7.4	11.1	4.7	11/25/2024 9:00	6.6	17.2	0.0	7.0	11.1	0.1
11/25/2024 9:15	7.3	60.3	0.0	7.5	11.1	4.7	11/25/2024 9:15	6.5	17.1	0.0	7.0	11.1	0.2
11/25/2024 9:30	6.6	25.3	0.0	7.4	11.3	5.0	11/25/2024 9:30	6.5	17.2	0.0	6.8	11.1	0.1
11/25/2024 9:45	6.5	23.9	0.0	7.1	11.3	4.9	11/25/2024 9:45	6.5	17.3	0.0	6.9	11.1	0.1
11/25/2024 10:00	6.5	23.3	0.0	7.1	11.3	5.1	11/25/2024 10:00	6.5	17.1	0.0	7.0	11.1	0.2
11/25/2024 10:15	6.5	22.9	0.0	7.0	11.3	5.1	11/25/2024 10:15	6.5	17.2	0.0	7.0	11.1	0.1
11/25/2024 10:30	6.5	22.7	0.0	6.9	11.3	4.9	11/25/2024 10:30	6.6	16.9	0.0	7.0	11.1	0.1
11/25/2024 10:45	6.5	22.6	0.0	6.9	11.3	4.9	11/25/2024 10:45	6.6	16.9	0.0	7.0	11.1	0.0
11/25/2024 11:00	6.5	22.8	0.0	6.9	11.3	5.1	11/25/2024 11:00	6.6	17.2	0.0	7.0	11.1	0.1
11/25/2024 11:15	6.6	25.2	0.0	6.9	11.3	5.0	11/25/2024 11:15	6.7	16.8	0.0	7.1	11.1	0.1
11/25/2024 11:30	7.3	60.2	0.0	7.3	11.1	4.8	11/25/2024 11:30	6.7	16.8	0.0	7.1	11.1	0.1
11/25/2024 11:45	7.4	60.7	0.0	7.4	11.1	4.6	11/25/2024 11:45	6.7	16.7	0.0	7.1	11.1	0.1
11/25/2024 12:00	7.5	60.8	0.0	7.5	11.1	4.8	11/25/2024 12:00	6.7	16.8	0.0	7.1	11.1	0.1
11/25/2024 12:15	6.9	25.0	0.0	7.3	11.2	4.9	11/25/2024 12:15	6.8	16.9	0.0	6.9	11.1	0.1
11/25/2024 12:30	6.8	23.5	0.0	7.1	11.2	4.9	11/25/2024 12:30	6.8	16.9	0.0	7.0	11.1	0.1
11/25/2024 12:45	6.8	22.8	0.0	7.0	11.2	4.9	11/25/2024 12:45	6.8	16.8	0.0	6.9	11.0	0.0
11/25/2024 13:00	6.8	22.5	0.0	7.0	11.2	5.0	11/25/2024 13:00	6.9	16.7	0.0	7.0	11.1	0.1
11/25/2024 13:15	6.8	22.3	0.0	7.0	11.2	4.9	11/25/2024 13:15	6.9	16.7	0.0	7.0	11.0	0.1
11/25/2024 13:30	6.9	23.0	0.0	6.9	11.2	4.8	11/25/2024 13:30	6.9	16.6	0.0	6.8	11.0	0.1
11/25/2024 13:45	7.4	57.6	0.0	7.0	11.1	4.8	11/25/2024 13:45	6.9	16.5	0.0	7.0	11.0	0.0
11/25/2024 14:00	7.7	60.7	0.0	7.4	11.0	4.8	11/25/2024 14:00	6.9	16.3	0.0	7.1	11.0	0.0
11/25/2024 14:15	7.4	29.9	0.0	7.5	11.0	4.7	11/25/2024 14:15	7.0	16.4	0.0	6.8	11.0	0.1
11/25/2024 14:30	7.0	23.5	0.0	7.2	11.2	4.8	11/25/2024 14:30	7.0	16.1	0.0	7.0	11.0	0.0
11/25/2024 14:45	7.0	22.4	0.0	7.1	11.2	4.9	11/25/2024 14:45	7.0	16.1	0.0	7.1	11.0	0.0
11/25/2024 15:00	6.9	23.2	0.0	7.0	11.2	4.8	11/25/2024 15:00	7.0	16.0	0.0	7.0	11.0	0.0
11/25/2024 15:15	7.6	60.0	0.0	7.2	11.0	4.6	11/25/2024 15:15	7.0	16.1	0.0	7.0	11.0	0.0
11/25/2024 15:30	7.7	58.6	0.0	7.4	11.0	4.6	11/25/2024 15:30	7.0	15.9	0.0	6.9	11.0	0.0
11/25/2024 15:45	7.0	23.7	0.0	7.3	11.1	4.8	11/25/2024 15:45	7.0	16.0	0.0	7.0	11.0	0.1
11/25/2024 16:00	7.0	22.9	0.0	7.1	11.2	4.7	11/25/2024 16:00	7.0	15.9	0.0	7.0	11.0	0.0
11/25/2024 16:15	7.0	28.9	0.0	7.0	11.2	4.8	11/25/2024 16:15	7.0	15.9	0.0	6.9	11.0	0.0
11/25/2024 16:30	7.7	61.1	0.0	7.4	11.0	4.6	11/25/2024 16:30	6.9	16.0	0.0	7.0	11.0	0.0
11/25/2024 16:45	7.7	61.6	0.0	7.4	11.0	9.0	11/25/2024 16:45	6.9	15.9	0.0	7.0	11.0	0.0
11/25/2024 17:00	7.4	40.2	0.0	7.5	11.0	4.9	11/25/2024 17:00	6.9	15.9	0.0	7.0	11.0	0.0
11/25/2024 17:15	6.9	23.9	0.0	7.2	11.2	4.7	11/25/2024 17:15	6.8	15.8	0.0	7.0	11.0	0.1
11/25/2024 17:30	6.8	22.8	0.0	7.1	11.2	4.9	11/25/2024 17:30	6.8	15.9	0.0	7.0	11.0	0.0
11/25/2024 17:45	6.7	22.4	0.0	7.0	11.3	4.7	11/25/2024 17:45	6.7	15.9	0.0	7.0	11.0	0.1
11/25/2024 18:00	6.6	22.1	0.0	6.9	11.3	4.8	11/25/2024 18:00	6.7	15.8	0.0	7.0	11.0	0.0
11/25/2024 18:15	6.6	22.6	0.0	6.9	11.3	5.0	11/25/2024 18:15	6.7	15.8	0.0	7.0	11.1	0.0
11/25/2024 18:30	6.9	46.9	0.0	6.9	11.3	5.1	11/25/2024 18:30	6.6	15.9	0.0	6.9	11.1	0.0
11/25/2024 18:45	7.4	62.6	0.0	7.3	11.1	4.6	11/25/2024 18:45	6.6	16.0	0.0	7.0	11.1	0.0
11/25/2024 19:00	6.8	26.0	0.0	7.4	11.2	4.8	11/25/2024 19:00	6.6	16.1	0.0	7.0	11.1	0.0
11/25/2024 19:15	6.6	23.2	0.0	7.1	11.3	5.1	11/25/2024 19:15	6.5	15.9	0.0	7.0	11.1	0.0
11/25/2024 19:30	6.5	23.5	0.0	7.0	11.3	4.8	11/25/2024 19:30	6.5	15.9	0.0	6.9	11.1	0.0
11/25/2024 19:45	7.2	62.3	0.0	7.2	11.1	4.7	11/25/2024 19:45	6.5	16.1	0.0	6.7	11.1	0.0
11/25/2024 20:00	7.3	63.5	0.0	7.4	11.1	4.7	11/25/2024 20:00	6.5	15.9	0.0	7.0	11.1	0.0
11/25/2024 20:15	7.3	63.7	0.0	7.5	11.1	4.8	11/25/2024 20:15	6.4	15.8	0.0	7.0	11.1	0.0
11/25/2024 20:30	7.3	63.9	0.0	7.5	11.1	5.0	11/25/2024 20:30	6.4	15.9	0.0	7.0	11.1	0.0
11/25/2024 20:45	6.5	25.1	0.0	7.4	11.3	4.7	11/25/2024 20:45	6.4	15.8	0.0	7.0	11.1	0.0
11/25/2024 21:00	6.4	23.2	0.0	7.2	11.4	4.8	11/25/2024 21:00	6.4	16.0	0.0	7.0	11.2	0.0
11/25/2024 21:15	6.3	22.5	0.0	7.1	11.4	4.8	11/25/2024 21:15	6.3	15.8	0.0	7.0	11.2	0.0
11/25/2024 21:30	6.2	22.2	0.0	7.0	11.4	4.7	11/25/2024 21:30	6.3	16.0	0.0	7.0	11.2	0.0
11/25/2024 21:45	6.2	22.0	0.0	6.9	11.4	4.8	11/25/2024 21:45	6.3	15.9	0.0	7.0	11.2	0.0
11/25/2024 22:00	6.2	22.0	0.0	6.9	11.4	4.8	11/25/2024 22:00	6.2	15.9	0.0	7.0	11.2	0.0
11/25/2024 22:15	6.9	62.2	0.0	7.1	11.2	4.7	11/25/2024 22:15	6.2	15.9	0.0	6.9	11.2	0.0
11/25/2024 22:30	7.0	62.3	0.0	7.4	11.2	4.7	11/25/2024 22:30	6.2	15.7	0.0	7.0	11.2	0.0
11/25/2024 22:45	6.5	40.8	0.0	7.3	11.4	6.0	11/25/2024 22:45	6.2	15.4	0.0	7.0	11.2	0.1
11/25/2024 23:00	7.0	63.4	0.0	7.4	11.2	5.0	11/25/2024 23:00	6.2	15.3	0.0	7.0	11.2	0.0
11/25/2024 23:15	6.5	28.4	0.0	7.5	11.3	4.8	11/25/2024 23:15	6.1	15.3	0.0	6.9	11.2	0.0
11/25/2024 23:30	6.2	24.1	0.0	7.2	11.4	4.7	11/25/2024 23:30	6.1	15.6	0.0	6.9	11.2	0.0
11/25/2024 23:45	6.1	22.8	0.0	7.0	11.5	4.7	11/25/2024 23:45	6.1	15.6	0.0	6.9	11.2	0.0
11/26/2024 0:00	6.3	50.0	0.0	6.9	11.4	4.8	11/26/2024 0:00	6.1	15.6	0.0	7.0	11.2	0.0

11/26/2024 0:15	6.7	55.2	0.0	7.4	11.3	4.6	11/26/2024 0:15	6.1	15.5	0.0	7.0	11.3	0.0
11/26/2024 0:30	6.7	50.0	0.0	7.4	11.2	5.1	11/26/2024 0:30	6.0	15.3	0.0	6.8	11.2	0.0
11/26/2024 0:45	6.1	25.1	0.0	7.3	11.5	4.7	11/26/2024 0:45	6.0	15.4	0.0	7.0	11.3	0.0
11/26/2024 1:00	6.0	23.3	0.0	7.1	11.5	5.1	11/26/2024 1:00	6.0	15.3	0.0	6.9	11.3	0.0
11/26/2024 1:15	5.9	22.1	0.0	7.0	11.5	4.8	11/26/2024 1:15	6.0	15.3	0.0	7.0	11.3	0.0
11/26/2024 1:30	5.9	21.7	0.0	7.0	11.5	5.0	11/26/2024 1:30	6.0	15.2	0.0	7.0	11.3	0.2
11/26/2024 1:45	5.8	21.4	0.0	6.9	11.5	4.7	11/26/2024 1:45	5.9	15.2	0.0	6.8	11.3	0.0
11/26/2024 2:00	5.8	21.3	0.0	7.0	11.5	4.6	11/26/2024 2:00	5.9	14.8	0.0	7.0	11.3	0.0
11/26/2024 2:15	5.8	21.7	0.0	6.9	11.5	4.6	11/26/2024 2:15	5.9	15.1	0.0	7.0	11.3	0.0
11/26/2024 2:30	6.0	48.4	0.0	6.9	11.5	5.0	11/26/2024 2:30	5.9	15.1	0.0	7.0	11.3	0.0
11/26/2024 2:45	6.6	63.3	0.0	7.3	11.3	5.4	11/26/2024 2:45	5.9	15.0	0.0	7.0	11.3	0.0
11/26/2024 3:00	6.7	63.7	0.0	7.4	11.3	4.6	11/26/2024 3:00	5.9	15.0	0.0	6.9	11.3	0.0
11/26/2024 3:15	6.7	63.8	0.0	7.5	11.3	4.7	11/26/2024 3:15	5.9	14.9	0.0	7.0	11.3	0.0
11/26/2024 3:30	6.2	34.0	0.0	7.6	11.3	4.6	11/26/2024 3:30	5.8	14.8	0.0	7.0	11.3	0.0
11/26/2024 3:45	5.8	23.1	0.0	7.3	11.5	4.6	11/26/2024 3:45	5.8	14.8	0.0	7.0	11.3	0.0
11/26/2024 4:00	5.7	21.6	0.0	7.1	11.6	4.6	11/26/2024 4:00	5.8	14.8	0.0	7.0	11.3	0.0
11/26/2024 4:15	5.7	21.3	0.0	7.0	11.6	4.8	11/26/2024 4:15	5.8	14.8	0.0	7.0	11.3	0.0
11/26/2024 4:30	5.8	40.3	0.0	6.9	11.6	4.8	11/26/2024 4:30	5.7	14.8	0.0	7.0	11.3	0.0
11/26/2024 4:45	6.4	63.0	0.0	7.3	11.4	5.3	11/26/2024 4:45	5.7	14.8	0.0	7.0	11.4	0.0
11/26/2024 5:00	6.6	63.7	0.0	7.4	11.3	4.5	11/26/2024 5:00	5.7	14.8	0.0	7.0	11.3	0.0
11/26/2024 5:15	6.0	27.4	0.0	7.5	11.4	4.8	11/26/2024 5:15	5.7	14.7	0.0	7.0	11.4	0.0
11/26/2024 5:30	5.7	22.3	0.0	7.2	11.6	4.6	11/26/2024 5:30	5.7	14.4	0.0	7.0	11.4	0.1
11/26/2024 5:45	6.1	50.5	0.0	7.1	11.5	4.7	11/26/2024 5:45	5.7	14.6	0.0	7.0	11.4	0.1
11/26/2024 6:00	6.3	54.5	0.0	7.3	11.4	5.1	11/26/2024 6:00	5.6	14.2	0.0	6.9	11.4	0.0
11/26/2024 6:15	5.8	26.9	0.0	7.4	11.5	4.9	11/26/2024 6:15	5.6	14.3	0.0	7.0	11.4	0.0
11/26/2024 6:30	5.6	23.4	0.0	7.2	11.6	4.8	11/26/2024 6:30	5.6	14.3	0.0	7.0	11.4	0.0
11/26/2024 6:45	5.5	22.0	0.0	7.1	11.6	4.7	11/26/2024 6:45	5.6	14.2	0.0	7.0	11.4	0.0
11/26/2024 7:00	5.9	53.0	0.0	7.0	11.6	4.9	11/26/2024 7:00	5.6	14.2	0.0	6.9	11.4	0.1
11/26/2024 7:15	5.5	22.0	0.0	7.1	11.6	4.6	11/26/2024 7:15	5.6	14.3	0.0	7.0	11.4	0.0
11/26/2024 7:30	5.4	21.0	0.0	7.0	11.7	4.8	11/26/2024 7:30	5.5	14.0	0.0	7.0	11.4	0.0
11/26/2024 7:45	5.4	20.7	0.0	6.9	11.7	4.6	11/26/2024 7:45	5.5	14.0	0.0	7.0	11.4	0.0
11/26/2024 8:00	5.3	20.5	0.0	6.9	11.7	4.5	11/26/2024 8:00	5.5	14.2	0.0	7.0	11.4	0.0
11/26/2024 8:15	5.3	20.5	0.0	6.8	11.7	4.6	11/26/2024 8:15	5.5	14.2	0.0	7.0	11.4	0.0
11/26/2024 8:30	5.3	21.2	0.0	6.9	11.7	5.6	11/26/2024 8:30	5.5	14.2	0.0	7.0	11.4	0.0
11/26/2024 8:45	6.0	62.4	0.0	7.1	11.5	4.9	11/26/2024 8:45	5.5	13.9	0.0	7.0	11.4	0.0
11/26/2024 9:00	6.3	63.7	0.0	7.4	11.4	5.1	11/26/2024 9:00	5.5	14.0	0.0	6.8	11.5	0.0
11/26/2024 9:15	6.4	64.0	0.0	7.4	11.4	4.7	11/26/2024 9:15	5.5	14.1	0.0	7.0	11.5	0.0
11/26/2024 9:30	6.4	63.9	0.0	7.5	11.4	5.0	11/26/2024 9:30	5.5	14.1	0.0	7.0	11.5	0.0
11/26/2024 9:45	5.6	24.4	0.0	7.4	11.6	4.8	11/26/2024 9:45	5.5	14.1	0.0	6.9	11.5	0.0
11/26/2024 10:00	5.4	21.9	0.0	7.2	11.7	4.8	11/26/2024 10:00	5.5	14.0	0.0	7.0	11.5	0.0
11/26/2024 10:15	5.4	21.2	0.0	7.1	11.7	4.6	11/26/2024 10:15	5.5	14.1	0.0	7.0	11.5	0.0
11/26/2024 10:30	5.4	20.7	0.0	7.0	11.7	4.8	11/26/2024 10:30	5.5	14.1	0.0	7.0	11.5	0.0
11/26/2024 10:45	5.4	20.5	0.0	7.0	11.7	4.8	11/26/2024 10:45	5.6	14.3	0.0	7.0	11.5	0.0
11/26/2024 11:00	5.4	20.4	0.0	6.9	11.7	4.8	11/26/2024 11:00	5.6	14.4	0.0	7.0	11.5	0.0
11/26/2024 11:15	5.4	20.6	0.0	6.9	11.7	4.6	11/26/2024 11:15	5.6	14.5	0.0	7.0	11.5	0.0
11/26/2024 11:30	5.7	45.4	0.0	6.8	11.7	4.8	11/26/2024 11:30	5.6	14.6	0.0	6.9	11.5	0.0
11/26/2024 11:45	6.5	64.0	0.0	7.3	11.4	4.6	11/26/2024 11:45	5.7	14.8	0.0	7.0	11.5	0.0
11/26/2024 12:00	6.5	63.4	0.0	7.4	11.4	5.0	11/26/2024 12:00	5.7	15.0	0.0	7.0	11.4	0.0
11/26/2024 12:15	6.7	65.0	0.0	7.5	11.4	5.5	11/26/2024 12:15	5.7	15.1	0.0	7.0	11.4	0.0
11/26/2024 12:30	6.7	64.2	0.0	7.5	11.3	3.2	11/26/2024 12:30	5.8	15.0	0.0	6.9	11.4	0.0
11/26/2024 12:45	6.2	29.7	0.0	7.6	11.5	3.4	11/26/2024 12:45	5.8	15.1	0.0	7.0	11.4	0.0
11/26/2024 13:00	6.7	63.5	0.0	7.5	11.4	3.3	11/26/2024 13:00	5.8	15.2	0.0	7.0	11.4	0.0
11/26/2024 13:15	6.1	25.6	0.0	7.5	11.5	3.1	11/26/2024 13:15	5.8	15.2	0.0	7.0	11.4	0.0
11/26/2024 13:30	5.9	22.7	0.0	7.2	11.6	3.1	11/26/2024 13:30	5.9	15.2	0.0	6.8	11.4	0.0
11/26/2024 13:45	5.8	21.9	0.0	7.1		3.0	11/26/2024 13:45	5.9	15.3	0.0	6.9	11.4	0.0
11/26/2024 14:00	5.8	21.4	0.0	7.0	11.6	3.1	11/26/2024 14:00	5.9	15.2	0.0	7.0	11.4	0.0
11/26/2024 14:15							11/26/2024 14:15	5.9	15.2	0.0	6.9	11.4	0.0
11/26/2024 14:30	6.0	22.7	0.0	5.9	11.5	6.0	11/26/2024 14:30	5.9	15.2	0.0	7.0	11.4	0.0
11/26/2024 14:45	6.5	0.1	0.0	7.0	11.3	3.2	11/26/2024 14:45	6.0	14.5	0.0	7.0	11.3	0.0
11/26/2024 15:00							11/26/2024 15:00	6.0	15.5	0.0	7.0	11.4	0.0
11/26/2024 15:15		0.0	0.0				11/26/2024 15:15	6.0	17.0	0.0	7.1	11.3	0.3
11/26/2024 15:30	6.9	64.4	0.0	7.1	11.3	3.2	11/26/2024 15:30	6.0	15.2	0.0	7.0	11.3	0.2
11/26/2024 15:45	7.0	64.8	0.0	7.2	11.3	4.5	11/26/2024 15:45	6.0	15.2	0.0	7.0	11.3	0.0
11/26/2024 16:00	6.6	52.7	0.0	7.2	11.3	3.4	11/26/2024 16:00	6.0	14.6	0.0	7.0	11.3	0.0
11/26/2024 16:15	6.2	38.3	0.0	7.1	11.4	3.8	11/26/2024 16:15	6.0	15.2	0.0	7.0	11.3	0.0
11/26/2024 16:30	6.0	28.1	0.0	7.0	11.5	3.2	11/26/2024 16:30	6.0	15.5	0.0	7.0	11.3	0.0
11/26/2024 16:45	5.9	24.7	0.0	6.9	11.5	3.1	11/26/2024 16:45	6.0	15.4	0.0	7.0	11.3	0.0
11/26/2024 17:00	5.9	23.5	0.0	6.8	11.5	3.0	11/26/2024 17:00	6.0	15.3	0.0	6.9	11.3	0.0
11/26/2024 17:15	5.8	23.8	0.0	6.8	11.5	3.1	11/26/2024 17:15	6.0	15.2	0.0	7.0	11.3	0.0
11/26/2024 17:30	5.8	25.3	0.0	6.7	11.6	3.0	11/26/2024 17:30	6.0	15.1	0.0	7.0	11.3	0.0
11/26/2024 17:45	5.8	22.9	0.0	6.7	11.6	3.1	11/26/2024 17:45	5.9	15.0	0.0	7.0	11.3	0.0
11/26/2024 18:00	6.2	51.6	0.0	6.7	11.6	3.1	11/26/2024 18:00	5.9	14.9	0.0	7.0	11.3	0.0
11/26/2024 18:15	6.7	59.3	0.0	7.1	11.4	3.0	11/26/2024 18:15	5.9	14.9	0.0	7.0	11.3	0.6
11/26/2024 18:30	6.8	64.7	0.0	7.1	11.3	3.0	11/26/2024 18:30	5.9	14.8	0.0	7.0	11.3	0.0
11/26/2024 18:45	6.7	62.6	0.0	7.2	11.2	2.8	11/26/2024 18:45	5.9	14.8	0.0	6.9	11.4	0.0
11/26/2024 19:00	6.0	30.6	0.0	7.1	11.4	3.0	11/26/2024 19:00	5.9	14.8	0.0	7.0	11.4	0.0
11/26/2024 19:15	6.4	45.9	0.0	6.9	11.5	3.8	11/26/2024 19:15	5.9	14.7	0.0	7.0	11.4	0.0
11/26/2024 19:30	6.0	31.8	0.0	7.1	11.4	3.0	11/26/2024 19:30	5.9	14.7	0.0	7.0	11.4	0.0
11/26/2024 19:45	5.8	28.6	0.0	7.0	11.5	3.0	11/26/2024 19:45	5.9	14.7	0.0	6.9	11.4	0.0
11/26/2024 20:00	5.8	24.0	0.0	6.8	11.6	3.0	11/26/2024 20:00	5.9	14.7	0.0	7.0	11.4	0.8
11/26/2024 20:15	5.7	23.2	0.0	6.8	11.6	2.9	11/26/2024 20:15	5.9	14.6	0.0	7.0	11.4	0.0
11/26/2024 20:30	6.1	42.9	0.0	6.8	11.6	3.1	11/26/2024 20:30	5.9	14.6	0.0	7.0	11.4	0.0
11/26/2024 20:45	6.7	62.3	0.0	7.2	11.4	3.0	11/26/2024 20:45	5.9	14.6	0.0	7.0	11.4	0.0
11/26/2024 21:00	6.8	64.7	0.0	7.3	11.3	3.0	11/26/2024 21:00	5.9	14.6	0.0	6.8	11.4	0.0
11/26/2024 21:15	6.9	63.9	0.0	7.3	11.3	2.9	11/26/2024 21:15		14.6	0.0	7.0	11.4	0.0
11/26/2024 21:30	6.4	45.1	0.0	7.3	11.3	3.0	11/26/2024 21:30	5.9	14.5	0.0	7.0	11.4	0.0
11/26/2024 21:45	6.0	35.3	0.0	7.2	11.5	3.0	11/26/2024 21:45	5.9	14.6	0.0	7.0	11.4	0.0
11/26/2024 22:00	5.8	26.9	0.0	7.1	11.6	3.0	11/26/2024 22:00	5.9	14.5	0.0	7.0	11.4	0.0
11/26/2024 22:15	6.1	42.4	0.0	7.0	11.6	3.0	11/26/2024 22:15	5.9	14.5	0.0	7.0	11.4	0.0
11/26/2024 22:30	5.9	36.1	0.0	7.1	11.5	2.9	11/26/2024 22:30	5.9	14.4	0.0	6.7	11.4	0.0
11/26/2024 22:45	5.7	26.2	0.0	6.9	11.6	2.9	11/26/2024 22:45	5.9	14.4	0.0	7.0	11.4	0.0
11/26/2024 23:00	5.8	31.9	0.0	6.8	11.6	3.1	11/26/2024 23:00	5.9	14.4	0.0	7.0	11.4	0.0
11/26/2024 23:15	6.2	44.3	0.0	6.8	11.5	2.9	11/26/2024 23:15	5.9	14.4	0.0	7.0	11.4	0.0
11/26/2024 23:30	6.7	63.8	0.0	7.2	11.4	3.4	11/26/2024 23:30	5.8	14.4	0.0	7.0	11.4	0.0
11/26/2024 23:45	6.8	64.0	0.0	7.2	11.3	3.0	11/26/2024 23:45	5.8	14.3	0.0	7.0	11.4	0.0
11/27/2024 0:00	6.5	52.3	0.0	7.3	11.3	3.0	11/27/2024 0:00	5.8	14.3	0.0	7.0	11.4	0.0
11/27/2024 0:15	6.0	43.8	0.0	7.2	11.4	2.9	11/27/2024 0:15	5.8	14.4	0.0	7.0	11.4	0.0
11/27/2024 0:30	5.8	26.8	0.0	7.0	11.6	2.9	11/27/2024 0:30	5.8	14.3	0.0	7.0	11.4	0.0
11/27/2024 0:45	5.7	25.1	0.0	6.9	11.6	3.0	11/27/2024 0:45	5.8	14.3	0.0	7.0	11.4	0.0
11/27/2024 1:00	5.7	23.4	0.0	7.0	11.6	3.0	11/27/2024 1:00	5.8	14.3	0.0	6.9	11.4	0.0
11/27/2024 1:15	5.7	22.7	0.0	6.8	11.7	2.9	11/27/2024 1:15	5.8	14.3	0.0	7.0	11.4	0.0
11/27/2024 1:30	5.6	22.6	0.0	6.8	11.7	3.3	11/27/2024 1:30	5.8	14.2	0.0	7.0	11.4	0.0
11/27/2024 1:45	5.7	22.3	0.0	6.7	11.7	3.0	11/27/2024 1:45	5.8	14.2	0.0	7.0	11.4	0.0

11/27/2024 2:00	6.6	63.4	0.0	7.1	11.4	3.1	11/27/2024 2:00	5.8	14.2	0.0	7.0	11.4	0.0
11/27/2024 2:15	6.8	64.2	0.0	7.2	11.4	3.0	11/27/2024 2:15	5.8	14.2	0.0	6.9	11.4	0.0
11/27/2024 2:30	6.8	66.2	0.0	7.3	11.3	2.9	11/27/2024 2:30	5.8	14.2	0.0	6.9	11.4	0.0
11/27/2024 2:45	6.7	66.3	0.0	7.3	11.3	2.9	11/27/2024 2:45	5.8	14.2	0.0	7.0	11.4	0.0
11/27/2024 3:00	6.1	55.6	0.0	7.2	11.4	2.9	11/27/2024 3:00	5.8	14.1	0.0	7.0	11.4	0.0
11/27/2024 3:15	5.8	27.1	0.0	7.1	11.6	2.9	11/27/2024 3:15	5.8	14.1	0.0	6.9	11.4	0.0
11/27/2024 3:30	5.7	25.1	0.0	6.9	11.6	3.0	11/27/2024 3:30	5.8	14.1	0.0	7.0	11.4	0.0
11/27/2024 3:45	5.7	24.0	0.0	6.8	11.7	3.1	11/27/2024 3:45	5.8	14.2	0.0	6.9	11.4	0.0
11/27/2024 4:00	5.6	22.5	0.0	6.8	11.7	3.0	11/27/2024 4:00	5.8	14.1	0.0	6.9	11.4	0.0
11/27/2024 4:15	5.6	22.2	0.0	6.7	11.7	3.0	11/27/2024 4:15	5.8	14.1	0.0	7.0	11.4	0.0
11/27/2024 4:30	5.6	21.8	0.0	6.8	11.7	3.0	11/27/2024 4:30	5.8	14.1	0.0	6.9	11.4	0.0
11/27/2024 4:45	6.2	53.2	0.0	6.9	11.7	2.9	11/27/2024 4:45	5.8	14.1	0.0	7.0	11.4	0.0
11/27/2024 5:00	6.3	54.9	0.0	7.1	11.4	3.0	11/27/2024 5:00	5.8	14.1	0.0	6.8	11.4	0.0
11/27/2024 5:15	6.7	64.3	0.0	7.2	11.4	3.2	11/27/2024 5:15	5.8	14.0	0.0	6.9	11.4	0.0
11/27/2024 5:30	6.8	63.6	0.0	7.3	11.3	3.0	11/27/2024 5:30	5.8	14.0	0.0	6.8	11.4	0.0
11/27/2024 5:45	6.4	51.6	0.0	7.3	11.3	2.9	11/27/2024 5:45	5.8	14.0	0.0	7.0	11.4	0.0
11/27/2024 6:00	5.9	42.3	0.0	7.2	11.5	2.9	11/27/2024 6:00	5.8	14.0	0.0	7.0	11.4	0.0
11/27/2024 6:15	5.7	27.0	0.0	7.0	11.6	2.9	11/27/2024 6:15	5.8	13.9	0.0	7.0	11.4	0.0
11/27/2024 6:30	5.6	24.9	0.0	6.9	11.6	3.0	11/27/2024 6:30	5.8	13.9	0.0	6.9	11.5	0.0
11/27/2024 6:45	5.6	23.1	0.0	6.8	11.7	3.0	11/27/2024 6:45	5.8	13.9	0.0	7.0	11.4	0.0
11/27/2024 7:00	5.7	23.4	0.0	6.8	11.7	3.0	11/27/2024 7:00	5.8	13.9	0.0	6.9	11.5	0.0
11/27/2024 7:15	6.6	63.6	0.0	7.1	11.4	4.9	11/27/2024 7:15	5.7	13.9	0.0	7.0	11.4	0.0
11/27/2024 7:30	6.7	65.2	0.0	7.2	11.4	3.0	11/27/2024 7:30	5.7	13.9	0.0	6.9	11.5	0.0
11/27/2024 7:45	6.8	66.8	0.0	7.3	11.3	3.2	11/27/2024 7:45	5.7	13.9	0.0	6.9	11.4	0.0
11/27/2024 8:00	6.6	67.0	0.0	7.3	11.3	2.8	11/27/2024 8:00	5.7	13.9	0.0	6.9	11.4	0.0
11/27/2024 8:15	6.0	56.1	0.0	7.3	11.5	2.8	11/27/2024 8:15	5.7	13.9	0.0	6.9	11.4	0.0
11/27/2024 8:30	5.7	33.3	0.0	7.1	11.6	2.9	11/27/2024 8:30	5.7	13.9	0.0	6.9	11.4	0.0
11/27/2024 8:45	5.6	26.0	0.0	7.0	11.7	2.9	11/27/2024 8:45		13.9	0.0	7.0	11.5	0.0
11/27/2024 9:00	5.6	23.2	0.0	6.9	11.7	2.9	11/27/2024 9:00	5.7	13.9	0.0	7.0	11.4	0.0
11/27/2024 9:15	5.5	23.1	0.0	6.8	11.7	2.9	11/27/2024 9:15	5.7	13.8	0.0	6.9	11.5	0.0
11/27/2024 9:30	5.5	21.9	0.0	6.8	11.7	2.9	11/27/2024 9:30	5.7	13.8	0.0	6.8	11.5	0.0
11/27/2024 9:45	5.5	23.2	0.0	6.7	11.7	2.9	11/27/2024 9:45	5.7	13.8	0.0	7.0	11.5	0.0
11/27/2024 10:00	6.2	43.9	0.0	6.8	11.7	3.0	11/27/2024 10:00	5.7	13.8	0.0	6.9	11.5	0.0
11/27/2024 10:15	6.6	65.3	0.0	7.2	11.4	3.0	11/27/2024 10:15	5.8	13.8	0.0	7.0	11.5	0.0
11/27/2024 10:30	6.4	64.9	0.0	7.2	11.4	2.8	11/27/2024 10:30	5.8	13.8	0.0	7.0	11.5	0.0
11/27/2024 10:45	5.9	34.4	0.0	7.1	11.5	2.9	11/27/2024 10:45	5.8	13.7	0.0	7.0	11.5	0.0
11/27/2024 11:00	5.7	29.7	0.0	7.0	11.6	2.9	11/27/2024 11:00	5.8	13.8	0.0	7.0	11.5	0.0
11/27/2024 11:15	5.7	23.7	0.0	6.9	11.7	3.0	11/27/2024 11:15	5.9	13.8	0.0	7.0	11.5	0.0
11/27/2024 11:30	5.8	23.0	0.0	6.8	11.7	3.1	11/27/2024 11:30	5.9	13.8	0.0	6.8	11.5	0.0
11/27/2024 11:45	6.1	43.3	0.0	7.0	11.6	2.9	11/27/2024 11:45	5.9	13.8	0.0	7.0	11.5	0.0
11/27/2024 12:00	5.9	36.0	0.0	7.0	11.6	2.9	11/27/2024 12:00	6.0	13.7	0.0	7.0	11.5	0.0
11/27/2024 12:15	5.8	23.7	0.0	6.9	11.6	3.0	11/27/2024 12:15	6.0	13.7	0.0	7.0	11.4	0.0
11/27/2024 12:30	6.6	48.8	0.0	7.1	11.6	3.1	11/27/2024 12:30	6.0	13.7	0.0	7.0	11.4	0.0
11/27/2024 12:45	6.9	64.8	0.0	7.2	11.3	3.0	11/27/2024 12:45	6.1	13.6	0.0	6.9	11.4	0.0
11/27/2024 13:00	7.0	63.9	0.0	7.3	11.3	3.0	11/27/2024 13:00	6.1	13.6	0.0	7.0	11.4	0.0
11/27/2024 13:15	7.1	66.3	0.0	7.3	11.3	2.9	11/27/2024 13:15		13.7	0.0	7.0	11.4	0.0
11/27/2024 13:30	6.5	57.9	0.0	7.3	11.3	2.9	11/27/2024 13:30	6.2	13.7	0.0	7.0	11.4	0.0
11/27/2024 13:45	6.2	28.5	0.0	7.1	11.5	2.9	11/27/2024 13:45	6.2	13.4	0.0	7.0	11.4	0.0
11/27/2024 14:00	6.1	27.7	0.0	7.0	11.5	2.9	11/27/2024 14:00	6.2	13.4	0.0	7.0	11.4	0.0
11/27/2024 14:15	6.1	23.2	0.0	6.9	11.6	3.0	11/27/2024 14:15	6.2	13.4	0.0	7.0	11.4	0.0
11/27/2024 14:30	6.3	24.7	0.0	6.8	11.6	3.1	11/27/2024 14:30	6.2	13.4	0.0	7.0	11.4	0.0
11/27/2024 14:45	7.0	63.8	0.0	7.2	11.3	3.1	11/27/2024 14:45	6.2	13.7	0.0	7.0	11.3	0.0
11/27/2024 15:00	7.1	65.0	0.0	7.3	11.3	3.0	11/27/2024 15:00	6.2	13.5	0.0	7.0	11.4	0.0
11/27/2024 15:15	7.2	67.4	0.0	7.3	11.2	2.9	11/27/2024 15:15	6.2	13.5	0.0	6.9	11.3	0.0
11/27/2024 15:30	6.6	64.0	0.0	7.3	11.2	2.8	11/27/2024 15:30	6.3	13.6	0.0	6.9	11.4	0.0
11/27/2024 15:45	6.3	31.5	0.0	7.1	11.4	3.0	11/27/2024 15:45	6.3	13.4	0.0	7.0	11.3	0.0
11/27/2024 16:00	6.2	29.9	0.0	7.1	11.5	2.9	11/27/2024 16:00	6.3	13.5	0.0	6.9	11.3	0.0
11/27/2024 16:15	6.1	22.9	0.0	6.9	11.5	3.0	11/27/2024 16:15	6.3	13.4	0.0	7.0	11.3	0.0
11/27/2024 16:30	6.1	22.9	0.0	6.9	11.5	3.0	11/27/2024 16:30	6.3	13.3	0.0	7.0	11.3	0.0
11/27/2024 16:45	6.1	28.0	0.0	6.8	11.5	3.0	11/27/2024 16:45	6.3	13.4	0.0	7.0	11.3	0.0
11/27/2024 17:00	7.0	57.8	0.0	6.9	11.3	3.0	11/27/2024 17:00	6.3	13.7	0.0	7.0	11.3	0.0
11/27/2024 17:15	6.8	59.3	0.0	7.2	11.3	2.9	11/27/2024 17:15	6.3	13.5	0.0	7.0	11.3	0.0
11/27/2024 17:30	6.3	50.5	0.0	7.2	11.4	2.8	11/27/2024 17:30	6.2	13.5	0.0	6.9	11.3	0.0
11/27/2024 17:45	6.1	27.0	0.0	7.0	11.5	2.9	11/27/2024 17:45	6.2	13.5	0.0	6.9	11.3	0.4
11/27/2024 18:00	6.8	49.4	0.0	7.1		3.0	11/27/2024 18:00	6.2	13.4	0.0	7.0	11.3	0.0
11/27/2024 18:15	7.1	66.5	0.0	7.3	11.3	2.9	11/27/2024 18:15	6.2	13.6	0.0	7.0	11.3	0.0
11/27/2024 18:30	7.2	66.0	0.0	7.3	11.2	3.0	11/27/2024 18:30	6.2	13.5	0.0	7.0	11.3	0.0
11/27/2024 18:45	6.9	64.6	0.0	7.3	11.2	2.9	11/27/2024 18:45	6.2	13.6	0.0	7.0	11.3	0.0
11/27/2024 19:00	6.4	56.7	0.0	7.3	11.3	2.9	11/27/2024 19:00	6.2	13.7	0.0	6.9	11.3	0.0
11/27/2024 19:15	6.1	28.7	0.0	7.1	11.5	3.0	11/27/2024 19:15	6.2	13.4	0.0	7.0	11.3	0.0
11/27/2024 19:30	6.0	27.3	0.0	7.0	11.5	2.9	11/27/2024 19:30	6.2	13.5	0.0	6.9	11.3	0.0
11/27/2024 19:45	6.0	22.9	0.0	6.9	11.6	3.0	11/27/2024 19:45	6.2	13.5	0.0	6.9	11.3	0.0
11/27/2024 20:00	6.0	22.4	0.0	6.9	11.6	3.0	11/27/2024 20:00	6.2	13.6	0.0	7.0	11.3	0.0
11/27/2024 20:15	6.7	57.3	0.0	6.9	11.5	3.0	11/27/2024 20:15	6.1	13.5	0.0	7.0	11.3	0.0
11/27/2024 20:30	7.0	64.4	0.0	7.2	11.3	3.0	11/27/2024 20:30	6.1	13.6	0.0	7.0	11.3	0.0
11/27/2024 20:45	7.1	67.4	0.0	7.3	11.2	3.0	11/27/2024 20:45	6.1	13.4	0.0	7.0	11.3	0.2
11/27/2024 21:00	7.1	67.8	0.0	7.3	11.3	2.9	11/27/2024 21:00	6.1	13.6	0.0	7.0	11.3	0.0
11/27/2024 21:15	6.5	50.3	0.0	7.3	11.3	2.9	11/27/2024 21:15	6.1	13.5	0.0	7.0	11.3	0.0
11/27/2024 21:30	6.1	44.6	0.0	7.2	11.5	2.9	11/27/2024 21:30	6.1	13.6	0.0	7.0	11.4	0.0
11/27/2024 21:45	6.0	27.2	0.0	7.0	11.5	3.0	11/27/2024 21:45	6.1	13.4	0.0	7.0	11.4	0.0
11/27/2024 22:00	5.9	25.3	0.0	7.0	11.6	3.0	11/27/2024 22:00	6.0	13.6	0.0	7.0	11.4	0.0
11/27/2024 22:15	6.3	43.4	0.0	6.8	11.6	3.1	11/27/2024 22:15	6.0	13.4	0.0	7.0	11.4	0.0
11/27/2024 22:30	6.8	64.2	0.0	7.2	11.4	3.0	11/27/2024 22:30	6.0	13.3	0.0	7.0	11.4	0.0
11/27/2024 22:45	6.9	67.3	0.0	7.3	11.3	2.9	11/27/2024 22:45	6.0	13.5	0.0	7.0	11.4	0.0
11/27/2024 23:00	6.4	64.3	0.0	7.3		2.8	11/27/2024 23:00	5.9	13.5	0.0	6.9	11.4	0.0
11/27/2024 23:15	6.0	31.7	0.0	7.1	11.5	2.9	11/27/2024 23:15	5.9	13.3	0.0	6.9	11.4	0.0
11/27/2024 23:30	5.8	30.3	0.0	7.1	11.5	2.9	11/27/2024 23:30	5.9	13.3	0.0	7.0	11.4	0.0
11/27/2024 23:45	5.7	23.7	0.0	7.0	11.6	3.0	11/27/2024 23:45	5.9	13.4	0.0	7.0	11.4	0.0
11/28/2024 0:00	5.7	22.9	0.0	6.9	11.6	3.0	11/28/2024 0:00	5.9	13.5	0.0	7.0	11.4	0.0
11/28/2024 0:15	5.6	22.5	0.0	6.8	11.7	3.9	11/28/2024 0:15	5.9	13.4	0.0	6.8	11.4	0.0
11/28/2024 0:30	5.6	21.4	0.0	6.8	11.7	4.0	11/28/2024 0:30	5.9	13.5	0.0	6.9	11.4	0.0
11/28/2024 0:45	5.6	21.4	0.0	6.7	11.7	4.0	11/28/2024 0:45	5.9	13.4	0.0	7.0	11.4	0.0
11/28/2024 1:00	6.2	37.6	0.0	6.7	11.7	3.3	11/28/2024 1:00	5.9	13.5	0.0	7.0	11.4	0.0
11/28/2024 1:15	6.7	66.2	0.0	7.2	11.4	3.0	11/28/2024 1:15	5.9	13.5	0.0	7.0	11.4	0.0
11/28/2024 1:30	6.8	65.4	0.0	7.2	11.3	3.0	11/28/2024 1:30	5.9	13.5	0.0	7.0	11.4	0.0
11/28/2024 1:45	6.6	56.7	0.0	7.3	11.3	6.0	11/28/2024 1:45	5.9	13.4	0.0	6.9	11.4	0.0
11/28/2024 2:00	6.5	54.5	0.0	7.3	11.4	3.0	11/28/2024 2:00		13.5	0.0	7.0	11.4	0.0
11/28/2024 2:15	6.8	66.0	0.0	7.3	11.4	3.2	11/28/2024 2:15	5.9	13.4	0.0	7.0	11.4	0.0
11/28/2024 2:30	6.5	66.2	0.0	7.3	11.3	2.8	11/28/2024 2:30	5.9	13.4	0.0	7.0	11.4	0.0
11/28/2024 2:45	6.0	37.2	0.0	7.2	11.5	2.9	11/28/2024 2:45	5.9	13.4	0.0	7.0	11.4	0.0
11/28/2024 3:00	5.8	35.2	0.0	7.1	11.5	2.9	11/28/2024 3:00	5.8	13.4	0.0	7.0	11.4	0.0
11/28/2024 3:15	5.7	24.9	0.0	7.1	11.6	3.0	11/28/2024 3:15	5.8	13.4	0.0	7.0	11.4	0.0
11/28/2024 3:30	5.6	23.5	0.0	6.9	11.6	3.0	11/28/2024 3:30	5.8	13.4	0.0	6.9	11.4	0.0

11/28/2024 3:45	5.6	22.6	0.0	6.8	11.7	3.0	11/28/2024 3:45	5.8	13.5	0.0	7.0	11.5	0.0
11/28/2024 4:00	5.5	22.1	0.0	6.9	11.7	2.9	11/28/2024 4:00	5.7	13.4	0.0	7.0	11.4	0.0
11/28/2024 4:15	5.5	26.6	0.0	6.7	11.7	3.0	11/28/2024 4:15	5.7	13.4	0.0	7.0	11.5	0.0
11/28/2024 4:30	6.4	55.8	0.0	7.1	11.6	3.4	11/28/2024 4:30	5.7	13.3	0.0	6.9	11.5	0.0
11/28/2024 4:45	6.6	67.6	0.0	7.2	11.4	3.0	11/28/2024 4:45	5.7	13.4	0.0	7.0	11.5	0.0
11/28/2024 5:00	6.7	67.1	0.0	7.3	11.4	3.0	11/28/2024 5:00	5.6	13.4	0.0	7.0	11.5	0.0
11/28/2024 5:15	6.7	68.9	0.0	7.3	11.4	2.9	11/28/2024 5:15	5.6	13.4	0.0	7.0	11.5	0.0
11/28/2024 5:30	6.2	67.7	0.0	7.4	11.3	2.9	11/28/2024 5:30	5.6	13.3	0.0	7.0	11.5	0.0
11/28/2024 5:45	5.7	33.1	0.0	7.2	11.6	2.9	11/28/2024 5:45	5.6	13.2	0.0	7.0	11.5	1.0
11/28/2024 6:00	5.5	31.9	0.0	7.1	11.6	3.0	11/28/2024 6:00	5.5	13.2	0.0	6.8	11.5	0.0
11/28/2024 6:15	5.4	24.6	0.0	7.0	11.7	3.0	11/28/2024 6:15	5.5	13.2	0.0	7.0	11.5	0.0
11/28/2024 6:30	5.3	23.7	0.0	7.0	11.7	3.0	11/28/2024 6:30	5.5	13.2	0.0	7.0	11.5	0.0
11/28/2024 6:45	5.3	22.4	0.0	6.8	11.8	3.0	11/28/2024 6:45	5.5	13.3	0.0	7.0	11.5	0.0
11/28/2024 7:00	5.2	21.7	0.0	6.9	11.8	2.9	11/28/2024 7:00	5.5	13.3	0.0	6.8	11.5	0.0
11/28/2024 7:15	5.2	22.6	0.0	6.7	11.8	3.0	11/28/2024 7:15	5.4	13.2	0.0	6.9	11.5	0.0
11/28/2024 7:30	6.0	47.7	0.0	7.0	11.8	3.0	11/28/2024 7:30	5.4	13.2	0.0	6.9	11.5	0.0
11/28/2024 7:45	6.4	67.8	0.0	7.2	11.5	3.4	11/28/2024 7:45	5.4	13.1	0.0	6.9	11.5	3.9
11/28/2024 8:00	6.5	68.2	0.0	7.3	11.4	3.0	11/28/2024 8:00	5.4	13.2	0.0	7.0	11.5	0.0
11/28/2024 8:15	6.5	69.6	0.0	7.3	11.4	3.0	11/28/2024 8:15	5.4	13.0	0.0	7.0	11.5	0.0
11/28/2024 8:30	6.0	67.8	0.0	7.4	11.4	2.9	11/28/2024 8:30	5.4	12.9	0.0	7.0	11.5	0.0
11/28/2024 8:45	5.5	33.8	0.0	7.2	11.6	2.9	11/28/2024 8:45	5.3	13.1	0.0	6.9	11.6	0.0
11/28/2024 9:00	5.3	33.5	0.0	7.1	11.7	2.9	11/28/2024 9:00	5.3	12.9	0.0	7.0	11.6	0.0
11/28/2024 9:15	5.2	24.8	0.0	7.0	11.8	3.0	11/28/2024 9:15	5.3	13.1	0.0	6.9	11.6	0.0
11/28/2024 9:30	5.1	24.1	0.0	7.0	11.8	3.0	11/28/2024 9:30	5.3	13.1	0.0	7.0	11.6	0.0
11/28/2024 9:45	5.1	22.2	0.0	6.8	11.8	3.0	11/28/2024 9:45	5.3	12.8	0.0	6.9	11.6	0.0
11/28/2024 10:00	5.1	21.8	0.0	6.9	11.8	3.0	11/28/2024 10:00	5.3	13.1	0.0	7.0	11.6	0.0
11/28/2024 10:15	5.7	49.9	0.0	6.8	11.8	3.0	11/28/2024 10:15	5.4	12.9	0.0	7.0	11.6	0.0
11/28/2024 10:30	6.3	65.8	0.0	7.3	11.6	3.0	11/28/2024 10:30	5.4	12.8	0.0	7.0	11.6	0.0
11/28/2024 10:45	6.5	68.9	0.0	7.3	11.5	3.0	11/28/2024 10:45	5.5	13.0	0.0	6.9	11.6	0.0
11/28/2024 11:00	6.5	69.3	0.0	7.3	11.4	2.9	11/28/2024 11:00	5.5	12.8	0.0	7.0	11.5	0.0
11/28/2024 11:15	5.9	47.8	0.0	7.3	11.5	2.9	11/28/2024 11:15	5.5	13.0	0.0	7.0	11.6	0.0
11/28/2024 11:30	5.6	46.0	0.0	7.2	11.6	2.9	11/28/2024 11:30	5.5	12.9	0.0	7.0	11.6	0.0
11/28/2024 11:45	5.4	26.4	0.0	7.1	11.7	2.9	11/28/2024 11:45	5.6	13.2	0.0	6.8	11.5	0.0
11/28/2024 12:00	5.4	25.5	0.0	7.1	11.7	2.9	11/28/2024 12:00	5.6	13.1	0.0	6.9	11.5	0.0
11/28/2024 12:15	5.4	23.0	0.0	6.9	11.7	2.9	11/28/2024 12:15	5.6	13.3	0.0	7.0	11.5	0.0
11/28/2024 12:30	5.4	22.1	0.0	6.9	11.7	2.9	11/28/2024 12:30	5.7	13.3	0.0	6.9	11.5	0.0
11/28/2024 12:45	6.3	60.4	0.0	6.9	11.6	3.0	11/28/2024 12:45	5.7	13.3	0.0	6.9	11.5	0.0
11/28/2024 13:00	6.6	67.0	0.0	7.2	11.4	2.9	11/28/2024 13:00	5.7	13.3	0.0	7.0	11.5	0.0
11/28/2024 13:15	6.1	50.4	0.0	7.3	11.4	3.1	11/28/2024 13:15	5.8	13.4	0.0	6.9	11.5	0.0
11/28/2024 13:30	5.8	44.9	0.0	7.2	11.5	2.9	11/28/2024 13:30	5.8	13.1	0.0	7.1	11.5	0.0
11/28/2024 13:45	5.7	26.2	0.0	7.1	11.6	3.0	11/28/2024 13:45	5.9	13.1	0.0	6.9	11.4	0.0
11/28/2024 14:00	5.9	32.8	0.0	6.9	11.6	2.9	11/28/2024 14:00	5.9	13.3	0.0	7.0	11.4	0.0
11/28/2024 14:15	5.8	30.3	0.0	7.0	11.6	2.9	11/28/2024 14:15	5.9	13.4	0.0	6.9	11.4	0.0
11/28/2024 14:30	6.4	42.7	0.0	7.1	11.6	3.1	11/28/2024 14:30	5.9	13.4	0.0	7.0	11.4	0.0
11/28/2024 14:45	6.9	66.9	0.0	7.3	11.3	3.0	11/28/2024 14:45	5.9	13.2	0.0	6.9	11.4	0.0
11/28/2024 15:00	7.0	68.7	0.0	7.3	11.3	3.0	11/28/2024 15:00	5.9	12.9	0.0	6.9	11.4	0.0
11/28/2024 15:15	7.0	69.6	0.0	7.3	11.3	2.9	11/28/2024 15:15	5.9	12.9	0.0	6.8	11.4	0.0
11/28/2024 15:30	7.0	70.3	0.0	7.4	11.2	2.9	11/28/2024 15:30	5.9	13.0	0.0	7.0	11.4	0.0
11/28/2024 15:45	6.5	53.0	0.0	7.4	11.3	2.9	11/28/2024 15:45	5.9	12.9	0.0	7.0	11.4	0.0
11/28/2024 16:00	6.1	49.8	0.0	7.3	11.4	2.9	11/28/2024 16:00	6.0	12.9	0.0	7.0	11.4	0.0
11/28/2024 16:15	5.9	26.9	0.0	7.1	11.5	2.9	11/28/2024 16:15	6.0	13.2	0.0	7.0	11.4	0.0
11/28/2024 16:30	5.8	25.5	0.0	7.1	11.6	2.9	11/28/2024 16:30	5.9	13.2	0.0	7.0	11.4	0.0
11/28/2024 16:45	5.7	22.0	0.0	6.9	11.6	2.9	11/28/2024 16:45	5.9	13.2	0.0	7.0	11.4	0.0
11/28/2024 17:00	5.7	22.4	0.0	6.9	11.6	3.0	11/28/2024 17:00	5.9	13.3	0.0	6.9	11.4	0.0
11/28/2024 17:15	5.7	22.0	0.0	6.8	11.6	3.0	11/28/2024 17:15	5.9	13.2	0.0	6.9	11.4	0.0
11/28/2024 17:30	6.3	38.2	0.0	6.7	11.6	3.1	11/28/2024 17:30	5.9	13.3	0.0	6.9	11.3	0.0
11/28/2024 17:45	6.8	67.9	0.0	7.2	11.3	2.9	11/28/2024 17:45	5.9	13.1	0.0	7.0	11.4	0.0
11/28/2024 18:00	6.9	69.2	0.0	7.3		3.0	11/28/2024 18:00	5.9	13.3	0.0	6.9	11.3	0.5
11/28/2024 18:15	6.5	58.2	0.0	7.3	11.3	2.9	11/28/2024 18:15	5.9	13.2	0.0	6.9	11.4	1.3
11/28/2024 18:30	6.0	53.8	0.0	7.3	11.4	2.8	11/28/2024 18:30	5.8	13.2	0.0	7.0	11.4	0.0
11/28/2024 18:45	5.8	27.2	0.0	7.1	11.5	3.0	11/28/2024 18:45	5.8	13.3	0.0	7.0	11.4	0.0
11/28/2024 19:00	5.7	26.4	0.0	7.1	11.6	2.9	11/28/2024 19:00		13.3	0.0	6.9	11.4	0.0
11/28/2024 19:15	5.6	22.8	0.0	6.9	11.6	2.9	11/28/2024 19:15	5.8	13.2	0.0	7.0	11.4	0.0
11/28/2024 19:30	5.8	22.8	0.0	6.8	11.6	3.1	11/28/2024 19:30	5.8	13.2	0.0	6.8	11.4	0.0
11/28/2024 19:45	6.6	65.6	0.0	7.1	11.4	3.0	11/28/2024 19:45	5.8	13.1	0.0	6.8	11.4	0.0
11/28/2024 20:00	6.8	69.1	0.0	7.3	11.3	3.0	11/28/2024 20:00	5.7	13.3	0.0	7.0	11.4	0.0
11/28/2024 20:15	6.9	70.1	0.0	7.3	11.3	3.0	11/28/2024 20:15	5.7	13.2	0.0	6.9	11.4	0.1
11/28/2024 20:30	6.7	70.3	0.0	7.4	11.3	2.9	11/28/2024 20:30	5.7	13.1	0.0	6.8	11.4	0.0
11/28/2024 20:45	6.1	39.7	0.0	7.3	11.4	3.0	11/28/2024 20:45	5.7	13.3	0.0	6.9	11.4	0.0
11/28/2024 21:00	6.7	57.6	0.0	7.3	11.4	3.0	11/28/2024 21:00	5.7	13.3	0.0	6.8	11.4	0.0
11/28/2024 21:15	6.7	68.7	0.0	7.3	11.3	2.9	11/28/2024 21:15	5.7	13.3	0.0	7.0	11.4	0.0
11/28/2024 21:30	6.1	63.5	0.0	7.4	11.3	2.9	11/28/2024 21:30	5.7	13.3	0.0	6.8	11.4	0.0
11/28/2024 21:45	6.5	65.3	0.0	7.1	11.5	3.0	11/28/2024 21:45	5.7	13.3	0.0	6.9	11.4	0.0
11/28/2024 22:00	6.8	69.2	0.0	7.3	11.3	3.0	11/28/2024 22:00	5.7	13.3	0.0	6.7	11.4	0.0
11/28/2024 22:15	6.8	70.5	0.0	7.4	11.3	2.9	11/28/2024 22:15	5.7	13.3	0.0	6.7	11.4	0.0
11/28/2024 22:30	6.2	66.5	0.0	7.4	11.3	2.9	11/28/2024 22:30	5.6	13.2	0.0	6.9	11.4	0.0
11/28/2024 22:45	5.8	34.0	0.0	7.2	11.5	2.9	11/28/2024 22:45	5.6	13.2	0.0	7.0	11.4	0.0
11/28/2024 23:00	5.6	32.2	0.0	7.1	11.6	3.0	11/28/2024 23:00	5.6	13.3	0.0	7.0	11.4	0.3
11/28/2024 23:15	6.5	61.2	0.0	7.0	11.5	2.9	11/28/2024 23:15	5.6	13.2	0.0	7.0	11.4	0.0
11/28/2024 23:30	6.7	67.8	0.0	7.4	11.3	2.9	11/28/2024 23:30	5.6	13.2	0.0	6.9	11.5	0.0
11/28/2024 23:45	6.3	64.7	0.0	7.4	11.3	2.8	11/28/2024 23:45	5.6	13.2	0.0	6.9	11.4	0.0
11/29/2024 0:00	5.8	59.9	0.0	7.3	11.4	2.8	11/29/2024 0:00	5.6	13.2	0.0	6.7	11.5	0.3
11/29/2024 0:15	5.6	33.0	0.0	7.1	11.6	2.9	11/29/2024 0:15	5.6	13.3	0.0	7.0	11.4	0.0
11/29/2024 0:30	5.6	39.8	0.0	7.1	11.6	2.9	11/29/2024 0:30	5.5	13.2	0.0	6.8	11.5	0.0
11/29/2024 0:45	5.5	34.9	0.0	7.1	11.6	2.9	11/29/2024 0:45	5.5	13.3	0.0	6.9	11.5	0.0
11/29/2024 1:00	5.4	32.6	0.0	7.1	11.6	2.9	11/29/2024 1:00	5.5	13.1	0.0	6.7	11.5	0.0
11/29/2024 1:15	5.3	25.5	0.0	6.9	11.7	2.9	11/29/2024 1:15	5.5	13.0	0.0	6.9	11.5	0.2
11/29/2024 1:30	5.7	30.3	0.0	6.8	11.7	3.0	11/29/2024 1:30	5.5	13.2	0.0	6.9	11.5	0.0
11/29/2024 1:45	6.4	65.7	0.0	7.1	11.4	2.9	11/29/2024 1:45	5.5	13.1	0.0	6.8	11.5	0.8
11/29/2024 2:00	6.4	65.7	0.0	7.3	11.4	2.9	11/29/2024 2:00	5.5	13.2	0.0	7.0	11.5	0.0
11/29/2024 2:15	6.1	52.9	0.0	7.3	11.4	2.9	11/29/2024 2:15	5.5	13.1	0.0	6.9	11.5	0.0
11/29/2024 2:30	5.7	52.8	0.0	7.3	11.5	2.8	11/29/2024 2:30	5.5	13.1	0.0	6.7	11.5	0.0
11/29/2024 2:45	5.5	35.2	0.0	7.2	11.6	2.9	11/29/2024 2:45	5.5	13.0	0.0	6.8	11.4	0.1
11/29/2024 3:00	5.3	33.2	0.0	7.1	11.6	2.9	11/29/2024 3:00	5.5	12.9	0.0	6.8	11.5	0.3
11/29/2024 3:15	5.3	27.1	0.0	7.0	11.7	2.9	11/29/2024 3:15	5.5	13.1	0.0	6.8	11.5	0.0
11/29/2024 3:30	5.2	25.4	0.0	7.0	11.7	2.9	11/29/2024 3:30	5.5	13.1	0.0	6.9	11.5	0.0
11/29/2024 3:45	5.2	23.0	0.0	6.9	11.7	2.9	11/29/2024 3:45	5.5	13.1	0.0	7.0	11.5	0.0
11/29/2024 4:00	5.5	24.9	0.0	6.8	11.7	3.1	11/29/2024 4:00	5.5	13.0	0.0	6.9	11.5	0.0
11/29/2024 4:15	6.3	61.2	0.0	7.0	11.5	3.5	11/29/2024 4:15	5.5	12.9	0.0	7.0	11.5	0.0
11/29/2024 4:30	6.3	67.6	0.0	7.2	11.4	2.9	11/29/2024 4:30	5.5	13.1	0.0	7.0	11.5	0.0
11/29/2024 4:45	5.8	53.4	0.0	7.3	11.4	2.9	11/29/2024 4:45	5.5	13.1	0.0	6.9	11.5	0.0
11/29/2024 5:00	5.5	50.6	0.0	7.2	11.6	2.9	11/29/2024 5:00	5.5	13.2	0.0	6.9	11.5	0.0
11/29/2024 5:15	5.3	27.7	0.0	7.0	11.6	3.0	11/29/2024 5:15	5.5	13.1	0.0	6.9	11.5	0.0

11/29/2024 5:30	6.0	48.1	0.0	7.0	11.7	3.0	11/29/2024 5:30	5.5	13.2	0.0	6.9	11.5	0.0
11/29/2024 5:45	6.5	66.9	0.0	7.2	11.4	2.9	11/29/2024 5:45	5.5	13.2	0.0	7.0	11.5	0.0
11/29/2024 6:00	6.1	67.4	0.0	7.3	11.4	2.8	11/29/2024 6:00	5.5	13.1	0.0	6.8	11.5	0.1
11/29/2024 6:15	5.6	46.9	0.0	7.2	11.5	2.9	11/29/2024 6:15	5.5	13.0	0.0	6.9	11.5	0.0
11/29/2024 6:30	5.4	44.7	0.0	7.2	11.6	2.8	11/29/2024 6:30	5.5	13.1	0.0	7.0	11.5	0.0
11/29/2024 6:45	5.3	30.5	0.0	7.1	11.6	2.9	11/29/2024 6:45	5.5	13.1	0.0	7.0	11.5	0.0
11/29/2024 7:00	6.1	48.1	0.0	6.9	11.7	3.0	11/29/2024 7:00	5.5	13.1	0.0	7.0	11.5	0.0
11/29/2024 7:15	6.5	69.3	0.0	7.2	11.4	3.0	11/29/2024 7:15	5.5	13.1	0.0	6.8	11.5	0.0
11/29/2024 7:30	6.4	70.5	0.0	7.3	11.4	2.8	11/29/2024 7:30	5.5	13.0	0.0	7.0	11.5	0.0
11/29/2024 7:45	5.8	58.6	0.0	7.3	11.4	2.8	11/29/2024 7:45	5.5	12.9	0.0	6.9	11.5	0.0
11/29/2024 8:00	5.5	52.4	0.0	7.3	11.6	2.8	11/29/2024 8:00	5.5	13.0	0.0	6.7	11.5	0.0
11/29/2024 8:15	5.4	32.4	0.0	7.1	11.6	2.9	11/29/2024 8:15	5.5	12.9	0.0	6.8	11.5	0.0
11/29/2024 8:30	5.9	43.7	0.0	7.0	11.7	3.0	11/29/2024 8:30	5.5	13.1	0.0	7.0	11.5	0.0
11/29/2024 8:45	6.6	69.4	0.0	7.2	11.4	3.0	11/29/2024 8:45	5.5	13.1	0.0	6.8	11.5	0.0
11/29/2024 9:00	6.4	70.6	0.0	7.3	11.4	2.9	11/29/2024 9:00	5.5	13.2	0.0	6.9	11.5	1.6
11/29/2024 9:15	5.9	58.1	0.0	7.3	11.4	2.8	11/29/2024 9:15	5.5	13.0	0.0	6.8	11.5	0.0
11/29/2024 9:30	5.5	53.3	0.0	7.3	11.5	2.9	11/29/2024 9:30	5.5	13.0	0.0	6.9	11.5	0.0
11/29/2024 9:45	5.4	33.9	0.0	7.1	11.6	2.9	11/29/2024 9:45	5.5	12.9	0.0	6.7	11.5	0.0
11/29/2024 10:00	5.3	31.8	0.0	7.1	11.7	2.9	11/29/2024 10:00	5.5	13.0	0.0	6.9	11.5	0.0
11/29/2024 10:15	5.3	25.7	0.0	6.9	11.7	3.0	11/29/2024 10:15	5.5	13.1	0.0	7.0	11.5	0.0
11/29/2024 10:30	5.2	25.7	0.0	7.0	11.7	2.9	11/29/2024 10:30	5.5	13.1	0.0	6.8	11.5	0.0
11/29/2024 10:45	5.2	23.4	0.0	6.8	11.7	2.9	11/29/2024 10:45	5.5	13.0	0.0	6.9	11.5	0.0
11/29/2024 11:00	5.2	23.3	0.0	6.9	11.7	3.0	11/29/2024 11:00	5.6	13.1	0.0	7.0	11.5	0.0
11/29/2024 11:15	5.2	22.1	0.0	6.7	11.7	2.9	11/29/2024 11:15	5.6	13.0	0.0	6.8	11.5	0.0
11/29/2024 11:30	5.2	21.9	0.0	6.8	11.7	3.0	11/29/2024 11:30	5.6	12.8	0.0	7.0	11.5	0.0
11/29/2024 11:45	5.2	21.8	0.0	6.7	11.7	2.9	11/29/2024 11:45	5.6	13.0	0.0	7.0	11.5	0.0
11/29/2024 12:00	5.3	21.3	0.0	6.9	11.7	3.0	11/29/2024 12:00		13.0	0.0	7.0	11.5	0.0
11/29/2024 12:15	5.3	21.4	0.0	6.8	11.7	3.0	11/29/2024 12:15	5.6	13.0	0.0	7.0	11.5	0.0
11/29/2024 12:30	5.3	21.2	0.0	6.8	11.7	3.0	11/29/2024 12:30	5.6	13.1	0.0	6.8	11.5	0.0
11/29/2024 12:45	5.3	21.5	0.0	6.7	11.7	2.9	11/29/2024 12:45	5.6	13.1	0.0	6.8	11.5	0.0
11/29/2024 13:00	5.3	20.8	0.0	6.7	11.7	3.0	11/29/2024 13:00	5.6	12.9	0.0	6.9	11.5	0.0
11/29/2024 13:15	5.3	20.5	0.0	6.7	11.7	2.9	11/29/2024 13:15	5.7	12.9	0.0	7.0	11.5	0.0
11/29/2024 13:30	5.3	20.3	0.0	6.7	11.7	2.9	11/29/2024 13:30	5.7	13.1	0.0	6.8	11.5	0.0
11/29/2024 13:45	5.3	20.6	0.0	6.7	11.7	3.0	11/29/2024 13:45	5.7	13.0	0.0	7.0	11.5	0.0
11/29/2024 14:00	5.3	20.2	0.0	6.7		3.0	11/29/2024 14:00	5.7	13.1	0.0	7.0	11.5	0.0
11/29/2024 14:15	5.3	20.4	0.0	6.7	11.7	3.0	11/29/2024 14:15	5.7	13.0	0.0	7.0	11.5	0.0
11/29/2024 14:30	6.2	47.3	0.0	6.6	11.8	3.0	11/29/2024 14:30	5.7	13.2	0.0	7.0	11.4	0.0
11/29/2024 14:45	6.7	69.0	0.0	7.1	11.4	3.0	11/29/2024 14:45	5.8	13.1	0.0	7.0	11.4	0.0
11/29/2024 15:00	6.9	70.6	0.0	7.3	11.3	2.9	11/29/2024 15:00	5.8	13.3	0.0	7.0	11.4	0.0
11/29/2024 15:15	6.9	72.2	0.0	7.3	11.3	3.0	11/29/2024 15:15	5.8	13.3	0.0	7.0	11.4	0.0
11/29/2024 15:30	7.0	72.1	0.0	7.3	11.3	2.9	11/29/2024 15:30	5.8	13.4	0.0	6.8	11.4	0.0
11/29/2024 15:45	6.8	73.0	0.0	7.3	11.2	2.8	11/29/2024 15:45	5.8	13.4	0.0	7.0	11.4	0.0
11/29/2024 16:00	6.3	71.3	0.0	7.4	11.3	2.8	11/29/2024 16:00	5.8	13.3	0.0	7.0	11.4	0.0
11/29/2024 16:15	6.0	51.5	0.0	7.3	11.4	2.9	11/29/2024 16:15	5.8	13.2	0.0	7.0	11.4	0.0
11/29/2024 16:30	5.8	50.8	0.0	7.2	11.5	2.9	11/29/2024 16:30	5.8	13.3	0.0	6.9	11.4	0.0
11/29/2024 16:45	5.7	34.9	0.0	7.1	11.5	2.9	11/29/2024 16:45	5.8	13.2	0.0	6.9	11.4	0.0
11/29/2024 17:00	5.6	34.7	0.0	7.1	11.6	2.9	11/29/2024 17:00	5.8	13.3	0.0	7.0	11.4	0.0
11/29/2024 17:15	5.6	28.0	0.0	6.9	11.6	2.9	11/29/2024 17:15	5.8	13.4	0.0	7.0	11.4	0.0
11/29/2024 17:30	6.2	44.9	0.0	6.9	11.6	3.2	11/29/2024 17:30	5.8	13.3	0.0	7.0	11.4	0.0
11/29/2024 17:45	6.7	70.0	0.0	7.2	11.3	3.0	11/29/2024 17:45	5.8	13.5	0.0	6.8	11.4	0.0
11/29/2024 18:00	6.9	72.0	0.0	7.3	11.3	3.0	11/29/2024 18:00	5.8	13.5	0.0	6.9	11.4	0.0
11/29/2024 18:15	6.9	73.1	0.0	7.4	11.2	3.1	11/29/2024 18:15	5.9	13.6	0.0	7.0	11.4	0.0
11/29/2024 18:30	6.8	72.9	0.0	7.4	11.3	3.0	11/29/2024 18:30	5.9	13.7	0.0	6.8	11.4	0.0
11/29/2024 18:45	6.4	69.6	0.0	7.4	11.3	3.0	11/29/2024 18:45	5.9	13.6	0.0	6.9	11.4	0.0
11/29/2024 19:00	6.1	68.0	0.0	7.4	11.3	2.9	11/29/2024 19:00	5.9	13.7	0.0	6.8	11.4	0.0
11/29/2024 19:15	5.9	44.9	0.0	7.2	11.4	2.9	11/29/2024 19:15	5.9	13.6	0.0	7.0	11.4	0.0
11/29/2024 19:30	5.7	45.2	0.0	7.2	11.5	2.9	11/29/2024 19:30	5.9	13.7	0.0	6.9	11.4	0.0
11/29/2024 19:45	5.7	32.0	0.0	7.1	11.5	3.0	11/29/2024 19:45	5.9	13.9	0.0	7.0	11.4	0.0
11/29/2024 20:00	5.6	31.1	0.0	7.1	11.6	2.9	11/29/2024 20:00	5.9	13.8	0.0	7.0	11.4	0.0
11/29/2024 20:15	5.9	35.0	0.0	6.9	11.6	3.1	11/29/2024 20:15	5.9	14.1	0.0	7.0	11.4	0.0
11/29/2024 20:30	6.6	59.1	0.0	7.2	11.5	3.2	11/29/2024 20:30	5.9	14.4	0.0	7.0	11.4	0.0
11/29/2024 20:45	6.9	71.8	0.0	7.3	11.3	3.7	11/29/2024 20:45	5.9	14.8	0.0	7.0	11.4	0.1
11/29/2024 21:00	7.0	72.1	0.0	7.4		3.5	11/29/2024 21:00	5.9	16.1	0.0	6.8	11.4	0.0
11/29/2024 21:15	6.9	72.1	0.0	7.3	11.3	3.6	11/29/2024 21:15	5.9	17.3	0.0	7.1	11.4	0.0
11/29/2024 21:30	6.4	70.9	0.0	7.4	11.3	3.6	11/29/2024 21:30	5.9	18.7	0.0	7.0	11.4	0.1
11/29/2024 21:45	6.0	43.6	0.0	7.2	11.4	3.2	11/29/2024 21:45	5.9	19.4	0.0	6.9	11.4	0.0
11/29/2024 22:00	5.8	42.7	0.0	7.2	11.5	3.0	11/29/2024 22:00	5.9	20.0	0.0	7.0	11.3	0.3
11/29/2024 22:15	5.8	35.9	0.0	7.2	11.6	3.0	11/29/2024 22:15	5.9	21.1	0.0	7.1	11.4	0.1
11/29/2024 22:30	5.7	33.8	0.0	7.0	11.6	3.1	11/29/2024 22:30	5.9	22.6	0.0	7.0	11.3	0.1
11/29/2024 22:45	5.7	28.7	0.0	6.9	11.6	3.1	11/29/2024 22:45	5.9	23.6	0.0	7.1	11.4	0.1
11/29/2024 23:00	5.7	27.7	0.0	6.9	11.6	3.1	11/29/2024 23:00	6.0	23.8	0.0	7.1	11.3	0.1
11/29/2024 23:15	6.2	48.8	0.0	6.8	11.6	3.7	11/29/2024 23:15	6.0	24.2	0.0	7.0	11.4	0.1
11/29/2024 23:30	6.3	61.7	0.0	7.3	11.4	3.4	11/29/2024 23:30	6.0	23.6	0.0	7.0	11.3	0.1
11/29/2024 23:45	6.8	71.0	0.0	7.1	11.3	4.3	11/29/2024 23:45	6.0	22.7	0.0	7.0	11.3	3.4
11/30/2024 0:00	7.0	73.4	0.0	7.3	11.3	3.5	11/30/2024 0:00	6.0	22.2	0.0	7.1	11.4	0.1
11/30/2024 0:15	6.7	68.0	0.0	7.4	11.3	4.0	11/30/2024 0:15	6.0	21.9	0.0	7.0	11.3	0.1
11/30/2024 0:30	6.2	63.1	0.0	7.3	11.3	3.6	11/30/2024 0:30	6.0	21.9	0.0	7.1	11.4	0.3
11/30/2024 0:45	5.9	39.3	0.0	7.1	11.5	3.3	11/30/2024 0:45	6.0	21.6	0.0	7.1	11.3	0.1
11/30/2024 1:00	6.1	38.6	0.0	7.0	11.6	3.4	11/30/2024 1:00	6.0	21.0	0.0	7.1	11.3	0.1
11/30/2024 1:15	6.8	71.8	0.0	7.2	11.3	3.4	11/30/2024 1:15	6.0	21.1	0.0	7.0	11.3	0.1
11/30/2024 1:30	6.9	74.2	0.0	7.3	11.3	3.4	11/30/2024 1:30	6.0	20.7	0.0	7.1	11.4	0.1
11/30/2024 1:45	7.0	74.9	0.0	7.4	11.2	3.3	11/30/2024 1:45	6.0	20.7	0.0	7.1	11.3	0.1
11/30/2024 2:00	7.0	75.7	0.0	7.4	11.2	3.2	11/30/2024 2:00	6.0	20.4	0.0	7.0	11.3	0.0
11/30/2024 2:15	6.7	70.2	0.0	7.4	11.3	3.2	11/30/2024 2:15	6.0	20.2	0.0	7.0	11.3	0.1
11/30/2024 2:30	6.2	66.2	0.0	7.3	11.3	3.1	11/30/2024 2:30	6.0	20.4	0.0	6.9	11.3	0.0
11/30/2024 2:45	6.0	42.9	0.0	7.2	11.5	3.2	11/30/2024 2:45	6.0	20.3	0.0	7.0	11.3	0.0
11/30/2024 3:00	5.9	41.3	0.0	7.2		3.2	11/30/2024 3:00	6.0	20.2	0.0	7.1	11.3	0.0
11/30/2024 3:15	5.8	33.0	0.0	7.0	11.5	3.2	11/30/2024 3:15	6.0	20.4	0.0	7.1	11.3	0.0
11/30/2024 3:30	5.8	32.5	0.0	7.0	11.6	3.2	11/30/2024 3:30	6.0	20.4	0.0	7.1	11.3	0.0
11/30/2024 3:45	6.1	50.6	0.0	6.9	11.5	3.2	11/30/2024 3:45	6.0	20.1	0.0	7.1	11.3	0.0
11/30/2024 4:00	6.8	63.5	0.0	7.3	11.4	3.1	11/30/2024 4:00	6.0	19.9	0.0	7.0	11.3	0.0
11/30/2024 4:15	7.0	75.1	0.0	7.3	11.2	3.1	11/30/2024 4:15	6.0	20.0	0.0	7.0	11.3	0.0
11/30/2024 4:30	7.1	75.7	0.0	7.3	11.2	3.1	11/30/2024 4:30	6.0	20.0	0.0	7.0	11.3	0.0
11/30/2024 4:45	7.0	76.1	0.0	7.4	11.2	3.1	11/30/2024 4:45	6.0	20.1	0.0	7.0	11.3	0.0
11/30/2024 5:00	6.5	74.6	0.0	7.4	11.3	3.0	11/30/2024 5:00	6.1	19.8	0.0	7.0	11.3	0.0
11/30/2024 5:15	6.2	51.8	0.0	7.3	11.4	3.0	11/30/2024 5:15	6.1	20.2	0.0	6.9	11.3	0.3
11/30/2024 5:30	6.0	58.3	0.0	7.2	11.5	3.0	11/30/2024 5:30	6.1	20.1	0.0	7.1	11.3	0.0
11/30/2024 5:45	5.9	36.4	0.0	7.1	11.5	3.0	11/30/2024 5:45	6.1	20.5	0.0	7.1	11.3	0.0
11/30/2024 6:00	5.9	35.6	0.0	7.1	11.5	3.0	11/30/2024 6:00	6.1	20.6	0.0	7.1	11.3	0.0
11/30/2024 6:15	5.9	31.6	0.0	7.0	11.5	3.1	11/30/2024 6:15	6.1	20.6	0.0	7.1	11.3	0.0
11/30/2024 6:30	5.9	31.1	0.0	7.0	11.5	3.0	11/30/2024 6:30	6.1	21.1	0.0	6.9	11.3	0.0
11/30/2024 6:45	5.8	29.3	0.0	6.8	11.6	3.0	11/30/2024 6:45	6.1	21.0	0.0	7.0	11.3	0.0
11/30/2024 7:00	6.5	55.8	0.0	6.8	11.5	3.1	11/30/2024 7:00	6.1	21.3	0.0	7.0	11.3	0.0

11/30/2024 7:15	7.0	73.4	0.0	7.2	11.3	3.3	11/30/2024 7:15	6.1	21.1	0.0	7.1	11.3	0.0
11/30/2024 7:30	7.1	75.0	0.0	7.3	11.2	3.3	11/30/2024 7:30	6.1	21.5	0.0	7.1	11.3	0.0
11/30/2024 7:45	7.2	76.1	0.0	7.4	11.2	3.5	11/30/2024 7:45	6.1	21.6	0.0	7.0	11.3	0.0
11/30/2024 8:00	7.1	76.4	0.0	7.4	11.2	3.5	11/30/2024 8:00	6.1	21.5	0.0	7.0	11.3	0.0
11/30/2024 8:15	6.6	67.2	0.0	7.4	11.2	3.4	11/30/2024 8:15	6.1	21.5	0.0	7.0	11.3	0.0
11/30/2024 8:30	6.3	64.2	0.0	7.3	11.3	3.2	11/30/2024 8:30	6.1	21.1	0.0	7.0	11.3	0.0
11/30/2024 8:45	6.1	42.0	0.0	7.2	11.4	3.0	11/30/2024 8:45	6.1	21.2	0.0	7.0	11.3	0.0
11/30/2024 9:00	6.0	42.4	0.0	7.2	11.5	3.0	11/30/2024 9:00	6.1	20.8	0.0	7.1	11.3	0.0
11/30/2024 9:15	6.0	38.4	0.0	7.2	11.5	3.0	11/30/2024 9:15	6.1	20.9	0.0	6.9	11.3	0.1
11/30/2024 9:30	5.9	34.3	0.0	7.0	11.5	3.0	11/30/2024 9:30	6.1	20.7	0.0	7.1	11.3	0.0
11/30/2024 9:45	5.9	32.1	0.0	6.9	11.5	3.0	11/30/2024 9:45	6.2	20.6	0.0	7.1	11.3	0.0
11/30/2024 10:00	5.9	31.0	0.0	7.0	11.5	3.0	11/30/2024 10:00	6.2	20.4	0.0	7.0	11.3	0.0
11/30/2024 10:15	5.9	30.7	0.0	6.9	11.5	3.0	11/30/2024 10:15	6.2	20.5	0.0	7.1	11.3	0.0
11/30/2024 10:30	6.3	33.5	0.0	6.8	11.6	3.4	11/30/2024 10:30	6.2	20.3	0.0	7.1	11.3	0.0
11/30/2024 10:45	7.0	70.8	0.0	7.1	11.3	4.3	11/30/2024 10:45	6.2	20.2	0.0	6.9	11.3	0.0
11/30/2024 11:00	7.2	74.9	0.0	7.3	11.2	4.1	11/30/2024 11:00	6.2	20.1	0.0	7.1	11.3	0.1
11/30/2024 11:15	7.2	74.0	0.0	7.3	11.2	4.5	11/30/2024 11:15	6.2	20.0	0.0	7.1	11.3	0.0
11/30/2024 11:30	7.1	75.6	0.0	7.4	11.2	4.4	11/30/2024 11:30	6.2	19.9	0.0	7.1	11.3	0.0
11/30/2024 11:45	6.7	68.6	0.0	7.4	11.2	4.0	11/30/2024 11:45	6.3	20.2	0.0	7.1	11.3	0.0
11/30/2024 12:00	6.4	65.6	0.0	7.3	11.3	3.4	11/30/2024 12:00	6.3	20.2	0.0	7.0	11.3	0.0
11/30/2024 12:15	6.2	41.8	0.0	7.1	11.4	3.1	11/30/2024 12:15	6.3	20.1	0.0	7.0	11.3	0.0
11/30/2024 12:30	6.2	40.9	0.0	7.2	11.4	3.1	11/30/2024 12:30	6.3	20.0	0.0	7.1	11.3	0.0
11/30/2024 12:45	6.1	33.4	0.0	6.9	11.5	3.0	11/30/2024 12:45	6.4	20.0	0.0	7.0	11.3	0.0
11/30/2024 13:00	6.1	33.2	0.0	7.0	11.5	3.0	11/30/2024 13:00	6.4	19.7	0.0	7.1	11.3	0.0
11/30/2024 13:15	6.8	56.6	0.0	6.8	11.5	3.6	11/30/2024 13:15	6.4	20.2	0.0	7.1	11.2	0.0
11/30/2024 13:30	7.3	70.7	0.0	7.2	11.2	3.8	11/30/2024 13:30	6.4	20.6	0.0	7.2	11.2	0.0
11/30/2024 13:45	7.5	76.0	0.0	7.3	11.1	3.8	11/30/2024 13:45	6.5	20.9	0.0	7.1	11.2	0.0
11/30/2024 14:00	7.5	76.6	0.0	7.4	11.1	3.7	11/30/2024 14:00	6.5	21.1	0.0	7.0	11.2	0.0
11/30/2024 14:15	7.5	77.4	0.0	7.4	11.1	3.7	11/30/2024 14:15	6.5	21.6	0.0	7.1	11.2	0.0
11/30/2024 14:30	7.1	76.4	0.0	7.4	11.1	3.6	11/30/2024 14:30	6.5	22.0	0.0	7.1	11.2	0.0
11/30/2024 14:45	6.8	57.4	0.0	7.4	11.2	3.3	11/30/2024 14:45	6.5	22.3	0.0	7.1	11.2	0.0
11/30/2024 15:00	6.5	55.4	0.0	7.3	11.3	3.1	11/30/2024 15:00	6.5	22.6	0.0	7.2	11.2	0.1
11/30/2024 15:15	6.4	39.4	0.0	7.2	11.3	3.0	11/30/2024 15:15	6.5	22.7	0.0	7.0	11.2	0.1
11/30/2024 15:30	6.4	38.3	0.0	7.1	11.4	3.0	11/30/2024 15:30	6.5	23.3	0.0	7.1	11.2	0.2
11/30/2024 15:45	6.3	33.5	0.0	7.0	11.4	3.0	11/30/2024 15:45	6.5	24.1	0.0	7.0	11.2	0.0
11/30/2024 16:00	6.3	32.3	0.0	7.0	11.4	3.0	11/30/2024 16:00	6.5	25.0	0.0	7.1	11.2	0.1
11/30/2024 16:15	7.1	66.3	0.0	6.9	11.3	3.6	11/30/2024 16:15	6.4	25.2	0.0	7.1	11.2	0.0
11/30/2024 16:30	7.4	75.9	0.0	7.3	11.1	3.9	11/30/2024 16:30	6.4	24.7	0.0	7.0	11.2	0.0
11/30/2024 16:45	7.5	77.7	0.0	7.4	11.1	3.9	11/30/2024 16:45	6.4	25.1	0.0	7.1	11.2	0.2
11/30/2024 17:00	7.5	78.6	0.0	7.4	11.1	3.9	11/30/2024 17:00	6.4	24.7	0.0	7.0	11.2	0.5
11/30/2024 17:15	7.1	77.1	0.0	7.4	11.1	3.8	11/30/2024 17:15	6.4	24.4	0.0	7.1	11.2	0.8
11/30/2024 17:30	6.7	72.6	0.0	7.3	11.2	3.4	11/30/2024 17:30	6.4	24.1	0.0	7.1	11.2	0.6
11/30/2024 17:45	6.5	49.2	0.0	7.2	11.3	3.3	11/30/2024 17:45	6.4	23.8	0.0	6.9	11.2	0.3
11/30/2024 18:00	6.3	47.3	0.0	7.2	11.4	3.2	11/30/2024 18:00	6.4	23.5	0.0	7.1	11.2	0.2
11/30/2024 18:15	6.3	38.3	0.0	7.0	11.4	3.3	11/30/2024 18:15	6.4	23.5	0.0	7.1	11.2	0.6
11/30/2024 18:30	6.3	37.7	0.0	7.1	11.4	3.4	11/30/2024 18:30	6.4	23.2	0.0	7.1	11.2	0.0
11/30/2024 18:45	6.2	34.5	0.0	7.0	11.4	3.4	11/30/2024 18:45	6.4	23.3	0.0	7.0	11.2	0.0
11/30/2024 19:00	6.2	34.1	0.0	7.0	11.4	3.4	11/30/2024 19:00	6.4	23.1	0.0	7.0	11.2	0.0
11/30/2024 19:15	6.4	42.0	0.0	6.9	11.5	3.5	11/30/2024 19:15	6.4	23.3	0.0	7.1	11.2	0.0
11/30/2024 19:30	7.2	66.5	0.0	7.0	11.2	3.8	11/30/2024 19:30	6.4	23.2	0.0	7.1	11.2	0.0
11/30/2024 19:45	7.5	76.8	0.0	7.3	11.1	3.8	11/30/2024 19:45	6.4	23.1	0.0	7.1	11.2	0.0
11/30/2024 20:00	7.5	77.6	0.0	7.4	11.1	3.8	11/30/2024 20:00	6.4	22.9	0.0	7.0	11.2	0.0
11/30/2024 20:15	7.5	78.4	0.0	7.4	11.1	3.6	11/30/2024 20:15	6.4	22.6	0.0	7.1	11.2	0.0
11/30/2024 20:30	7.2	77.9	0.0	7.4	11.2	3.6	11/30/2024 20:30	6.4	22.7	0.0	7.2	11.2	0.0
11/30/2024 20:45	6.8	64.7	0.0	7.4	11.1	3.2	11/30/2024 20:45	6.4	22.2	0.0	7.1	11.2	0.0
11/30/2024 21:00	6.5	60.6	0.0	7.3	11.3	3.2	11/30/2024 21:00	6.4	22.1	0.0	7.0	11.2	0.0
11/30/2024 21:15	6.3	43.9	0.0	7.1	11.4	3.1	11/30/2024 21:15	6.4	21.9	0.0	6.9	11.2	0.0
11/30/2024 21:30	6.3	42.3	0.0	7.2	11.4	3.1	11/30/2024 21:30	6.4	21.8	0.0	7.1	11.2	0.0
11/30/2024 21:45	6.2	37.7	0.0	7.0	11.4	3.1	11/30/2024 21:45	6.4	21.6	0.0	7.1	11.2	0.0
11/30/2024 22:00	7.0	52.2	0.0	7.0	11.5	3.5	11/30/2024 22:00	6.4	21.4	0.0	7.0	11.2	0.0
11/30/2024 22:15	7.4	75.9	0.0	7.3	11.2	3.6	11/30/2024 22:15	6.4	21.6	0.0	7.0	11.2	0.0
11/30/2024 22:30	7.5	77.4	0.0	7.4	11.1	3.5	11/30/2024 22:30	6.4	21.6	0.0	6.9	11.2	0.0
11/30/2024 22:45	7.5	77.8	0.0	7.4	11.1	3.5	11/30/2024 22:45	6.4	21.1	0.0	7.1	11.3	0.0
11/30/2024 23:00	7.3	78.3	0.0	7.4	11.1	3.4	11/30/2024 23:00	6.4	21.3	0.0	7.0	11.3	0.0
11/30/2024 23:15	6.9	75.9	0.0	7.4	11.2	3.4	11/30/2024 23:15	6.4	21.0	0.0	7.1	11.2	0.0
11/30/2024 23:30	6.6	71.7	0.0	7.3	11.2	3.2	11/30/2024 23:30	6.3	21.2	0.0	7.1	11.2	0.0
11/30/2024 23:45	6.4	48.4	0.0	7.3	11.3	3.1	11/30/2024 23:45	6.3	21.0	0.0	7.0	11.3	0.0
12/01/2024 0:00	6.3	48.1	0.0	7.2	11.3	3.0	12/01/2024 0:00		20.7	0.0	7.0	11.2	0.0
12/01/2024 0:15	6.2	38.8	0.0	7.1	11.4	3.0	12/01/2024 0:15	6.3	20.8	0.0	6.9	11.2	0.0
12/01/2024 0:30	6.1	37.5	0.0	7.1	11.4	3.0	12/01/2024 0:30	6.3	20.6	0.0	7.1	11.3	0.0
12/01/2024 0:45	6.1	34.4	0.0	7.0	11.4	3.0	12/01/2024 0:45	6.3	20.5	0.0	7.1	11.3	0.1
12/01/2024 1:00	6.1	32.2	0.0	7.0	11.4	3.1	12/01/2024 1:00	6.3	20.5	0.0	7.1	11.2	0.0
12/01/2024 1:15	7.1	68.3	0.0	6.9	11.3	3.3	12/01/2024 1:15	6.3	20.4	0.0	7.0	11.3	0.0
12/01/2024 1:30	7.3	75.6	0.0	7.3	11.2	3.3	12/01/2024 1:30	6.3	20.1	0.0	7.1	11.3	0.0
12/01/2024 1:45	7.4	77.4	0.0	7.4	11.1	3.3	12/01/2024 1:45	6.3	20.1	0.0	7.1	11.2	0.0
12/01/2024 2:00	7.5	77.7	0.0	7.4		3.2	12/01/2024 2:00	6.3	20.0	0.0	7.1	11.3	0.0
12/01/2024 2:15	7.1	77.9	0.0	7.4	11.1	3.2	12/01/2024 2:15	6.3	20.1	0.0	7.0	11.3	0.0
12/01/2024 2:30	6.7	77.1	0.0	7.4	11.2	3.0	12/01/2024 2:30	6.3	19.8	0.0	7.0	11.3	0.0
12/01/2024 2:45	6.5	72.1	0.0	7.4	11.1	3.1	12/01/2024 2:45	6.3	19.8	0.0	7.0	11.3	0.0
12/01/2024 3:00	6.3	66.2	0.0	7.3	11.3	3.1	12/01/2024 3:00	6.2	19.7	0.0	7.1	11.3	0.0
12/01/2024 3:15	6.2	50.2	0.0	7.2	11.3	3.0	12/01/2024 3:15	6.2	19.7	0.0	7.1	11.3	0.0
12/01/2024 3:30	6.1	49.1	0.0	7.2	11.3	3.0	12/01/2024 3:30	6.2	19.6	0.0	6.9	11.3	0.0
12/01/2024 3:45	6.0	39.1	0.0	7.1	11.4	2.9	12/01/2024 3:45	6.2	19.5	0.0	6.9	11.3	0.0
12/01/2024 4:00	6.0	39.4	0.0	7.1	11.4	2.9	12/01/2024 4:00	6.2	19.4	0.0	7.0	11.3	0.0
12/01/2024 4:15	6.5	49.7	0.0	7.2	11.5	3.4	12/01/2024 4:15	6.1	19.3	0.0	7.1	11.3	0.0
12/01/2024 4:30	7.1	69.8	0.0	7.1	11.3	3.1	12/01/2024 4:30	6.1	19.1	0.0	7.1	11.3	0.0
12/01/2024 4:45	7.2	74.5	0.0	7.3	11.2	3.1	12/01/2024 4:45	6.1	19.1	0.0	7.1	11.3	0.0
12/01/2024 5:00	7.3	77.1	0.0	7.4	11.2	3.7	12/01/2024 5:00	6.1	19.0	0.0	7.0	11.3	0.0
12/01/2024 5:15	7.0	77.6	0.0	7.4	11.2	3.0	12/01/2024 5:15	6.1	19.0	0.0	7.0	11.3	0.0
12/01/2024 5:30	6.6	76.3	0.0	7.4	11.2	3.0	12/01/2024 5:30	6.0	18.9	0.0	7.1	11.3	0.0
12/01/2024 5:45	6.3	74.4	0.0	7.4	11.2	3.0	12/01/2024 5:45	6.0	18.7	0.0	7.0	11.3	0.0
12/01/2024 6:00	6.2	59.0	0.0	7.3	11.3	2.9	12/01/2024 6:00	6.0	18.8	0.0	7.0	11.3	0.0
12/01/2024 6:15	6.0	62.9	0.0	7.3	11.4	2.9	12/01/2024 6:15	6.0	18.6	0.0	7.0	11.3	0.0
12/01/2024 6:30	5.9	44.1	0.0	7.2	11.4	2.9	12/01/2024 6:30	6.0	18.5	0.0	7.1	11.3	0.0
12/01/2024 6:45	5.9	47.7	0.0	7.2	11.4	2.9	12/01/2024 6:45	6.0	18.6	0.0	7.1	11.3	0.0
12/01/2024 7:00	5.8	35.8	0.0	7.0	11.5	3.0	12/01/2024 7:00	6.0	18.6	0.0	7.1	11.3	0.0
12/01/2024 7:15	6.0	34.6	0.0	7.0	11.5	3.0	12/01/2024 7:15	6.0	18.5	0.0	7.0	11.3	0.0
12/01/2024 7:30	6.9	71.4	0.0	7.1	11.3	3.0	12/01/2024 7:30	6.0	18.3	0.0	7.0	11.3	0.0
12/01/2024 7:45	7.1	76.3	0.0	7.3	11.2	3.0	12/01/2024 7:45	5.9	18.2	0.0	7.0	11.4	0.0
12/01/2024 8:00	7.2	77.4	0.0	7.4	11.2	3.0	12/01/2024 8:00	5.9	18.2	0.0	6.9	11.4	0.0
12/01/2024 8:15	7.1	77.7	0.0	7.4	11.2	3.0	12/01/2024 8:15	5.9	18.2	0.0	7.0	11.4	0.0
12/01/2024 8:30	6.7	77.8	0.0	7.4	11.2	3.0	12/01/2024 8:30	5.9	18.1	0.0	7.0	11.4	0.0
12/01/2024 8:45	6.3	76.9	0.0	7.4	11.2	2.9	12/01/2024 8:45	5.9	18.0	0.0	7.0	11.4	0.0

12/01/2024 9:00	6.1	65.5	0.0	7.3	11.3	2.9	12/01/2024 9:00	5.9	17.9	0.0	7.0	11.4	0.0
12/01/2024 9:15	5.9	64.1	0.0	7.3	11.4	2.9	12/01/2024 9:15	5.9	17.8	0.0	7.0	11.4	0.0
12/01/2024 9:30	5.8	47.2	0.0	7.2	11.5	2.9	12/01/2024 9:30	5.9	17.7	0.0	7.0	11.4	0.0
12/01/2024 9:45	5.8	48.3	0.0	7.2	11.5	2.9	12/01/2024 9:45	5.9	17.6	0.0	7.0	11.4	0.0
12/01/2024 10:00	5.7	38.4	0.0	7.1	11.5	2.9	12/01/2024 10:00	5.9	17.2	0.0	7.1	11.4	0.0
12/01/2024 10:15	5.7	38.0	0.0	7.1	11.5	3.0	12/01/2024 10:15	6.0	17.4	0.0	7.0	11.4	0.0
12/01/2024 10:30	6.6	65.5	0.0	7.0	11.5	3.1	12/01/2024 10:30	6.0	17.4	0.0	7.0	11.4	0.0
12/01/2024 10:45	7.0	70.4	0.0	7.2	11.3	3.0	12/01/2024 10:45	6.1	17.3	0.0	7.0	11.4	0.0
12/01/2024 11:00	7.2	77.1	0.0	7.4	11.2	3.0	12/01/2024 11:00	6.1	17.3	0.0	7.0	11.3	0.0
12/01/2024 11:15	7.3	77.5	0.0	7.4	11.2	3.0	12/01/2024 11:15	6.2	17.6	0.0	7.0	11.4	0.0
12/01/2024 11:30	7.2	78.2	0.0	7.4	11.2	2.9	12/01/2024 11:30	6.2	17.6	0.0	7.1	11.3	0.0
12/01/2024 11:45	6.8	77.4	0.0	7.4	11.2	2.9	12/01/2024 11:45	6.3	17.6	0.0	7.0	11.3	0.0
12/01/2024 12:00	6.6	74.2	0.0	7.4	11.2	2.9	12/01/2024 12:00	6.3	17.5	0.0	7.1	11.3	0.0
12/01/2024 12:15	6.4	69.7	0.0	7.3	11.3	2.9	12/01/2024 12:15	6.3	17.4	0.0	7.0	11.3	0.0
12/01/2024 12:30	6.3	64.3	0.0	7.4	11.4	2.9	12/01/2024 12:30	6.4	17.2	0.0	7.1	11.3	0.0
12/01/2024 12:45	6.3	53.7	0.0	7.2	11.4	2.9	12/01/2024 12:45	6.4	17.5	0.0	7.1	11.2	0.0
12/01/2024 13:00	6.3	39.5	0.0	7.1	11.4	2.9	12/01/2024 13:00	6.5	17.4	0.0	7.0	11.2	0.0
12/01/2024 13:15	6.3	38.8	0.0	7.1	11.4	2.9	12/01/2024 13:15	6.6	17.3	0.0	7.1	11.2	0.0
12/01/2024 13:30	6.6	39.9	0.0	7.0	11.4	3.1	12/01/2024 13:30	6.6	17.2	0.0	7.0	11.2	0.0
12/01/2024 13:45	7.4	61.8	0.0	7.2	11.3	3.1	12/01/2024 13:45	6.7	17.0	0.0	7.1	11.2	0.0
12/01/2024 14:00	7.7	75.1	0.0	7.3	11.1	3.0	12/01/2024 14:00	6.7	16.8	0.0	7.1	11.2	0.0
12/01/2024 14:15	7.8	76.9	0.0	7.4	11.0	3.0	12/01/2024 14:15	6.7	16.8	0.0	7.0	11.2	0.0
12/01/2024 14:30	7.9	78.0	0.0	7.4	11.0	2.9	12/01/2024 14:30	6.7	16.6	0.0	7.1	11.2	0.0
12/01/2024 14:45	7.6	77.8	0.0	7.4	11.0	2.9	12/01/2024 14:45	6.7	16.5	0.0	6.9	11.2	0.0
12/01/2024 15:00	7.2	72.5	0.0	7.4	11.0	2.9	12/01/2024 15:00	6.7	16.2	0.0	7.1	11.2	0.0
12/01/2024 15:15	7.0	70.6	0.0	7.3	11.1	2.9	12/01/2024 15:15	6.8	16.3	0.0	7.0	11.2	0.0
12/01/2024 15:30	6.8	48.8	0.0	7.3	11.2	2.9	12/01/2024 15:30	6.8	16.3	0.0	7.1	11.1	0.0
12/01/2024 15:45	6.7	52.3	0.0	7.2	11.2	2.9	12/01/2024 15:45	6.8	16.2	0.0	7.1	11.1	0.0
12/01/2024 16:00	6.7	38.2	0.0	7.1	11.3	3.0	12/01/2024 16:00	6.7	16.0	0.0	7.0	11.1	0.0
12/01/2024 16:15	6.7	42.6	0.0	7.1	11.3	2.9	12/01/2024 16:15	6.7	16.1	0.0	7.1	11.2	0.1
12/01/2024 16:30	6.6	30.7	0.0	7.0	11.3	3.0	12/01/2024 16:30	6.7	16.1	0.0	7.0	11.1	0.0
12/01/2024 16:45	7.4	51.3	0.0	7.1	11.3	3.1	12/01/2024 16:45	6.7	16.0	0.0	7.0	11.1	0.0
12/01/2024 17:00	7.8	75.8	0.0	7.3	11.0	3.1	12/01/2024 17:00	6.7	16.0	0.0	6.9	11.1	0.0
12/01/2024 17:15	7.5	76.3	0.0	7.4	11.0	2.9	12/01/2024 17:15	6.6	16.0	0.0	7.0	11.1	0.0
12/01/2024 17:30	7.1	68.8	0.0	7.3	11.1	3.0	12/01/2024 17:30	6.6	16.0	0.0	7.0	11.2	0.0
12/01/2024 17:45	6.8	65.0	0.0	7.3	11.2	3.0	12/01/2024 17:45	6.6	15.8	0.0	7.0	11.2	0.0
12/01/2024 18:00	7.0	55.8	0.0	7.1	11.3	3.1	12/01/2024 18:00	6.6	16.0	0.0	7.0	11.2	0.0
12/01/2024 18:15	7.6	71.8	0.0	7.3	11.1	3.1	12/01/2024 18:15	6.5	15.9	0.0	7.0	11.2	0.0
12/01/2024 18:30	7.6	76.8	0.0	7.4	11.0	3.3	12/01/2024 18:30	6.5	16.0	0.0	7.0	11.2	0.0
12/01/2024 18:45	7.1	75.3	0.0	7.4	11.0	3.2	12/01/2024 18:45	6.5	16.0	0.0	7.0	11.2	0.0
12/01/2024 19:00	6.7	60.4	0.0	7.4	11.2	3.5	12/01/2024 19:00		16.0	0.0	7.0	11.2	0.0
12/01/2024 19:15	6.5	61.8	0.0	7.3	11.3	3.1	12/01/2024 19:15	6.5	16.0	0.0	7.0	11.2	0.0
12/01/2024 19:30	6.6	41.0	0.0	7.1	11.3	3.1	12/01/2024 19:30	6.5	15.9	0.0	7.0	11.2	0.0
12/01/2024 19:45	7.4	65.6	0.0	7.2	11.2	3.3	12/01/2024 19:45	6.4	16.0	0.0	7.0	11.2	0.0
12/01/2024 20:00	7.6	75.3	0.0	7.5	11.0	3.6	12/01/2024 20:00	6.4	15.9	0.0	7.0	11.2	0.0
12/01/2024 20:15	7.7	77.8	0.0	7.4	11.0	3.9	12/01/2024 20:15	6.4	15.9	0.0	7.0	11.2	0.0
12/01/2024 20:30	7.7	78.6	0.0	7.4	11.0	3.7	12/01/2024 20:30	6.4	15.9	0.0	7.0	11.2	0.0
12/01/2024 20:45	7.3	78.3	0.0	7.5	11.1	3.8	12/01/2024 20:45	6.3	16.0	0.0	7.0	11.2	0.0
12/01/2024 21:00	6.8	74.6	0.0	7.4	11.1	3.6	12/01/2024 21:00	6.3	16.1	0.0	7.0	11.2	0.0
12/01/2024 21:15	6.5	69.1	0.0	7.4	11.2	3.6	12/01/2024 21:15	6.3	16.1	0.0	7.0	11.3	0.0
12/01/2024 21:30	6.3	47.2	0.0	7.3	11.3	3.1	12/01/2024 21:30	6.3	16.1	0.0	7.0	11.3	0.0
12/01/2024 21:45	6.2	50.5	0.0	7.2	11.4	3.1	12/01/2024 21:45	6.3	16.0	0.0	7.0	11.2	0.0
12/01/2024 22:00	6.2	36.6	0.0	7.1	11.4	3.0	12/01/2024 22:00	6.2	16.0	0.0	7.0	11.3	0.0
12/01/2024 22:15	6.1	39.1	0.0	7.1	11.4	3.0	12/01/2024 22:15	6.2	15.9	0.0	7.0	11.3	0.0
12/01/2024 22:30	6.5	51.9	0.0	7.0	11.4	3.4	12/01/2024 22:30	6.2	16.0	0.0	7.0	11.3	0.0
12/01/2024 22:45	7.2	65.0	0.0	7.1	11.2	3.8	12/01/2024 22:45	6.2	16.0	0.0	7.0	11.3	0.0
12/01/2024 23:00	7.4	77.7	0.0	7.4	11.1	4.0	12/01/2024 23:00	6.1	16.0	0.0	7.0	11.3	0.0
12/01/2024 23:15	7.5	78.3	0.0	7.4	11.1	3.9	12/01/2024 23:15	6.1	15.9	0.0	7.0	11.3	0.0
12/01/2024 23:30	7.4	79.0	0.0	7.4	11.1	3.7	12/01/2024 23:30	6.1	15.9	0.0	7.0	11.3	0.0
12/01/2024 23:45	6.9	78.0	0.0	7.4	11.2	3.5	12/01/2024 23:45	6.1	15.7	0.0	7.0	11.3	0.0