TECHNICAL MEMORANDUM

To:	**Ian McAllister, Ashleigh Crompton, Mike Champion, Jackie Boruch and Ryan Schucroft (Woodfibre LNG)**	**Date:**	**26 Oct 2024**
From:	**Cheng Kuang, Holly Pelletier and Patrick Mueller (Lorax)**	**Project #:**	**A633-8**
Subject:	**PE-111578 Weekly Discharge and Compliance Report #36 for October 13 - 19**		

Waste Discharge Authorization (WDA) Effluent Permit PE-111578 was issued by the British Columbia Energy Regulator (BCER) to Woodfibre LNG on February 9, 2024. The associated WDA discharge and compliance monitoring program is conducted by on-site Environmental Monitors (Roe Environmental) that are sub-contracted to the civil works contractor (LB LNG). Analytical samples are submitted by Roe Environmental to ALS Environmental in Burnaby, BC, for testing. Lorax Environmental provides water quality database management and WDA compliance reporting services to Woodfibre LNG.

This technical memorandum (Report #36) was prepared by Lorax Environmental and summarizes WDA monitoring conducted the week of October 13 - 19. Monitoring data and pending results from prior monitoring periods available at the time of reporting are tabulated and included as appendices to this memorandum. Report #36 has been prepared to meet the requirements specified in Condition 4.2 of PE-111578:

> "The Permittee shall summarize the results of the discharge and compliance monitoring program in a report that shall be submitted to the BCER weekly over the term of this permit. Reports must include suitable tabulated data. The table must include any applicable regulatory limits/guidelines e.g. permit limits, BC Water Quality Guidelines etc. Any exceedances of respective regulatory limits/guidelines must be clearly highlighted. Any missed sampling events/missing data must be identified with an explanation provided. Reporting frequency may be reduced upon a history of compliance and by written confirmation from the BCER. These reports shall be submitted to Waste.Management@bc-er.ca. A copy of the reports shall be provided to each First Nation consulted with regarding this subject permit, and also made publicly available on the Woodfibre LNG Environmental Reporting webpage."

The site layout is shown in Figure 1 at the end of this memorandum. Sedimentation pond photographs and other water management figures are included in Appendix A. Monitoring results are tabulated in Appendix B through Appendix H for contact water, treated water and receiving environment samples.

1. Current Conditions

The Construction Phase of the Woodfibre LNG Export Facility commenced in October 2023. Early stage civil works are ongoing, and these include site grading, levelling, overburden and bedrock excavation, and construction of contact water management facilities. Shoring works along the foreshore areas were initiated in December 2023, and in early 2024 construction of water management infrastructure commenced and has continued through the October 13 - 19 monitoring period. The East Wastewater Treatment Plant (WWTP) and East Sedimentation Pond are commissioned for operation and discharge since April 15, 2024. Pilot testing of the West WWTP was suspended September 25. The suspension was implemented for the temporary reconfiguration of the plant to allow pilot-scale evaluation of alternative treatment processes for improving treatment outcomes. Any process modifications that may result from the pilot-scale evaluation will be submitted to BCER for approval prior to full-scale implementation. Site waters that require treatment will continue to be directed to the East WWTP while the operation of the West WWTP is suspended.

The West Sedimentation Pond is commissioned for discharge since October 8, 2024. The non-contact and contact water conveyance ditches described in PE-111578 are partially constructed or will be constructed when site preparation activities are completed (e.g., site grading, bedrock excavation). Water management facilities that are completed or were under construction during the reporting period are shown in Figure 1. Established contact water collection and dewatering locations and photographs of the sedimentation ponds are shown in Appendix A, Figure 2 through Figure 5.

The non-contact water diversion ditch west of Mill Creek was upgraded and commissioned for use on April 7 and discharges to Mill Creek at station OUT-06 (Figure 1). Other pre-existing diversion ditches west of Mill Creek have been partially upgraded and discharge at station OUT-02. During heavy precipitation these ditches also convey non-contact water to station OUT-01. To facilitate the replacement of the East Creek discharge culvert, the lower reach of East Creek was temporarily diverted to the adjacent culvert, OUT-11, on September 17.

The East and West catchments conveyance ditches described in PE- 111578 were designed to transport non-contaminated contact water (i.e., stormwater) to the East and West sedimentation ponds and will be constructed following completion of site preparation activities (e.g., site grading, bedrock excavation) along the ditch lines. Until the ditches are operational, non-contaminated and contaminated contact waters within the catchments are managed to remain on site using a system of sumps and baker tanks for intermediate storage and are then directed to the East WWTP for treatment. During periods of heavy precipitation, non-contaminated contact water may also be directed to the East or West Sedimentation Ponds for settling of TSS prior to discharge. A flocculant-based TSS settling system (ESC system) has been in use at the West Sedimentation

Pond since September 25. Non-contaminated contact water influent to the pond is routed through the TSS settling system (ESC system).

A revised schedule is being developed to complete the installation of the East Sedimentation Pond permanent outfall structure and construction of the West Sedimentation Pond permanent outfall is underway. A temporary discharge system (i.e., pump, hosing and diffusor) is used to convey East and West Sedimentation Pond effluent to their respective authorized discharge locations when necessary for the discharge of excess water, and if the effluent water quality is compliant with the requirements of PE-111578.

Routine operation of the East WWTP continued during the monitoring period (October 13 - 19). The treatment process was upgraded on October 14 to enhance the treatment of copper, vanadium and zinc. Contaminated and potentially contaminated contact waters from the 1100, 1200, and 1300 Areas, concrete batch plant washout, and the East Barge Ramp stormwater sumps were directed to the East WWTP for treatment, as well as water recirculated from the East Sedimentation Pond (Appendix A, Figure 2). A total of 2,746 m^3 of treated WWTP effluent was discharged to the East Sedimentation Pond during the reporting period (October 13 - 19). Daily East WWTP effluent flows are provided in Appendix C (Table C-5).

From October 18 to 20 there was a strong fall storm with heavy rainfall on the south coast of British Columbia. Event-specific water management strategies were prepared in advance of the storm and were reviewed with site-staff responsible for water management and monitoring. The East and West Sedimentation Ponds were discharged on October 18 to maximize the capacity for storing and managing stormwater runoff from within the construction areas during the storm.

During the reporting period (October 13 - 19), a total of 3,438 and 607 m^3 of effluent was discharged from the East and West Sedimentation Ponds, respectively to Howe Sound on October 18 and 19. Due to stormwater runoff from high intensity rainfall overnight October 18 to 19, some construction contact water bypassed the West Sedimentation Pond on the morning of October 19, and discharged to Howe Sound in the vicinity of the floatel, the estimated bypass water volume was not available at the time of reporting and will be included in next week's report. The bypass event is tracked in Table 9.

Variable weather characterized the reporting period (October 13 - 19) culminating with storm conditions on October 18 and 19. Precipitation was recorded each day at the Woodfibre site weather station except on October 13 and 15. The total weekly precipitation amount was 158 mm with the majority of the rainfall (120.2 mm) received on October 18 and 19. The daily weather conditions are summarized in Table 1.

Table 1: Summary of Certified Project Area (CPA) Daily Weather Conditions.

Date	Precipitation (mm)	Max. Temp (°C)	Min. Temp (°C)	Weather Description
10-13-2024	0.0	17.3	8.2	Mix of Sun and Cloud
10-14-2024	23.6	15.0	11.1	Scattered Showers
10-15-2024	0.0	13.9	10.0	Overcast
10-16-2024	14.0	14.0	8.3	Scattered Showers
10-17-2024	0.2	13.2	5.3	Overcast
10-18-2024	46.0	9.3	5.9	Heavy Rain
10-19-2024	74.2	13.2	6.6	Heavy Rain

Note: Data retrieved from the Stantec Woodfibre site weather station.

2. Monitoring Summary

The PE-111578 authorized works were under construction during the October 13 - 19 monitoring period. Compliance monitoring stations are progressively established as water management infrastructure is completed. Monitoring is conducted by the on-site Environmental Monitors (Roe Environmental). Analytical samples are submitted by Roe Environmental to ALS Environmental in Burnaby, BC, for testing.

The following monitoring stations have been established (Figure 1):

- Creek water (SW-01, SW-02, SW-03, SW-04, SW-07).
- Howe Sound reference and initial dilution zone (IDZ) locations (WQR1, WQR2, IDZ-E1 and IDZ-E2).
- Non-contact diversion ditch outlets (OUT-01, OUT-02, OUT-06, and OUT-11). East Creek water was temporarily diverted to OUT-11 on September 17. Therefore, samples collected at OUT-11 are East Creek water that is also monitored at the inlet to the culvert (station SW-04). OUT-11 will not be monitored for the duration of the East Creek diversion through OUT-11.
- Contact water monitoring locations (WWTP-E-IN, WWTP-E-OUT, SP-E-IN-1, SP-E-IN-2, SP-E-OUT, SP-E-NE, SP-E-NW, WWTP-W-IN, WWTP-W-OUT, ESC-W-IN, SP-W-W, SP-W-E, and SP-W-OUT).

East Sedimentation Pond influent and effluent stations SP-E-NW and SP-E-NE, respectively, are in-pond stations that may be monitored in place of stations SP-E-IN-1, SP-E-IN-2 and SP-E-OUT when there is no influent to, or discharge from the East Sedimentation Pond. In-pond monitoring stations have also been established for the West Sedimentation Pond at locations SP-W-W and SP-W-E and are used for pond water quality monitoring proximal to the influent and effluent locations. Station ESC-W-IN is the influent station located at the inlet to the TSS settling system for the West Sedimentation Pond.

Water quality was monitored at stations IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1, WQR2, WWTP-E-IN, WWTP-E-OUT, SP-E-NE, SP-E-NW, SP-E-IN-1, SP-E-OUT, ESC-W-IN, SP-W-E, SP-W-W, and SP-W-OUT during the monitoring period (October 13 - 19) and at ad-hoc stations (W-Gangway, W-G-RE and RE-2) for contact water discharge that bypassed the West Sedimentation Pond. Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (October 13 - 19) were met with the following exceptions. Daily field parameters were not collected at SP-W-OUT on October 19. Weekly high frequency (5-in-30) monitoring was not conducted at stations IDZ-E1, IDZ-E2, and IDZ-W1 at 2 m below surface and at 2 m above the seafloor. Dioxins and furans were omitted from the suite of test parameters for the October 13 samples collected at WQR1 and WQR2. These items are tracked in Table 9.

Daily field parameters and a weekly analytical sample were not collected at influent stations SP-E-IN-1 and SP-E-IN-2 as the East Sedimentation Pond did not receive contact water inflows from October 13 to October 18. Daily field parameters were not collected at WWTP-E-IN and WWTP-E-OUT on October 18 since the East WWTP was not active at the time of monitoring. Daily field parameters and a weekly analytical sample were not collected at the influent and effluent stations of the West WWTP (WWTP-W-IN and WWTP-W-OUT, respectively) as the West WWTP was not active during the monitoring period.

Table 2: Summary of PE-111578 Monitoring Samples Collected October 13 - 19.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
October 13, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	P
	WWTP-E-OUT	East WWTP effluent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	WWTP-E-IN	East WWTP influent		
	WQR1-0.5	Reference site 1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Glycols, Oil and Grease.	M, W_4
	WQR1-2m	Reference site 1; 2 m below surface		
	WQR1-SF	Reference site 1; 2 m above the seafloor		
	WQR2-0.5	Reference site 2; 0.5 m below surface		
	WQR2-2m	Reference site 2; 2 m below surface		
	WQR2-SF	Reference site 2; 2 m above the seafloor		
October 14, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	P
	SP-E-NW [1]	East Sedimentation Pond, in-pond sample, represents influent quality	Field Parameters.	P
	WWTP-E-OUT	East WWTP effluent	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	D, W_1
	WWTP-E-IN	East WWTP influent		
October 15, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	P
	WWTP-E-OUT	East WWTP effluent	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	D, W_1
	WWTP-E-IN	East WWTP influent		
October 16, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	P
	SP-W-E [1]	West Sedimentation Pond, in-pond sample, represents effluent quality		
	WWTP-E-OUT	East WWTP effluent	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	D, W_1
	WWTP-E-IN	East WWTP influent		
October 17, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	P
	WWTP-E-OUT	East WWTP effluent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	WWTP-E-IN	East WWTP influent		
October 18, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	SP-W-E [1]	West Sedimentation Pond, in-pond sample, represents effluent quality		
	SP-W-W [1]	West Sedimentation Pond, in-pond sample, represents influent quality		
	SP-E-OUT	East Sedimentation Pond effluent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	SP-W-OUT	West Sedimentation Pond effluent		
	IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_3, W_4
	IDZ-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
	IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
October 19, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	SP-E-NW [1]	East Sedimentation Pond, in-pond sample, represents influent quality		
	SP-E-IN-1	East Sedimentation Pond influent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	SP-E-OUT	East Sedimentation Pond effluent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Glycols, Oil and Grease.	D, W_1
	ESC-W-IN	West Sedimentation Pond influent, located at the TSS settling system.	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	W-Gangway	Contact water at floatel west gangway	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	P
	WWTP-E-OUT	East WWTP effluent	Field Parameters.	D
	WWTP-E-IN	East WWTP influent		
	W-G-RE	Howe Sound at floatel west gangway	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	P
	RE-2	Howe Sound at OUT-02		
	IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_3
	IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
	IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface		
	WQR1-0.5	Reference site 1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	P
	WQR2-0.5	Reference site 2; 0.5 m below surface		

Notes:

Monitoring frequency requirements under PE-111578 are indicated as follows:

D – daily monitoring of field parameters at WWTP and sedimentation pond influent and effluent stations.

M – monthly monitoring for all parameters at WWTP, sedimentation pond and receiving environment stations.

W_1 – initial high frequency monitoring for physical parameters at WWTP and sedimentation pond influent and effluent stations.

W_2 – initial high frequency monitoring for all parameters at WWTP and sedimentation pond influent and effluent stations.

W_3 – initial high frequency monitoring for physical parameters at IDZ stations.

W_4 – spring and fall high frequency sampling for all parameters at receiving environment stations (5 samples collected over a 30-day period).

P - periodic monitoring for targeted parameters that is supplementary to PE-111578 requirements.

[1] In-Pond stations SP-E-NW and SP-E-NE may be monitored in place of stations SP-E-IN-2 and SP-E-OUT, respectively, when there is no influent to, or discharge from the East Sedimentation Pond at the time of monitoring. Similarly, the West Sedimentation Pond in-pond stations, SP-W-W and SP-W-E are monitored for water management purposes. The monitoring of in-pond stations is not a PE-111578 requirement and is conducted at the discretion of field staff.

3. Water Quality Results

3.1 Screening and Reporting Overview

Water quality and flow monitoring results are screened against field quality control (QC) criteria, benchmark values, operational minimum discharge objectives (MDOs) that the WWTPs are currently being operated to meet, PE-111578 discharge limits, as well as Canadian, Federal and BC water quality guidelines (WQGs). The screening results are discussed in Section 3. All water quality data are recorded in the Woodfibre LNG environmental monitoring database. However, for brevity, a sub-set of the results are presented in the weekly report appendices. Results are reported for parameters with a freshwater, estuarine or marine water quality guideline for the protection of aquatic life, parameters with a discharge limit, parameters of potential concern (*i.e.,* dioxins and furans) as well as other parameters that are relevant for water quality interpretation.

Canadian, Federal and BC WQGs are not specified for dioxins and furans. The general term "dioxins and furans" refers to chlorinated dibenzo-*p*-dioxins and chlorinated dibenzofurans. A sub-set of 17 polychlorinated dibenzo-*p*-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) are typically evaluated for toxicity and the individual parameter concentrations are converted to toxic equivalent (TEQ) values that are summed and reported as a single PCDD/F TEQ parameter. To address uncertainties for results reported as not detected, two PCDD/F TEQ values are reported. A "lower-bound PCDD/F TEQ" is calculated assuming a concentration of zero for results reported as not detected, therefore, if all 17 of the individual compounds in the sub-set are not detected the lower-bound PCDD/F TEQ will equal zero. An "upper-bound PCDD/F TEQ" is calculated assuming a concentration equal to the detection limit for results reported as not detected. These two parameters span the range of possible TEQs if one or more of the sub-set of 17 individual PCDDs and PCDFs are reported as not detected.

3.2 Summary of Reported Results

Field measurements and analytical results available at the time of reporting for samples collected during the monitoring period (October 13 - 19) and for other samples that have not been previously reported are listed below in Table 3. Testing for methylmercury, dioxins and furans typically requires up to four weeks to complete. Analytical results not available at the time of reporting will be included in future weekly reports when testing is completed. Reporting of results is pending for the following samples and parameters:

- SP-E-NE, WWTP-E-IN, and WWTP-E-OUT collected October 2 (dioxins and furans)
- SW-01 and SW-07 collected October 3 (methylmercury, dioxins and furans)

- SW-02, SW-03, and SW-04 collected October 4 (methylmercury, dioxins and furans)
- WQR1 and WQR2 collected October 6 (methylmercury, dioxins and furans)
- IDZ-W1 and IDZ-W2 collected October 9 (methylmercury, dioxins and furans)
- WWTP-E-IN and WWTP-E-OUT collected October 13 (methylmercury, dioxins and furans)
- WQR1 and WQR2 collected October 13 (field parameters and all analytical parameters)
- WWTP-E-IN and WWTP-E-OUT collected October 13 (methylmercury, dioxins and furans)
- SP-E-OUT and SP-W-OUT collected October 18 (methylmercury, dioxins and furans)
- IDZ-W1 and IDZ-W2 collected October 18 (methylmercury, dioxins and furans)
- SP-E-IN-1, SP-E-OUT, and ESC-W-IN collected October 19 (methylmercury, dioxins and furans)
- IDZ-E1, IDZ-E2, IDZ-W1, WQR1, WQR2, W-Gangway, W-G-RE and RE-02 collected October 19 (field parameters and all analytical parameters)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #36.

Sample	Description	Sampling Date	Parameters Reported
SW-01	Lower Reach of Woodfibre Creek (near the mouth)	September 28, 2024	Methylmercury.
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
SW-02	Upper Reach of Mill Creek (upstream of the third bridge)	September 29, 2024	Methylmercury.
SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
SW-07	Upstream Mill Creek (at the diversion inlet)		
SP-E-OUT	East Sedimentation Pond effluent	October 1, 2024	Dioxins and Furans.
WWTP-E-OUT	East WWTP effluent		
WWTP-E-IN	East WWTP influent		
SP-E-NE	East Sedimentation Pond, in-pond sample, represents effluent quality	October 2, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
WWTP-E-OUT	East WWTP effluent		
WWTP-E-IN	East WWTP influent		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		Methylmercury.
IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface		
IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
SW-01	Lower Reach of Woodfibre Creek (near the mouth)	October 3, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SW-07	Upstream Mill Creek (at the diversion inlet)		
SW-02	Upper Reach of Mill Creek (upstream of the third bridge)	October 4, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
OUT-01	Non-contact water diversion ditch outlet		Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium.
OUT-02	Non-contact water diversion ditch outlet		
WQR1-0.5	Reference site 1; 0.5 m below surface	October 6, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
WQR1-2m	Reference site 1; 2 m below surface		
WQR1-SF	Reference site 1; 2 m above the seafloor		
WQR2-0.5	Reference site 2; 0.5 m below surface		
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	October 9, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
IDZ-W1-2m	Howe Sound IDZ station W1; 2 m below surface		
IDZ-W1-SF	Howe Sound IDZ station W1; 2 m above the seafloor		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
IDZ-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
SP-E-OUT	East Sedimentation Pond effluent	October 11, 2024	Methylmercury.
SP-E-NE	East Sedimentation Pond, in-pond sample, represents effluent quality	October 13, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, and PAHs.
WWTP-E-OUT	East WWTP effluent		Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
WWTP-E-IN	East WWTP influent		
SP-E-NE	East Sedimentation Pond, in-pond sample, represents effluent quality	October 14, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, and PAHs.
WWTP-E-OUT	East WWTP effluent		
WWTP-E-IN	East WWTP influent		
SP-E-NE	East Sedimentation Pond, in-pond sample, represents effluent quality	October 15, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, and PAHs.
WWTP-E-OUT	East WWTP effluent		
WWTP-E-IN	East WWTP influent		
SP-E-NE	East Sedimentation Pond, in-pond sample, represents effluent quality	October 16, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, and PAHs.
SP-W-E	West Sedimentation Pond, in-pond sample, represents effluent quality		
WWTP-E-OUT	East WWTP effluent		
WWTP-E-IN	East WWTP influent		
SP-E-NE	East Sedimentation Pond, in-pond sample, represents effluent quality	October 17, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, and PAHs.
WWTP-E-OUT	East WWTP effluent		
WWTP-E-IN	East WWTP influent		
SP-E-OUT	East Sedimentation Pond effluent	October 18, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-W-OUT	West Sedimentation Pond effluent		
SP-E-IN-1	East Sedimentation Pond influent	October 19, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-E-OUT	East Sedimentation Pond effluent		
ESC-W-IN	West Sedimentation Pond influent, located at the TSS settling system		

3.3 East Sedimentation Pond

The East Sedimentation Pond influent and effluent results are screened against PE-111578 discharge limits. Parameters without a discharge limit are screened against Canadian, Federal and BC WQGs for the protection of marine water aquatic life. Influent water is not discharged from site, therefore only effluent water quality is assessed for exceedances. The analytical results, daily field parameters, discharge limits and WQGs are summarized in Table B-1 to Table B-5 (analytical results) and Table B-6 (field measurements) of Appendix B. Screening results are summarized below for parameter concentrations that exceeded PE-111578 discharge limits and WQGs in effluent discharged to Howe Sound (Table 4 and Table 5).

During the monitoring period (October 13 - 19), the East Sedimentation Pond received East WWTP treated effluent each day. The sedimentation pond also received contact water during the fall storm event described in Section 1; therefore, field measurements and an analytical sample were collected at station SP-E-IN-1 on October 19. Analytical results for the SP-E-IN-1 sample showed elevated levels of TSS, ammonia, nitrate, total cadmium, total copper, total lead, total mercury, total vanadium, total zinc, and benzo(a)pyrene as compared to discharge limits and WQGs (Appendix B, Table B-3).

Field measurements were taken daily at the in-pond effluent quality station (SP-E-NE) during the monitoring period (October 13 - 19). Field pH ranged from 5.8 to 6.8 at SP-E-NE, while dissolved oxygen ranged from 7.27 to 10.7 mg/L, and turbidity ranged from 1.42 to 154 NTU (Appendix B, Table B-6).

Water levels in the East Sedimentation Pond were drawn down on October 18 by pumping effluent to the discharge location SP-E-OUT. Field measurements and two analytical samples (duplicates) were collected at SP-E-OUT on October 18 while the pond was discharging, and monitoring results met PE-111578 discharge limits and WQGs. Due to high runoff flows resulting from extreme rainfall amounts, discharge to Howe Sound from the East Sedimentation Pond resumed at 3:10 pm on October 19. Field measurements and an analytical sample collected at SP-E-OUT on October 19 showed high turbidity (119 NTU) and multiple parameters that exceeded PE-111578 discharge limits and WQGs (Table 4 and Table 5), the exceedances are attributed to particle-bound forms of parameters associated with elevated TSS.

Analytical results for the samples collected at SP-E-NE on October 2 (as discussed in Weekly Report #34), and from October 13 to 17 were available at the time of reporting. Analytical results met WQGs except for hexavalent chromium in the samples collected on October 2, 14, 15, and total mercury in the samples collected on October 13, 14, 15, 17 (Appendix B, Table B-1 and Table B-2).

Methylmercury analytical results were available at the time of reporting for the SP-E-NE sample collected October 2, and for the SP-E-OUT sample collected October 11. The methylmercury concentration was 0.000152 and 0.000111 µg/L in the SP-E-NE and SP-E-OUT samples, respectively. The methylmercury concentration in the October 2 SP-E-NE and the October 11 SP-E-OUT samples are used to calculate total mercury long-term WQGs of 0.0033 µg/L and 0.0045 µg/L, respectively. Total mercury was reported as not detected (<0.005 µg/L) in the October 2 SP-E-NE and the October 11 SP-E-OUT samples. Therefore, because the true total mercury concentrations are not known and comparison to the long-term WQG was not conducted. The monitoring program will be revised to utilize a more sensitive test method for T-Hg as noted in Table 9.

Dioxins and furans analytical results were available at the time of reporting for the SP-E-OUT sample collected October 1 (as discussed in Weekly Report #34). The lower and upper bound PCDD/F TEQ concentrations were 0.0176 pg/L and 1.49 pg/L, respectively.

Table 4:
Summary of Parameters Exceeding PE-111578 Discharge Limits in Effluent Discharged from the East Sedimentation Pond (October 13 - 19)

Parameter	Units	Discharge Limit	N	N >WQG	Commentary
TSS	mg/L	75	1	1	TSS measured at station SP-E-OUT on October 19 (94.7 mg/L) was 1.3 times greater than the PE-111578 discharge limit under wet conditions (*i.e.*, ≥20 mm precipitation within a 24-hr period).
Total Copper	mg/L	0.0043	1	1	Total copper measured at station SP-E-OUT on October 19 (0.016 mg/L) was 3.7 times greater than the PE-111578 discharge limit.
Total Lead	mg/L	0.0035	1	1	Total lead measured at station SP-E-OUT on October 19 (0.0142 mg/L) was 4.0 times greater than the PE-111578 discharge limit.
Total Vanadium	mg/L	0.0081	1	1	Total vanadium measured at station SP-E-OUT on October 19 (0.0155 mg/L) was 1.9 times greater than the PE-111578 discharge limit.
Total Zinc	mg/L	0.0133	1	1	Total zinc measured at station SP-E-OUT on October 19 (0.0442 mg/L) was 3.3 times greater than the PE-111578 discharge limit.

N = number of samples.
Non-detect results are screened using the detection limit value.

Table 5:
Summary of Parameters Exceeding WQGs in Effluent Discharged from the East Sedimentation Pond (October 13 - 19)

Parameter	Units	WQG	N	N >WQG	Commentary
Nitrate	mg/L	3.7	1	1	Nitrate measured at station SP-E-OUT on October 19 (6.41 mg/L) was 1.7 times greater than the long-term WQG. The nitrate concentration met the short-term WQG (339 mg/L).
Total Cadmium	mg/L	0.00012	1	1	Total cadmium measured at station SP-E-OUT on October 19 (0.000149 mg/L) was 1.2 times greater than the long-term WQG.
Total Mercury	mg/L	0.000016	1	1	Total mercury measured at station SP-E-OUT on October 19 (0.0000308 mg/L) was 1.9 times greater than the long-term WQG.
Benzo(a)pyrene	mg/L	0.00001	1	1	Benzo(a)pyrene measured at station SP-E-OUT on October 19 (0.0000449 mg/L) was 4.5 times greater than the long-term WQG.

N = number of samples.
Non-detect results are screened using the detection limit value.

3.4 East Wastewater Treatment Plant

The East WWTP influent and effluent results are screened against the operational minimum discharge objectives (MDOs) which the WWTP is operated to meet. Contaminated contact water is directed to the WWTP influent, and it is expected that influent water is unlikely to meet the operational MDOs. The analytical results, daily field measurements, and the operational MDOs are summarized in Table C-1 through C-4 (analytical results) and Table C-5 (field measurements) of Appendix C. Screening results are summarized in for parameter concentrations that do not meet the operational MDOs in WWTP effluent (Table 6).

The East WWTP was upgraded on October 14 to improve the treatment of copper, vanadium and zinc, and received contact water as well as recirculated water from the East Sedimentation Pond each day during the monitoring period (October 13 - 19). The influent waters were treated by the East WWTP and discharged to the East Sedimentation Pond. Daily field measurements were collected at the influent (WWTP-E-IN) and effluent (WWTP-E-OUT) stations except on October 18 since the East WWTP was not active at the time of monitoring (Section 2).

Field pH ranged from 6.6 to 8.5 at WWTP-E-IN during the monitoring period (October 13 - 19), while dissolved oxygen ranged from 6.60 to 10.8 mg/L, and turbidity ranged from 1.12 to 211 NTU (Appendix C, Table C-5). Field pH, dissolved oxygen, and turbidity in the East WWTP effluent (WWTP-E-OUT) ranged from pH 5.5 to 9.0, 4.81 to 10.6 mg/L, and 0.00 to 4.87 NTU, respectively.

Analytical results for samples collected from the East WWTP influent and effluent stations on October 2 (as described in Weekly Report 34), and October 13 through October 17 were available at the time of reporting. Effluent quality monitored at WWTP-E-OUT achieved operational MDOs

for all parameters except total copper (October 13), total mercury (October 13, 16), total vanadium (October 15), total zinc (October 13, 16), and hexavalent chromium (October 2, 14) (Appendix C, Tables C-1 and C-2; Table 6).

Methylmercury analytical results were available at the time of reporting for the East WWTP influent and effluent samples collected on October 2 (as discussed in Weekly Report #34). The methylmercury concentration was 0.000043 and 0.000029 µg/L at WWTP-E-IN and WWTP-E-OUT, respectively.

Dioxins and furans analytical results were available at the time of reporting for the East WWTP influent and effluent samples collected on October 1 (as discussed in Weekly Report #34). The lower and upper bound PCDD/F TEQ concentrations were 0.0677 pg/L and 1.60 pg/L at WWTP-E-IN; and 0.0216 pg/L and 1.23 pg/L at WWTP-E-OUT, respectively.

Table 6:
Summary of Parameters Outside Operational Minimum Discharge Objectives (MDOs) at East WWTP Effluent Station WWTP-E-OUT (October 13 - 19).

Parameter	Units	MDO	N	N >MDO	Commentary
Total Copper	mg/L	0.0043	5	1	Total copper concentration in the October 13 (0.00441 mg/L) effluent sample was slightly above the MDO.
Total Mercury	mg/L	0.000016	5	2	Total mercury concentrations in the October 13 (0.0000645 mg/L) and October 16 (0.0000246 mg/L) samples were 4.0 and 1.5 times the MDO, respectively.
Total Vanadium	mg/L	0.0081	5	1	Total vanadium concentration in the October 15 (0.00867 mg/L) sample was 1.1 times the MDO.
Total Zinc	mg/L	0.0133	5	2	The total zinc concentrations in the October 13 (0.0686 mg/L) and October 16 (0.0229 mg/L) effluent samples were 5.2 and 1.7 times the MDO, respectively.
Hexavalent Chromium	mg/L	0.0015	5	1	Hexavalent chromium concentration in the October 14 sample (0.0111 mg/L) was 7.4 times the MDO.

MDO = minimum discharge objectives (MDOs) for WWTP effluent that are listed in Appendix B of the Construction Wastewater Treatment Plant Operations Environmental Protection Plan dated February 7, 2024.
N = number of samples.
Non-detect results are screened using the detection limit value.

3.5 West Sedimentation Pond

The West Sedimentation Pond influent and effluent results are screened against PE-111578 discharge limits. Parameters without a discharge limit are screened against Canadian, Federal and BC WQGs for the protection of marine water aquatic life. Influent water is not discharged from site, therefore only discharged effluent water quality is assessed for exceedances. The analytical results, discharge limits and WQGs are summarized in Table D-1 (in-pond and effluent analytical results), Table D-2 (influent analytical results) and Table D-3 (field measurements) of Appendix D.

Field measurements were collected at the in-pond stations on October 16 (SP-W-E) and October 18 (SP-W-E and SP-W-W). Field pH ranged from 8.0 to 9.4, while dissolved oxygen ranged from 8.11 to 10.4 mg/L, and turbidity ranged from 5.01 to 15.0 NTU (Appendix D, Table D-3).

Water levels in the West Sedimentation Pond were drawn down during the afternoon of October 18 by pumping effluent to the discharge location SP-W-OUT. Field measurements and two analytical samples (duplicates) were collected at SP-W-OUT on October 18 while the pond was discharging, and monitoring results met PE-111578 discharge limits and WQGs.

Analytical results were available at the time of reporting for samples collected at the pond influent station (ESC-W-IN) on October 19. Influent quality captured at ESC-W-IN showed elevates levels of TSS, total cadmium, total copper, total lead, total mercury, toral nickel, total vanadium, total zinc, benzo(a)pyrene, and chrysene compared to discharge limits and WQGs (Appendix D, Table D-2).

3.6 West Wastewater Treatment Plant

The West WWTP was not active during the monitoring period and pilot trials have been suspended since September 25. The suspension was implemented for the temporary reconfiguration of the plant to allow pilot-scale evaluation of alternative treatment processes for improving treatment outcomes. Any process modifications that may result from the pilot-scale evaluation will be submitted to BCER for approval prior to full-scale implementation. Field measurements and analytical samples were not collected during the monitoring period at the influent (WWTP-W-IN) and effluent (WWTP-W-OUT) stations.

3.7 Non-Contact Water Diversion Ditch Outlets

Non-contact water diversion ditch samples are screened against Canadian, Federal and BC WQGs for the protection of freshwater aquatic life. The analytical results, field parameters and WQGs are summarized in Appendix E.

East Creek was temporarily diverted to OUT-11 on September 17 to facilitate replacement of the OUT-12 culvert through which East Creek previously discharged. Only East Creek water is flowing through the OUT-11 culvert. East Creek is monitored at freshwater receiving environment station SW-04 and station OUT-11 is not monitored while diversion is in place.

Analytical results were available at the time of reporting for the October 4 non-contact water diversion ditch outlets samples (as discussed in Weekly Report #35) collected at station OUT-01 and OUT-02. Parameter concentrations met WQGs except pH, total aluminum, dissolved copper and dissolved zinc (Table 7). Field pH was below the lower limit of the WQG at OUT-01 (pH 5.9) and OUT-02 (pH 5.6). Total aluminum was above the calculated long-term WQG at OUT-01 (0.300 mg/L) and OUT-02 (0.191 mg/L). Dissolved copper was above the calculated short-term

and long-term WQGs at OUT-01 (0.00118 mg/L) and OUT-02 (0.00064 mg/L), and dissolved zinc was above the calculated long-term WQG at OUT-01 (0.0102 mg/L).

Table 7:
Summary of Parameters Exceeding WQGs at Non-Contact Water Diversion Ditch Outlets

Parameter	Units	WQG	N	N >WQG	Commentary
Field pH	s.u.	6.5-9.0	2	2	Field pH was below the lower limit of the WQG at OUT-01 (pH 5.9) and OUT-02 (pH 5.6) on October 4.
T-Al	mg/L	0.032 (OUT-01) 0.028 (OUT-02)	2	2	The total aluminum concentration measured at OUT-01 (0.300 mg/L) and OUT-02 (0.191 mg/L) on October 4 were 9.4 and 6.8 times greater than the calculated long-term WQG, respectively.
D-Cu	mg/L	0.00020	2	2	The dissolved copper concentration measured at OUT-01 (0.00118 mg/L) and OUT-02 (0.00064 mg/L) on October 4 were 5.9 and 3.2 times greater than the calculated WQG, respectively.
D-Zn	mg/L	0.0101	2	1	The dissolved zinc concentration measured at OUT-01 on October 4 (0.0102 mg/L) was 1.0 times greater than the calculated WQG.

N = number of samples.
Non-detect results are screened using the detection limit value.

3.8 Freshwater and Estuarine Water Receiving Environment

Freshwater and estuarine water receiving environment samples are screened against Canadian, Federal and BC WQGs for the protection of freshwater and estuarine aquatic life. Parameter concentrations above a WQG value, but within the range of values observed in the baseline monitoring program are considered to represent the natural condition of the water and are not flagged as exceedances. The analytical results, field parameters and WQGs are summarized in Appendix F (freshwater) and Appendix G (estuarine).

Analytical results were available at the time of reporting for freshwater and estuarine water samples (as discussed in Weekly Report #34) collected near the mouth of Woodfibre Creek (station SW-01) and upstream on Mill Creek (station SW-07) on October 3, and Mill Creek (station SW-02), the Mill Creek Estuary (station SW-03), and East Creek (station SW-04) on October 4.

Parameter concentrations met WQGs except pH, total aluminum, total iron, dissolved copper, and dissolved nickel in one or more samples. Field pH was below the lower limit of the applicable WQG at SW-02 (pH 6.3) and SW-03 (pH 6.2). Total aluminum was above the calculated WQG in samples collected from SW-02 (0.136 mg/L). Dissolved copper was above the calculated guideline at East Creek (0.00322 mg/L) and Mill Creek station SW-02 (0.000360 mg/L). Total iron and dissolved nickel were above the respective WQGs in samples collected from East Creek (1.14 mg/L and 0.00251 mg/L, respectively).

The observed pH and concentrations of total aluminum were within concentration ranges observed in the pre-construction baseline monitoring program for freshwater and estuarine water receiving

environment stations. The dissolved copper concentration observed in Mill Creek (station SW-02) on October 4 (0.00036 mg/L) was 1.05 times greater than the maximum concentration observed in the pre-construction baseline monitoring program at Mill Creek (0.00034 mg/L; Table 8); however, the uncertainty (± 0.00003 mg/L) of the reported result overlaps the maximum baseline concentration, therefore the reported dissolved copper result is not considered to be outside baseline conditions. The total iron, dissolved copper, and dissolved nickel concentrations observed at the East Creek station (SW-04) on October 4 were, respectively, 4.2, 3.1, and 7.3 times greater than the maximum concentrations observed in the pre-construction baseline monitoring program at East Creek (Table 8) and the review and assessment of these results is tracked in Table 9.

Methylmercury results were available at the time of reporting for the September 28 and 29 freshwater and estuarine water samples (as discussed in Weekly Report #33 and #34, respectively). The methylmercury concentrations were 0.000023, <0.000020 and 0.000038 µg/L in the Woodfibre Creek, Mill Creek, and East Creek samples, respectively. Methylmercury results met the WQG (0.004 µg/L). All freshwater and estuarine water samples were below the total mercury long-term WQG that is calculated using methylmercury results for corresponding samples.

Table 8:
Summary of Parameters Exceeding WQGs and Baseline Ranges at Freshwater Receiving Environment Stations

Parameter	Units	WQG	N	N >WQG	Commentary
T-Fe	mg/L	0.3	5	1	The total iron concentration measured in East Creek (SW-04) on October 4 (1.14 mg/L) was 3.80 times greater than the long-term WQG and 1.14 times greater than the short-term WQG. The total iron concentration at SW-04 was 4.17 times greater than the maximum concentration observed in the pre-construction baseline monitoring program (0.273 mg/L).
D-Cu	mg/L	0.00020 (SW-02) 0.00155 (SW-04)	5	2	The dissolved copper concentration measured in Mill Creek (SW-02) and in East Creek (SW-04) on October 4 (0.00036 mg/L and 0.00322 mg/L, respectively) were 1.8 and 2.1 times greater than the WQG, respectively. The dissolved copper concentration at SW-02 and SW-04 were 1.05 and 3.06 times greater than the maximum concentration observed in the baseline monitoring program (0.000342 mg/L and 0.00105 mg/L, respectively). The uncertainty (± 0.00003 mg/L) of the Mill Creek (SW-02) reported result overlaps the baseline concentration range and therefore the reported result is not considered to be outside baseline conditions.
D-Ni	mg/L	0.0025	5	1	The dissolved nickel concentration measured in East Creek (SW-04) on October 4 (0.00251 mg/L) was slightly above the WQG and 7.25 times greater than the maximum concentration observed in the pre-construction baseline monitoring program (0.000346 mg/L).

N = number of samples.
Non-detect results are screened using the detection limit value.

3.9 Marine Water Receiving Environment

Marine water receiving environment samples are screened against Canadian, Federal and BC WQGs for the protection of marine water aquatic life. Parameter concentrations above a WQG value, but within the range of values observed in the baseline monitoring program are considered to represent the natural condition of the water and are not flagged as exceedances. The analytical results, field parameters and WQGs are summarized in Appendix H.

Analytical results were available at the time of reporting for the October 6 marine water receiving environment reference station samples collected at WQR1 and WQR2 and the October 9 samples collected at IDZ-W1 and IDZ-W2 (as discussed in Weekly Report #34) at 0.5 and 2 m below the water surface and 2 m above the seafloor. Parameter concentrations met WQGs except dissolved oxygen and total boron in one or more samples. Dissolved oxygen was below the lower limit of the WQG (>8 mg/L) in the WQR1 and WQR2 samples collected on October 6 and in the IDZ-W1 and IDZ-W2 samples collected October 9 at 2 m above the seafloor. The total boron concentrations measured in the WQR1, WQR2, IDZ-W1, and IDZ-W2 samples were above the long-term WQG (1.2 mg/L), except the sample collected from IDZ-W1 at 0.5 m below the water surface (0.83 mg/L). The dissolved oxygen and total boron concentrations were within the concentration ranges observed in the baseline monitoring program for the marine reference stations.

Detection limits for anions, total and dissolved metals were raised for samples collected at WQR1 and WQR2 on October 6 and, in some cases, the raised detection limits were above the respective WQGs. Additionally, detection limits for anions were raised for samples collected at IDZ-W1 and IDZ-W2 on October 9, resulting in detection limits for fluoride above the WQG. The raised detection limits were due to incorrect analytical methods used for testing. An investigation is underway and is tracked in Table 9.

Methylmercury analytical results were available at the time of reporting for the marine water receiving environment stations IDZ-E1 and IDZ-E2 collected on October 2 (as discussed in Weekly Report #34) at 0.5 and 2 m below the water surface and 2 m above the seafloor. Samples were not collected at IDZ-E2 at 2 m above the seafloor on October 2 due to equipment malfunction on that day. The methylmercury concentrations at IDZ-E1 and IDZ-E2 were <0.000020 µg/L in all samples. The methylmercury concentrations were within the concentration ranges observed in the pre-construction baseline monitoring program for the marine reference stations. All samples collected at IDZ-E1 and IDZ-E2 on October 2 were below the lowest applicable total mercury long-term WQG.

4. Quality Control

This section presents the results of the quality control (QC) evaluation for the PE-111578 weekly report (Table 9). The evaluation includes a review of field and lab QC, completeness of the weekly

report (*e.g.*, pending data), completeness of the monitoring program, confirmation of recordkeeping, evaluation of compliance and review of water management activities. Items flagged for follow-up in Section 3 are also tracked in Table 9. Any items flagged for follow-up are carried forward to future reports until they are closed.

Table 9: Weekly Report QC Evaluations and Ongoing Items

QC Procedure	Observation	Investigation/Resolution
Reporting Period (October 13 - 19, Report #36)		
Monitoring Program Evaluation	PE-111578 contact water, non-contact water and initial dilution zone monitoring stations have not been fully established.	The PE-111578 authorized works were under construction during the reporting period. The East Sedimentation Pond and East WWTP are completed. The West Sedimentation Pond is completed. Temporary outfalls are used for both ponds until the permanent structures are completed. West WWTP pilot testing is suspended since September 25, and the plant has been repurposed to evaluate alternative treatment processes. The non-contact water diversion ditch that discharges at station OUT-06 has been completed, other diversion ditches are being upgraded or are not yet constructed. The lower reach of East Creek is temporarily diverted through OUT-11 outfall since September 17 to facilitate replacement of the East Creek outfall culvert (OUT-12). This item remains open.
Monitoring Program Evaluation	Sampling was not conducted as prescribed in PE-111578 on occasion.	Daily field parameters were not collected at SP-W-OUT on October 19. Weekly high frequency (5-in-30) monitoring was not conducted at stations IDZ-E1, IDZ-E2, and IDZ-W1 at 2 m below surface and 2 m above the seafloor. Dioxins and furans were omitted from the suite of test parameters for the October 13 samples collected at WQR1 and WQR2. A review of monitoring requirements with the QEP and site staff will be completed. This item remains open.
Non-compliant Discharge	Non-compliant discharge from the East Sedimentation Pond and bypass of the West Sedimentation Pond on October 19.	East Sedimentation Pond discharge exceeded discharge limits on October 19 (Table 4). Site contact water bypassed the West Sedimentation Pond and discharged to Howe Sound on October 19. The exceedances and bypass are attributed to high intensity rainfall associated with the October 18 – 20 storm event. Review of these non-compliances is underway, and outcomes will be reported to BCER. This item remains open.
Data QC	Raised detection limits for marine reference station samples collected October 6 and IDZ-W samples collected October 9.	Detection limits for anions, total and dissolved metals were raised for samples collected at WQR1 and WQR2 on October 6 and, in some cases, the raised detection limits were above the respective WQG. Samples were misidentified as freshwater samples rather than seawater upon submission to the laboratory. This was an oversight by field staff. Detection limits for anions were raised for samples collected at IDZ-W1 and IDZ-W2 on October 9, resulting in detection limits for fluoride to be above the WQG. The incorrect analytical method was used at the laboratory. Follow-up with the laboratory is underway. This item remains open.
Potential Project Influence on Receiving Environment	Total iron, dissolved copper and dissolved nickel at East Creek were above concentration ranges observed in the pre-construction baseline program.	The total iron concentration observed at the East Creek station (SW-04) on September 28 was 1.3 times the maximum concentration observed in the pre-construction baseline monitoring program at East Creek. Reanalysis for total iron has been completed and confirmed the reported results. Total iron, dissolved copper, and dissolved nickel concentrations observed at the East Creek station (SW-04) on October 4 were 4.2, 3.1, and 7.3 times greater than the maximum concentrations observed in the pre-construction baseline monitoring program at East Creek, respectively. Follow-up will be conducted with QEP and site staff This item remains open.
Pending Data	Analytical results were not reported for samples collected October 13 and 19. Methylmercury, dioxins and furans results were not reported for samples collected October 13, 18, and 19.	Analytical results for marine receiving environment samples collected October 13 and 19 were not complete at the time of Report #36 preparation. Methylmercury, dioxins and furans results for samples collected October 13, 18, and 19 were not complete at the time of Report #36 preparation. Testing of methylmercury, dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
Ongoing Items from Previous Weekly Reports		
Report #32: Pending Data	Analytical results were not reported for samples collected September 18, 19 and 21.	Available analytical results for samples collected September 18 and 21 are discussed in Sections 3.9 and 3.6 of Report #33, respectively. Analytical results for samples collected September 19 and methylmercury results are discussed in Sections 3.4 and 3.6 of Report #35. Analytical results for dioxins and furans were not complete at the time of Report #36 preparation. Testing of dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
Report #33: Pending Data	Analytical results for samples collected September 24, 27 and 28 were not reported.	Analytical results for samples collected September 24, 27, and 28 are discussed in Sections 3.3, 3.4, 3.5 and 3.9 of Report #34. Analytical results for samples collected September 28 from freshwater receiving environment stations (SW-01 and SW-04) are discussed in Section 3.8 of Report #35 and methylmercury results are discussed in Section 3.8 of Report #36. Analytical results for dioxins and furans were not complete at the time of Report #36 preparation for the SW-01 and SW-04 samples collected September 28. Testing of dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
	Methylmercury, dioxins and furans results were not reported for samples collected September 23.	Methylmercury results are discussed in Section 3.4 of Report #35. Analytical results for dioxins and furans were not complete at the time of Report #36 preparation for samples collected September 23. Testing of dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
Report #34: Pending Data	Analytical results for samples collected September 29, October 2, 3, and 4 were not reported. Dioxins and furans results for samples collected October 1 were not reported.	Available analytical results for samples collected September 29 and IDZ samples collected October 2 are discussed in Sections 3.8 and 3.9, respectively, of Report #35. Available analytical results for samples collected October 2, 3, and 4 are discussed in Sections 3.3, 3.4, 3.7, 3.8, and 3.9 of Report #36. Methylmercury, dioxin and furan results for samples collected October 3 and 4 were not complete at the time of Report #36 preparation. Dioxins and furans results for samples collected October 1 are discussed in Sections 3.3 and 3.4 of Report #36. Testing of methylmercury, dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
Report #35: Monitoring Program Evaluation	Sampling was not conducted as prescribed in PE-111578 on occasion.	Field measurements were not collected as per the monitoring requirements in PE 111578 at the West WWTP effluent station (WWTP-E-OUT; October 10) and at SP-E-OUT (October 12) during the monitoring period. An analytical sample was collected at WWTP-E-OUT on October 10; however, daily field parameters were not collected due to a field probe malfunction. Field parameters and an analytical sample were collected at SP-E-OUT on October 11; however, field staff were unable to collect the daily field measurements at SP-E-OUT prior to ceasing discharge on October 12 due to a field probe malfunction. Daily field parameters were collected from the in-pond effluent quality station (SP-E-NE). A new field probe has been implemented in the monitoring program as resolution for the field probe malfunction. This item is closed.
Report #35: Data QC	Weekly Report #32 indicated that total mercury was above the calculated long-term WQG in the sample collected September 8 and 17 at SP-E-OUT.	The total mercury long-term WQG is calculated using the methylmercury result for the sample. Weekly Report #32 (Table 4) indicated that total mercury was not detected; however, after receipt of the methylmercury result from which the sample specific T-Hg WQG is calculated, it was determined that the detection limit was above the calculated long-term WQG for total mercury. The true total mercury concentration was not known and therefore, comparison to the long-term WQG could not be completed. This is considered a quality control issue. Follow-up with the lab indicates a specialized testing for a lower detection limit can be provided though it will take longer to complete this testing compared to the routine test method. The monitoring program will be revised to utilize a more sensitive test method for T-Hg. This item remains open.
Report #35: Pending Data	Analytical results for samples collected October 6, 9, 10, and 12 were not reported. Methylmercury, dioxins and furans results for samples collected October 8 and 11 were not reported.	Available analytical results for samples collected October 6 and 9 are discussed in Section 3.9 of Report #36. Methylmercury results for samples collected October 11 are discussed on Section 3.3 of Report #36. Analytical results for samples collected October 10 and 12 were not complete at the time of Report #36 preparation. Methylmercury, dioxins and furans results for samples collected October 6 and 9 and dioxins and furans results for samples collected October 8 and October 11 were not complete at the time of Report #36 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #35: Potential Non-Compliant Discharge	Potentially non-compliant effluent was discharged from the East Sedimentation Pond on October 12.	Discharge occurred from 11:40 to 14:40 on October 12. An analytical sample was collected from the in-pond effluent quality station SP-E-NE at 15:00, after discharge had ceased and was non-compliant for T-Zn at 1.3 times the discharge limit. Review of this non-compliance is underway, and outcomes will be reported to BCER. This item remains open.

Notes:

Result QA/QC screening includes the evaluation of field and lab QC results, comparison of total and dissolved metal results and review for modified detection limits.
Pending data are outstanding results from monitoring samples reported in the current or previous weekly reports.
Monitoring program evaluation is an assessment of the completeness of the monitoring program compared to PE-111578 specified or implied requirements.
WWTP performance evaluation is an assessment of WWTP effluent quality compared to operational MDOs.
Data QC indicates an evaluation of data trends or inter-parameter relationships that suggest a test result may not be representative of water quality at the time of monitoring.
Non-compliant discharge indicates exceedance of a discharge limit or a discharge that bypasses the sedimentation pond discharge location.
Potential project influence is an assessment that water quality at creek and Howe Sound baseline stations are above the baseline concentration range and may indicate project influence at these stations.

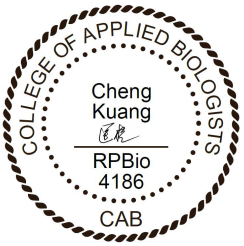
5. Closure

This weekly report is a desktop review by Lorax of the PE-111578 discharge and compliance monitoring program records, reports and results provided by Woodfibre LNG and prime contractor McDermott International and their sub-contractors. The records reviewed and analyzed by Lorax include ALS Environmental laboratory test reports and site reports (from Roe Environmental, LB LNG, McDermott and Woodfibre LNG). Verbal or electronic communications between Lorax, and Roe Environmental, LB LNG, McDermott, and Woodfibre LNG staff are conducted as needed to confirm the information presented in this report.

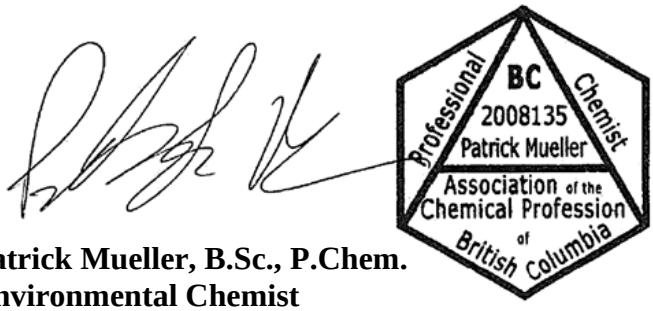
Regards,

LORAX ENVIRONMENTAL SERVICES LTD.

Holly Pelletier, B.Sc., GIT.
Environmental Geoscientist



Cheng Kuang, M.Sc., RPBio.
Environmental Scientist



Patrick Mueller, B.Sc., P.Chem.
Environmental Chemist

World Imagery: District of Squamish, Maxar. Additional imagery provided by McDermott International captured October 6th, 2024.

LEGEND

- Freshwater Monitoring Station
- Marine Water Monitoring Station
- Certified Project Area
- Watercourse
- Non Contact Ditch (Under Construction)
- Outfall
- Clean Water Diversion Discharge Station
- Sedimentation Pond Monitoring Stations (Water Quality)
- Wastewater Treatment Plant (WWTP)

DATE SAVED:	Oct 24, 2024
DRAWN BY:	DM
REVIEWED:	PM
VERSION:	1

Coordinate System: NAD 1983 UTM Zone 10N
Projection: Transverse Mercator
Datum: North American 1983
Units: Metre

1:6,000

0 50 100 150 Metres

CLIENT: Woodfibre LNG

LORAX ENVIRONMENTAL

PROJECT:

Woodfibre LNG Project Construction Phase

TITLE:
Completed or Under Construction Water Management Facilities and Established PE-111578 Monitoring Stations (October 19, 2024)

PROJECT #: A633-7

FIGURE: 1

P:\@Drafting\Woodfibre\Drafting Figures\APRX\WLNG Construction Phase 2024\WLNG Construction Phase 2024 - Weekly Reporting.aprx Figure 1 Monitoring and Compliance Locations

Appendix A: East and West Catchment Photographs

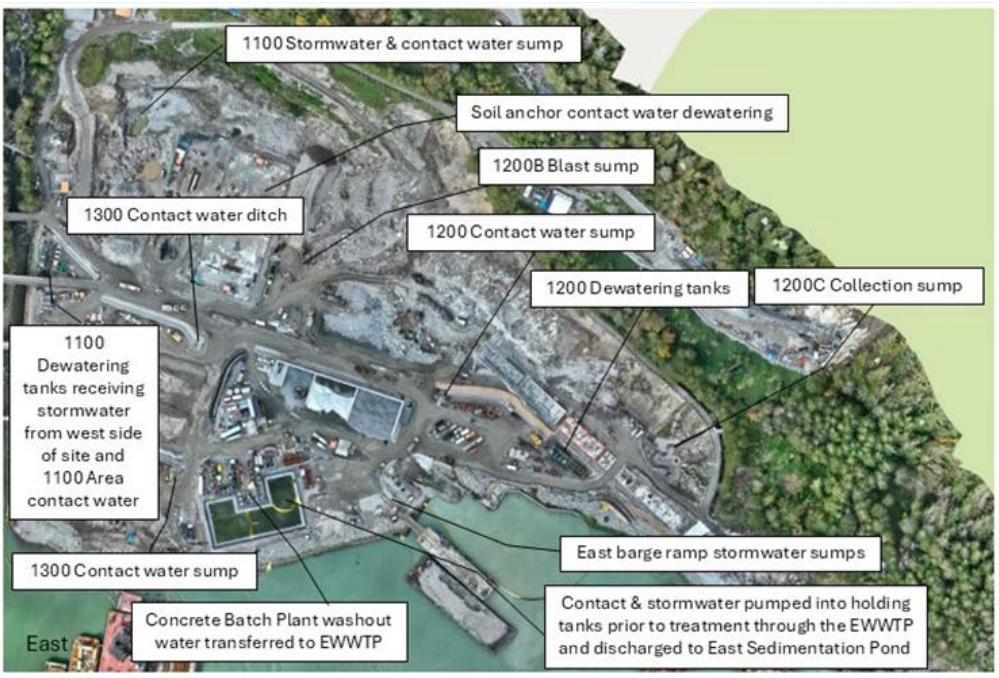


Figure 2: East Catchment dewatering areas. Contact water from the 1100, 1200, and 1300 Areas was directed to the East WWTP during the monitoring period (October 13 - 19). Contact water from the 1100, 1200, and 1300 Areas was directed to the East Sedimentation Pond on October 19.

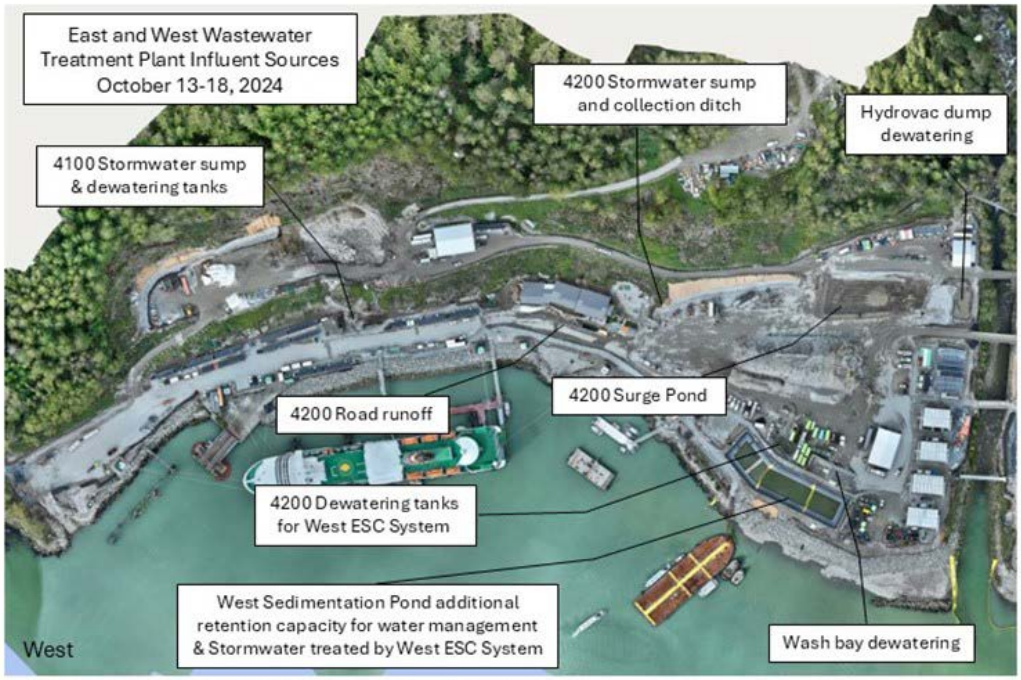


Figure 3: West Catchment dewatering areas. Contact water from the 4100 and 4200 Areas was directed to the West Sedimentation Pond during the monitoring period (October 13 - 19).

Figure 4: Aerial view of the East Sedimentation Pond showing the placement of two sediment curtains (October 17, 2024). The East WWTP is located on the left side of the pond.

Figure 5: Aerial view of the West Sedimentation Pond showing the placement of two sediment curtains (October 19, 2024). The West WWTP is located on the right side of the pond.

Appendix B: East Sedimentation Pond Results

Table B-1: Summary of East Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	East Sedimentation Pond			
					In-Pond at Effluent Location	In-Pond at Effluent Location	In-Pond at Effluent Location	In-Pond at Effluent Location
					SP-E-NE	SP-E-NE	SP-E-NE	SP-E-NE
					VA24C6264-003	VA24C7397-001	VA24C7399-003	VA24C7519-003
		Long Term	Short Term		2024-10-02 16:40	2024-10-13 14:26	2024-10-14 8:25	2024-10-15 9:37
General Parameters								
pH - Field	pH units	- [2]	-	5.5 - 9.0	7.3	6.4	6.4	6.6
Conductivity - Field	µS/cm	-	-	-	1108	1746	1230	1227
Temperature - Field	°C	-	-	-	15.2	15.2	14.1	13.4
Salinity - Field	ppt	-	-	-	0.69	1.11	0.79	0.8
Turbidity - Field	NTU	-	-	-	1.65	6.21	7.66	5.59
TSS	mg/L	-	-	25[6]	3.5	<3.0	4.3	5.6
Dissolved Oxygen - Field	mg/L	>=8	-	-	9.92	10.23	9.33	***7.84***
Anions and Nutrients								
Sulphate	mg/L	-	-	-	57.9	731	497	472
Chloride	mg/L	-	-	-	26.5	35.5	32.3	39.6
Fluoride	mg/L	-	1.5	-	0.146	<0.400	<0.200	<0.200
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	0.0778	0.0284	0.0188	0.873
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.592	0.0234	0.0373	0.0658
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	***5.07***	2.7	1.97	2.13
Total Metals								
Aluminum, total (T-Al)	mg/L	-	-	-	0.169	0.901	0.921	0.698
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00441	0.00248	0.00257	0.00333
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00333	0.00188	0.00208	0.00294
Barium, total (T-Ba)	mg/L	-	-	-	0.0124	0.00896	0.00835	0.01
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000100	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	-	-	0.03	0.073	0.07	0.099
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000100	<0.0000300	<0.0000600	<0.0000400
Chromium, total (T-Cr)	mg/L	-	-	-	0.00226	<0.00100	0.00918	0.00509
Cobalt, total (T-Co)	mg/L	-	-	-	0.00062	0.00042	0.00045	0.00051
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00183	0.00231	0.00344	0.00314
Iron, total (T-Fe)	mg/L	-	-	-	0.113	0.217	0.38	0.336
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000222	0.000542	0.0012	0.0013
Manganese, total (T-Mn)	mg/L	-	-	-	0.00396	0.0144	0.0175	0.0589
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	<0.0000050	***0.0000317***	***0.0000349***	***0.0000165***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0709	0.071	0.142	0.115
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100	<0.00100	<0.00100	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000502	0.000418	0.000525	0.000446
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	<0.000020	<0.000020	<0.000020	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	<0.000020	<0.000020	<0.000020	0.000042
Uranium, total (T-U)	mg/L	-	-	-	0.0202	0.0231	0.0228	0.0146
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00622	0.00539	0.00559	0.00506
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0060	0.0096	0.012	0.0101
Hexavalent Chromium, total	mg/L	0.0015	-	-	***0.00192***	<0.00050	***0.00642***	***0.00245***
Dissolved Metals								
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000100	<0.0000350	<0.0000600	0.0000289
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00159	0.00166	0.00222	0.0021
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.020	<0.020	0.022	0.032
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000100	<0.000100	<0.000100	0.00011
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0025	0.0118	0.0106	0.0491
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100	<0.00100	<0.00100	0.00056
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0764	0.0896	0.0708	0.112
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00587	0.00461	0.00446	0.00443
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0025	0.0053	0.0059	0.0043
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/L	0.006	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)								
Benzene	mg/L	0.11	-	-	<0.00050	-	-	-
Ethylbenzene	mg/L	0.25	-	-	<0.00050	-	-	-
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	-	-	-
Styrene	mg/L	-	-	-	<0.00050	-	-	-
Toluene	mg/L	0.215	-	-	<0.00040	-	-	-
Total Xylenes	mg/L	-	-	-	<0.00050	-	-	-
Chlorobenzene	mg/L	0.025	-	-	<0.00050	-	-	-
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	-	-	-

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-11578 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged during the monitoring period (October 13 - 19) on October 18 and October 19.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for Wet Conditions. Wet Conditions applied October 18 – 19.

Table B-2: Summary of East Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	East Sedimentation Pond			
					In-Pond at Effluent Location	In-Pond at Effluent Location	Effluent	Effluent
					SP-E-NE	SP-E-NE	SP-E-OUT	SP-E-OUT-Dup
					VA24C7665-003	VA24C7956-001	VA24C7958-001	VA24C7958-002
		Long Term	Short Term		2024-10-16 9:00	2024-10-17 11:20	2024-10-18 15:58	2024-10-18 16:00
General Parameters								
pH - Field	pH units	- [2]	-	5.5 - 9.0	6.1	6.0	6.0	6.0
Conductivity - Field	µS/cm	-	-	-	1135	1544	1334	1334
Temperature - Field	°C	-	-	-	13.2	13.4	12.1	12.1
Salinity - Field	ppt	-	-	-	0.74	1.02	0.91	0.91
Turbidity - Field	NTU	-	-	-	3.19	1.42	1.68	1.68
TSS	mg/L	-	-	25 or 75[6]	4.2	<3.0	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	-	-	***7.65***	***7.27***	9.41	9.41
Anions and Nutrients								
Sulphate	mg/L	-	-	-	389	758	745	739
Chloride	mg/L	-	-	-	31.2	32.3	28.1	28.0
Fluoride	mg/L	-	1.5	-	0.173	<0.200	<0.200	<0.200
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	0.0829	0.0545	0.0313	0.0313
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.0681	0.0254	0.0281	0.0268
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	2.27	2.02	1.82	1.80
Total Metals								
Aluminum, total (T-Al)	mg/L	-	-	-	0.395	0.361	0.347	0.338
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00318	0.00269	0.00255	0.00254
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00304	0.00257	0.00203	0.00195
Barium, total (T-Ba)	mg/L	-	-	-	0.00776	0.00849	0.00864	0.00854
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000100	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	-	-	0.113	0.102	0.093	0.094
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000350	<0.0000400	<0.0000300	<0.0000300
Chromium, total (T-Cr)	mg/L	-	-	-	0.00196	0.00134	0.00101	0.00105
Cobalt, total (T-Co)	mg/L	-	-	-	0.00045	0.00048	0.00051	0.00052
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00245	0.0023	0.00248	0.00232
Iron, total (T-Fe)	mg/L	-	-	-	0.177	0.228	0.246	0.246
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000672	0.000811	0.000864	0.000826
Manganese, total (T-Mn)	mg/L	-	-	-	0.0592	0.073	0.0705	0.07
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.0000104	***0.0000188***	0.0000156	0.0000151
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0786	0.068	0.0568	0.056
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100	<0.00100	<0.00100	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000333	0.00034	0.000298	0.00043
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	<0.000020	<0.000020	<0.000020	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000065	0.000081	0.000071	0.000069
Uranium, total (T-U)	mg/L	-	-	-	0.0108	0.00854	0.00739	0.00701
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00556	0.00529	0.0043	0.00407
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0060	0.0069	0.0100	0.0102
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00075	<0.00050	<0.00050	<0.00050
Dissolved Metals								
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000300	<0.0000250	<0.0000300	<0.0000350
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00203	0.00198	0.00208	0.00202
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.059	0.047	0.094	0.094
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000197	0.000152	0.000341	0.000328
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.058	0.0658	0.0669	0.0664
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100	<0.00100	0.00052	0.00052
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.113	0.166	0.181	0.179
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00478	0.00429	0.00347	0.0035
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.004	0.0053	0.0094	0.0087
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/L	0.006	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)								
Benzene	mg/L	0.11	-	-	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	-	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	-	-	<0.00050	<0.00050

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-11578 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged during the monitoring period (October 13 - 19) on October 18 and October 19.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions. Wet Conditions applied October 18 – 19.

Table B-3: Summary of East Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	East Sedimentation Pond	
					In-Pond at Influent Location	Effluent
					SP-E-IN-1	SP-E-OUT
					VA24C8024-001	VA24C8024-002
		Long Term	Short Term		2024-10-19 12:34	2024-10-19 16:31
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.5	6.4
Conductivity - Field	µS/cm	-	-	-	217	503
Temperature - Field	°C	-	-	-	9.9	10.4
Salinity - Field	ppt	-	-	-	- [7]	0.33
Turbidity - Field	NTU	-	-	-	261.15	119.2
TSS	mg/L	-	-	75 [6]	226	94.7
Dissolved Oxygen - Field	mg/L	>=8	-	-	11.11	10.62
Anions and Nutrients						
Sulphate	mg/L	-	-	-	24.9	205
Chloride	mg/L	-	-	-	7.66	14.2
Fluoride	mg/L	-	1.5	-	0.15	0.143
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	***3.07***	1.27
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	1.33	0.583
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	***11.9***	***6.41***
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	15.8	7.27
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00174	0.00195
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00556	0.00358
Barium, total (T-Ba)	mg/L	-	-	-	0.125	0.061
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000211	0.000114
Boron, total (T-B)	mg/L	1.2	-	-	0.035	0.053
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	***0.000216***	***0.000149***
Chromium, total (T-Cr)	mg/L	-	-	-	0.00935	0.00511
Cobalt, total (T-Co)	mg/L	-	-	-	0.00576	0.00286
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0332	0.016
Iron, total (T-Fe)	mg/L	-	-	-	11.8	5.57
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.0275	0.0142
Manganese, total (T-Mn)	mg/L	-	-	-	0.312	0.166
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.0000678***	***0.0000308***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.03	0.0431
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00626	0.00331
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000539	0.000495
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	0.000359	0.000158
Thallium, total (T-Tl)	mg/L	-	-	-	0.000115	0.000067
Uranium, total (T-U)	mg/L	-	-	-	0.0168	0.0121
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.0287	0.0155
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.0714	0.0442
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00144	0.00082
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000100	<0.0000350
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00947	0.00355
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.117	0.058
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000088	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0112	0.0371
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.118	0.102
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00327	0.00312
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010	0.0044
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	-	0.000254	0.000092
Acridine	mg/L	-	-	-	<0.000055	<0.000028
Anthracene	mg/L	-	-	-	<0.000078	0.000032
Benz(a)anthracene	mg/L	-	-	-	0.000101	0.000049
Benzo(a)pyrene	mg/L	0.00001	-	-	***0.0000771***	***0.0000449***
Chrysene	mg/L	0.0001	-	-	0.000092	0.000045
Fluoranthene	mg/L	-	-	-	0.000347	0.000145
Fluorene	mg/L	0.012	-	-	0.000444	0.000146
1-methylnaphthalene	mg/L	0.001	-	-	0.000283	0.000088
2-methylnaphthalene	mg/L	0.001	-	-	0.000235	0.000075
Naphthalene	mg/L	0.001	-	-	0.00085	0.000254
Phenanthrene	mg/L	-	-	-	0.000565	0.000192
Pyrene	mg/L	-	-	-	0.000353	0.000147
Quinoline	mg/L	-	-	-	0.000428	0.000207
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	0.00128	0.00054
Ethylbenzene	mg/L	0.25	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00050
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	- [8]
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	- [8]

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-11578 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged during the monitoring period (October 13 - 19) on October 18 and October 19.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions. Wet Conditions applied October 18 – 19.
[7] Field records for salinity at station SP-E-IN-1 on October 19 are not available due to a field probe malfunction.
[8] Testing for chlorobenzene and 1,2,-dichlorobenzene was not condcuted for the SP-E-OUT sample collected October 19.

Table B-4: Summary of East Sedimentation Pond Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	East Sedimentation Pond	
		In-Pond at Effluent Location	Effluent
		SP-E-NE	SP-E-OUT
		VA24C6264-003	VA24C7317-001
		2024-10-02	2024-10-11
Methylmercury	**µg/L**	0.000152	0.000111

Table B-5: Summary of East Sedimentation Pond Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	East Sedimentation Pond
		Effluent
		SP-E-OUT
		L2757611-4
		2024-10-01
Lower Bound PCDD/F TEQ	**pg/L**	0.0176
Upper Bound PCDD/F TEQ	**pg/L**	1.49

Notes:
PCDD = polychlorinated dibenzodioxins (dioxins)
PCDF = polychlorinated dibenzofurans (furans)
TEQ = toxic equivalency
Lower bound PCDD/F TEQ is the sum of the toxic equivalency results for the individual PCDD/F parameters. Non-detectable parameters are assigned a value of zero (0).
Upper bound PCDD/F TEQ is the sum of the toxic equivalency results for the individual PCDD/F parameters. Non-detectable parameters are assigned the value of the detection limit.

Table B-6: Summary of East Sedimentation Pond Daily Field Parameters October 13 - 19.

Parameter		Temperature	Dissolved Oxygen (DO)	Salinity	Turbidity	pH	Conductivity	Visibility of Sheen	Total Daily Discharge from the East Sedimentation Pond to Howe Sound
Unit		**°C**	**mg/L**	**ppt**	**NTU**	**s.u.**	**µS/cm**		**m^3**
PE-111578 Discharge Limit		-	-	-	-	5.5 - 9.0	-	-	-[3]
Lowest Applicable Guideline [1]		-	>=8	-	-	-[2]	-	-	-
Station ID [4]	**Date**								
SP-E-NE	2024-10-13 14:26	15.2	10.23	1.11	6.21	6.4	1746	No	0
SP-E-NE	2024-10-14 8:25	14.1	9.33	0.79	7.66	6.4	1230	No	0
SP-E-NW	2024-10-14 8:36	13.1	***6.24***	0.71	24.9	7.5	1093	No	
SP-E-NE	2024-10-15 9:37	13.4	***7.84***	0.80	5.59	6.6	1227	No	0
SP-E-NE	2024-10-16 9:00	13.2	***7.65***	0.74	3.20	6.1	1135	No	0
SP-E-NE	2024-10-17 11:20	13.4	***7.27***	1.02	1.42	6.0	1544	No	0
SP-E-NE	2024-10-18 6:50	12.9	8.04	0.91	1.73	5.8	1378	No	339
SP-E-OUT	2024-10-18 15:58	12.1	9.41	0.91	1.68	6.0	1334	No	
SP-E-IN-1	2024-10-19 12:34	9.9	11.11	-[5]	261.15	8.5	217	No	3099
SP-E-OUT	2024-10-19 16:31	10.4	10.62	0.33	119.20	6.4	503	No	
SP-E-NE	2024-10-19 16:45	12.6	10.68	0.25	153.69	6.8	384	No	
SP-E-NW	2024-10-19 16:51	12.8	10.92	0.14	201.47	8.7	224	No	
SP-E-IN-1	2024-10-19 16:53	12.6	11.07	0.06	539.65	9.6	101	No	

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-11578 East Sedimentation Pond Discharge Limit.
All SP-E-OUT samples collected from May 27 to the time of writing were taken from the sample port which is located near the inlet end of the temporary discharge hose.
The East Sedimentation Pond discharged during the monitoring period (October 13 - 19) on October 18 and October 19.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The annual average authorized discharge rate from the East Sedimentation Pond is 650 m^3/day. As noted in PE-111578 Condition 2.1.4, the actual discharge rate may deviate from the annual average rate due to annual variations in precipitation amounts within the catchment area. Therefore, the annual average authorized discharge rate is not evaluated as a discharge limit.
[4] The sedimentation pond did not receive non-contaminated contact water influent October 13 – October 18, therefore daily measurements for station SP-E-IN-1/SP-E-IN-2 were not collected. The East Sedimentation Pond discharged on October 18 and October 19. Daily field measurements, and an analytical sample were collected on October 18 and 19. The East Sedimentation Pond did not discharge October 13 - 17, therefore daily measurements for station SP-E-OUT were not collected. In-Pond stations SP-E-NW and SP-E-NE may be monitored in place of stations SP-E-IN-1/SP-E-IN-2 and SP-E-OUT, respectively when there is no influent to, or discharge from the East Sedimentation Pond at the time of monitoring.
[5] Field records for salinity were not recorded due to a field probe malfunction.

Appendix C: East Wastewater Treatment Plant Results

Table C-1: Summary of East Wastewater Treatment Plant Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Operational Minimum Discharge Objective [1]	East WWTP					
			Influent	Effluent	Influent	Effluent	Influent	Effluent
			WWTP-E-IN	WWTP-E-OUT	WWTP-E-IN	WWTP-E-OUT	WWTP-E-IN	WWTP-E-OUT
			VA24C6264-001	VA24C6264-002	VA24C7397-002	VA24C7397-003	VA24C7399-001	VA24C7399-002
			2024-10-02 16:00	2024-10-02 16:20	2024-10-13 14:46	2024-10-13 16:28	2024-10-14 11:21	2024-10-14 10:43
General Parameters								
pH - Field	pH units	5.5 – 9.0	7.2	7.13[2]	6.8	5.8	6.6	9.0
Conductivity - Field	µS/cm	-	1117	1126	1495	1494	1394	759
Temperature - Field	℃	-	15.3	14.6	15	15.9	14.6	13.5
Salinity - Field	ppt	-	0.69	0.71	0.94	0.92	0.89	0.48
Turbidity - Field	NTU	-	0.92	1.14	5.84	4.87	7.27	4.81
TSS	mg/L	-	<3.0	<3.0	<3.0	3.5	6.9	<3.0
Dissolved Oxygen - Field	mg/L	-	10.05	9.09	7.98	5.63	7.48	10.56
Anions and Nutrients								
Sulphate	mg/L	-	58.2	58.8	547	516	599	541
Chloride	mg/L	-	26.6	26.4	38.5	38	35	33
Fluoride	mg/L	-	0.138	0.13	<0.200	<0.200	<0.200	<0.200
Ammonia (N-NH_3)	mg/L	-	0.0783	0.0782	0.08	0.0319	0.047	0.0126
Nitrite (N-NO_2)	mg/L	-	0.589	0.614	0.0513	<0.0100	0.0371	<0.0100
Nitrate (N-NO_3)	mg/L	-	5.09	5.39	1.62	2.4	1.99	2.31
Total Metals								
Aluminum, total (T-Al)	mg/L	-	0.0665	0.0523	0.391	0.95	0.495	0.856
Antimony, total (T-Sb)	mg/L	-	0.00443	0.00434	0.00232	0.00251	0.00244	0.0027
Arsenic, total (T-As)	mg/L	0.0125	0.00311	0.0034	0.0019	0.00193	0.00168	0.00214
Barium, total (T-Ba)	mg/L	-	0.00469	0.0041	0.016	0.00545	0.0118	0.00738
Beryllium, total (T-Be)	mg/L	0.1	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	0.029	0.026	0.068	0.076	0.069	0.074
Cadmium, total (T-Cd)	mg/L	0.00012	<0.0000100	<0.0000100	<0.0000550	<0.0000250	<0.0000450	<0.0000600
Chromium, total (T-Cr)	mg/L	-	0.00199	0.00225	<0.00100	<0.00100	0.00139	0.0125
Cobalt, total (T-Co)	mg/L	-	0.00062	0.00061	0.0004	0.00041	0.0004	0.00042
Copper, total (T-Cu)	mg/L	0.0043	0.00177	0.00174	***0.00850***	***0.00441***	0.00393	0.00326
Iron, total (T-Fe)	mg/L	-	0.037	0.026	0.22	0.176	0.206	0.25
Lead, total (T-Pb)	mg/L	0.0035	0.000153	0.00027	0.00218	0.000725	0.00102	0.000821
Manganese, total (T-Mn)	mg/L	-	0.00205	0.0018	0.02	0.0131	0.0193	0.00881
Mercury, total (T-Hg)	mg/L	0.000016	<0.0000050	<0.0000050	0.0000084	***0.0000645***	***0.0000214***	0.0000086
Molybdenum, total (T-Mo)	mg/L	-	0.0701	0.07	0.06	0.0693	0.0692	0.183
Nickel, total (T-Ni)	mg/L	0.0083	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Selenium, total (T-Se)	mg/L		0.000518	0.000538	0.000358	0.000387	0.000327	0.000566
Silver, total (T-Ag)	mg/L	0.0015	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Thallium, total (T-Tl)	mg/L	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Uranium, total (T-U)	mg/L	-	0.0194	0.0166	0.0241	0.0219	0.0219	0.0261
Vanadium, total (T-V)	mg/L	0.0081	0.00593	0.00685	0.00449	0.00568	0.00485	0.00614
Zinc, total (T-Zn)	mg/L	0.0133	<0.0060	<0.0060	***0.0516***	***0.0686***	***0.0300***	0.0109
Hexavalent Chromium, total	mg/L	0.0015	***0.0018***	***0.00218***	<0.00050	<0.00050	<0.00050	***0.0111***
Dissolved Metals								
Cadmium, dissolved (D-Cd)	mg/L	0.00012	<0.0000150	<0.0000200	<0.0000400	<0.0000350	<0.0000450	<0.0000650
Copper, dissolved (D-Cu)	mg/L	-	0.00192	0.00192	0.00296	0.00316	0.00283	0.00318
Iron, dissolved (D-Fe)	mg/L	-	<0.020	<0.020	0.034	<0.020	0.028	<0.020
Lead, dissolved (D-Pb)	mg/L	-	<0.000100	0.000141	0.000297	<0.000100	0.000172	<0.000100
Manganese, dissolved (D-Mn)	mg/L	-	0.0032	0.00198	0.0165	0.0149	0.0158	0.00503
Nickel, dissolved (D-Ni)	mg/L	-	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	0.073	0.0655	0.13	0.0503	0.0974	0.0736
Vanadium, dissolved (D-V)	mg/L	-	0.00572	0.00651	0.00396	0.00565	0.0041	0.00536
Zinc, dissolved (D-Zn)	mg/L	-	0.004	0.0122	0.0224	0.152	0.0252	0.134
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)								
Benzene	mg/L	0.11	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Ethylbenzene	mg/L	0.25	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Methyl-tert-butyl-ether	mg/L	0.44	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Styrene	mg/L	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Toluene	mg/L	0.215	<0.00040	<0.00040	<0.00040	<0.00040	-	-
Total Xylenes	mg/L	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-
Chlorobenzene	mg/L	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-
1,2-Dichlorobenzene	mg/L	-	<0.00050	<0.00050	<0.00050	<0.00050	-	-

Notes:
[1] Operational minimum discharge objectives (MDOs) for WWTP effluent that are listed in Appendix B of the Construction Wastewater Treatment Plant Operations Environmental Protection Plan dated February 7, 2024.
[2] The field pH for WWTP-E-OUT on October 2 is an erroneous value, therefore the lab measured value is reported.
Results ***underlined in bold italics*** exceed the applicable minimum discharge objective.

Table C-2: Summary of East Wastewater Treatment Plant Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Operational Minimum Discharge Objective [1]	East WWTP					
			Influent	Effluent	Influent	Effluent	Influent	Effluent
			WWTP-E-IN	WWTP-E-OUT	WWTP-E-IN	WWTP-E-OUT	WWTP-E-IN	WWTP-E-OUT
			VA24C7519-001	VA24C7519-002	VA24C7665-001	VA24C7665-002	VA24C7774-001	VA24C7774-002
			2024-10-15 16:50	2024-10-15 16:54	2024-10-16 10:25	2024-10-16 9:30	2024-10-17 11:33	2024-10-17 10:44
General Parameters								
pH - Field	pH units	5.5 – 9.0	7.6	7.1	6.8	5.8	6.6	5.5
Conductivity - Field	µS/cm	-	814	1314	1186	1383	1223	1657
Temperature - Field	℃	-	14.3	14.5	13.8	14.1	13.4	13.9
Salinity - Field	ppt	-	0.51	0.84	0.76	0.89	0.8	1.08
Turbidity - Field	NTU	-	7.48	3.79	5.17	3.75	1.12	0
TSS	mg/L	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	-	7.77	9.26	6.6	5.59	8.24	4.81
Anions and Nutrients								
Sulphate	mg/L	-	549	297	476	610	500	810
Chloride	mg/L	-	34.6	27.6	34.7	30.8	33.9	30.4
Fluoride	mg/L	-	<0.200	0.187	<0.200	<0.200	<0.200	<0.400
Ammonia ($N\text{-}NH_3$)	mg/L	-	0.0593	0.089	0.0689	0.0858	0.0747	0.0416
Nitrite ($N\text{-}NO_2$)	mg/L	-	0.0368	0.141	0.0469	0.0193	0.0431	0.0258
Nitrate ($N\text{-}NO_3$)	mg/L	-	1.74	2.4	1.78	2.09	1.81	2.08
Total Metals								
Aluminum, total (T-Al)	mg/L	-	0.315	0.528	0.344	0.225	0.26	0.338
Antimony, total (T-Sb)	mg/L	-	0.00264	0.00449	0.0025	0.00286	0.00263	0.00227
Arsenic, total (T-As)	mg/L	0.0125	0.00156	0.00369	0.00206	0.00279	0.00202	0.00259
Barium, total (T-Ba)	mg/L	-	0.0108	0.00664	0.0103	0.00657	0.0107	0.00635
Beryllium, total (T-Be)	mg/L	0.1	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	0.068	0.125	0.079	0.09	0.084	0.098
Cadmium, total (T-Cd)	mg/L	0.00012	<0.0000350	<0.0000300	<0.0000350	<0.0000350	<0.0000400	<0.0000325
Chromium, total (T-Cr)	mg/L	-	0.00209	0.00071	0.00291	0.00105	0.0022	<0.00100
Cobalt, total (T-Co)	mg/L	-	0.00037	0.00053	0.00042	0.00044	0.00038	0.00043
Copper, total (T-Cu)	mg/L	0.0043	0.00418	0.0037	0.0032	0.00284	***0.00537***	0.00263
Iron, total (T-Fe)	mg/L	-	0.135	0.291	0.143	0.228	0.131	0.109
Lead, total (T-Pb)	mg/L	0.0035	0.000969	0.00141	0.000742	0.000766	0.00123	0.000311
Manganese, total (T-Mn)	mg/L	-	0.0201	0.0333	0.0345	0.0788	0.0451	0.0541
Mercury, total (T-Hg)	mg/L	0.000016	0.0000151	0.0000077	0.0000136	***0.0000246***	0.0000101	0.0000067
Molybdenum, total (T-Mo)	mg/L	-	0.0832	0.0941	0.0894	0.0628	0.0878	0.057
Nickel, total (T-Ni)	mg/L	0.0083	<0.00100	0.00095	<0.00100	<0.00100	<0.00100	<0.00100
Selenium, total (T-Se)	mg/L		0.000397	0.000386	0.000383	0.000336	0.000371	0.000458
Silver, total (T-Ag)	mg/L	0.0015	<0.000020	<0.000010	<0.000020	<0.000020	<0.000020	<0.000020
Thallium, total (T-Tl)	mg/L	-	<0.000020	0.00006	0.00002	0.000087	0.000038	0.000081
Uranium, total (T-U)	mg/L	-	0.0207	0.0428	0.0177	0.00445	0.0163	0.00517
Vanadium, total (T-V)	mg/L	0.0081	0.00417	***0.00867***	0.00436	0.00468	0.00422	0.00554
Zinc, total (T-Zn)	mg/L	0.0133	***0.0218***	0.0096	***0.0239***	***0.0229***	***0.0352***	0.0092
Hexavalent Chromium, total	mg/L	0.0015	0.00131	<0.00050	***0.0016***	<0.00050	0.00073	<0.00050
Dissolved Metals								
Cadmium, dissolved (D-Cd)	mg/L	0.00012	0.0000285	0.0000221	<0.0000350	<0.0000250	<0.0000400	<0.0000250
Copper, dissolved (D-Cu)	mg/L	-	0.00257	0.00252	0.0036	0.00225	0.00317	0.00179
Iron, dissolved (D-Fe)	mg/L	-	0.032	0.023	0.043	0.12	0.042	0.042
Lead, dissolved (D-Pb)	mg/L	-	0.000274	0.000118	0.000365	0.000378	0.000339	0.000151
Manganese, dissolved (D-Mn)	mg/L	-	0.0171	0.0474	0.0325	0.0693	0.0431	0.0518
Nickel, dissolved (D-Ni)	mg/L	-	<0.00100	0.00075	<0.00100	<0.00100	<0.00100	0.0084
Strontium, dissolved (D-Sr)	mg/L	-	0.0978	0.0865	0.0953	0.141	0.11	0.158
Vanadium, dissolved (D-V)	mg/L	-	0.0036	0.00673	0.00398	0.0043	0.00386	0.00504
Zinc, dissolved (D-Zn)	mg/L	-	0.0223	0.0300	0.0336	0.0111	0.0281	0.0136
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)								
Benzene	mg/L	0.11	-	-	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	0.44	-	-	-	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	-	-	-	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	-	-	-	-	-	<0.00050	<0.00050

Notes:
[1] Operational minimum discharge objectives (MDOs) for WWTP effluent that are listed in Appendix B of the Construction Wastewater Treatment Plant Operations Environmental Protection Plan dated February 7, 2024.
Results ***underlined in bold italics*** exceed the applicable minimum discharge objective.

Table C-3: Summary of East Wastewater Treatment Plant Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	East WWTP	
		Influent	Effluent
		WWTP-E-IN	WWTP-E-OUT
		VA24C6264-001	VA24C6264-002
		2024-10-02	2024-10-02
Methylmercury	**µg/L**	0.000043	0.000029

Table C-4: Summary of East Wastewater Treatment Plant Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	East WWTP	
		Influent	Effluent
		WWTP-E-IN	WWTP-E-OUT
		2024-10-01	2024-10-01
		L2757611-1	L2757611-3
Lower Bound PCDD/F TEQ	**pg/L**	0.0677	0.0216
Upper Bound PCDD/F TEQ	**pg/L**	1.60	1.23

Notes:
PCDD = polychlorinated dibenzodioxins (dioxins)
PCDF = polychlorinated dibenzofurans (furans)
TEQ = toxic equivalency
Lower bound PCDD/F TEQ is the sum of the toxic equivalency results for the individual PCDD/F parameters. Non-detectable parameters are assigned a value of zero (0).
Upper bound PCDD/F TEQ is the sum of the toxic equivalency results for the individual PCDD/F parameters. Non-detectable parameters are assigned the value of the detection limit.

Table C-5: Summary of East Wastewater Treatment Plant Daily Field Parameters October 13 - 19.

Parameter		**Temperature**	**Dissolved Oxygen (DO)**	**Salinity**	**Turbidity**	**pH**	**Conductivity**	**Visibility of Sheen**	**Total Daily Discharge from the East WWTP**
Unit		**°C**	**mg/L**	**ppt**	**NTU**	**s.u.**	**µS/cm**		**m^3**
PE-111578 Discharge Limit [1]		-	-	-	-	-	-	-	1,100
Minimum Discharge Objective [2]		-	-	-	-	5.5 – 9.0	-	-	-
Station ID	**Date**								
WWTP-E-IN	2024-10-13 14:46	15.0	7.98	0.94	5.84	6.8	1495	No	-
WWTP-E-OUT	2024-10-13 16:28	15.9	5.63	0.92	4.87	5.8	1494	No	440
WWTP-E-IN	2024-10-14 11:21	14.6	7.48	0.89	7.27	6.6	1394	No	-
WWTP-E-OUT	2024-10-14 10:43	13.5	10.56	0.48	4.81	9.0	759	No	556
WWTP-E-IN	2024-10-15 16:50	14.3	7.77	0.51	7.48	7.6	814	No	-
WWTP-E-OUT	2024-10-15 16:54	14.5	9.26	0.84	3.79	7.1	1314	No	190
WWTP-E-IN	2024-10-16 10:25	13.8	6.60	0.76	5.17	6.8	1186	No	-
WWTP-E-OUT	2024-10-16 9:30	14.1	5.59	0.89	3.75	5.8	1383	No	497
WWTP-E-IN	2024-10-17 11:33	13.4	8.24	0.80	1.12	6.6	1223	No	-
WWTP-E-OUT	2024-10-17 10:44	13.9	4.81	1.08	0.00	5.5	1657	No	345
WWTP-E-IN	2024-10-18	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-
WWTP-E-OUT	2024-10-18	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	313
WWTP-E-IN	2024-10-19 16:47	12.3	10.81	0.15	210.96	8.5	241	No	-
WWTP-E-OUT	2024-10-19 16:49	12.9	8.22	0.49	3.90	5.7	762	No	405

Notes:
[1] PE-111578 East WWTP Discharge Limit is applied to effluent compliance station WWTP-E-OUT.
[2] Operational minimum discharge objectives (MDOs) for WWTP effluent that are listed in Appendix B of the Construction Wastewater Treatment Plant Operations Environmental Protection Plan dated February 7, 2024.
Results ***underlined in bold italics*** do not meet the applicable minimum discharge objective.
[3] Field measurements were not collected from the influent and effluent stations on October 17 as the East WWTP was not active at the time of monitoring.

Appendix D: West Sedimentation Pond Results

Table D-1: Summary of West Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	West Sedimentation Pond		
					In-Pond at Effluent Location	Effluent	Effluent
					SP-W-E	SP-W-OUT	SP-W-OUT-Dup
					VA24C7665-004	VA24C7958-004	VA24C7958-003
		Long Term	Short Term		2024-10-16 12:05	2024-10-18 17:30	2024-10-18 17:36
General Parameters							
pH - Field	pH units	- [2]	-	5.5 - 9.0	9.3	8.5	8.5
Conductivity - Field	µS/cm	-	-	-	1077	178	178
Temperature - Field	°C	-	-	-	13.4	10.5	10.5
Salinity - Field	ppt	-	-	-	0.54	0.12	0.12
Turbidity - Field	NTU	-	-	-	11.5	12.6	12.6
TSS	mg/L	-	-	25 or 75[6]	10.2	7.0	6.8
Dissolved Oxygen - Field	mg/L	>=8	-	-	9.97	10.47	10.47
Anions and Nutrients							
Sulphate	mg/L	-	-	-	29.3	20.2	20.2
Chloride	mg/L	-	-	-	79.2	21.0	20.9
Fluoride	mg/L	-	1.5	-	0.117	0.118	0.118
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	<0.0050	<0.0050	<0.0050
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	<0.0050	0.0639	0.0641
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	<0.0250	0.182	0.182
Total Metals							
Aluminum, total (T-Al)	mg/L	-	-	-	0.740	0.677	0.700
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00148	0.00161	0.00154
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00161	0.00146	0.00140
Barium, total (T-Ba)	mg/L	-	-	-	0.00645	0.00938	0.0096
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	-	-	<0.010	<0.010	<0.010
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	0.0000316	0.0000153	0.0000134
Chromium, total (T-Cr)	mg/L	-	-	-	0.00054	0.00061	0.00060
Cobalt, total (T-Co)	mg/L	-	-	-	0.00011	0.00017	0.00018
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00206	0.00196	0.00199
Iron, total (T-Fe)	mg/L	-	-	-	0.208	0.301	0.318
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000761	0.00144	0.00142
Manganese, total (T-Mn)	mg/L	-	-	-	0.00577	0.00880	0.00900
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0155	0.0163	0.0157
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00068	0.0010	0.00099
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000121	0.000118	0.000117
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	<0.000010	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	<0.000010	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	-	-	-	0.00855	0.00575	0.00567
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00292	0.00203	0.00210
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.0061	0.0035	0.0037
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050	<0.00050	<0.00050
Dissolved Metals							
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000150	<0.0000050	<0.0000050
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.0012	0.00092	0.00090
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.010	<0.010	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000050	0.000051	0.000053
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00078	0.00057	0.00051
Nickel, dissolved (D-Ni)	mg/L	-	-	-	0.00058	0.00068	0.00063
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0156	0.0587	0.0591
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00236	0.00144	0.00141
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	mg/L	0.006	-	-	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	0.000013	0.000014
Fluorene	mg/L	0.012	-	-	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	0.000011	0.000012
Quinoline	mg/L	-	-	-	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)							
Benzene	mg/L	0.11	-	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	-	<0.00050	<0.00050

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-11578 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged during the monitoring period (October 13 - 19) on October 18 and October 19.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions. Wet Conditions applied October 18 – 19.

Table D-2: Summary of West Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1, 2]		PE-111578 Discharge Limit *	West Sedimentation Pond
					Influent
					ESC-W-IN
					VA24C8024-003
		Long Term	Short Term		2024-10-19 17:15
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.9
Conductivity - Field	µS/cm	-	-	-	66
Temperature - Field	°C	-	-	-	13
Salinity - Field	ppt	-	-	-	0.04
Turbidity - Field	NTU	-	-	-	329.93
TSS	mg/L	-	-	75[6]	314
Dissolved Oxygen - Field	mg/L	>=8	-	-	11.11
Anions and Nutrients					
Sulphate	mg/L	-	-	-	6.56
Chloride	mg/L	-	-	-	1.96
Fluoride	mg/L	-	1.5	-	0.095
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.0618
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	1.41
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	26.8
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00133
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00925
Barium, total (T-Ba)	mg/L	-	-	-	0.188
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.00043
Boron, total (T-B)	mg/L	1.2	-	-	0.022
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	***0.000452***
Chromium, total (T-Cr)	mg/L	-	-	-	0.0127
Cobalt, total (T-Co)	mg/L	-	-	-	0.00735
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0526
Iron, total (T-Fe)	mg/L	-	-	-	16.9
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.0565
Manganese, total (T-Mn)	mg/L	-	-	-	0.504
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.000116***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0154
Nickel, total (T-Ni)	mg/L	0.0083	-	-	***0.00969***
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000322
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	0.000176
Thallium, total (T-Tl)	mg/L	-	-	-	0.000166
Uranium, total (T-U)	mg/L	-	-	-	0.0147
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.0373
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.113
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00084
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000050
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00297
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.026
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.00017
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00249
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0328
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.0023
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	0.000232
Acridine	mg/L	-	-	-	<0.000022
Anthracene	mg/L	-	-	-	0.000082
Benz(a)anthracene	mg/L	-	-	-	0.000163
Benzo(a)pyrene	mg/L	0.00001	-	-	***0.000121***
Chrysene	mg/L	0.0001	-	-	***0.000146***
Fluoranthene	mg/L	-	-	-	0.000515
Fluorene	mg/L	0.012	-	-	0.000172
1-methylnaphthalene	mg/L	0.001	-	-	0.000063
2-methylnaphthalene	mg/L	0.001	-	-	0.000086
Naphthalene	mg/L	0.001	-	-	0.000168
Phenanthrene	mg/L	-	-	-	0.000462
Pyrene	mg/L	-	-	-	0.000432
Quinoline	mg/L	-	-	-	0.000053
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.11	-	-	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050
Styrene	mg/L	-	-	-	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-11578 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged during the monitoring period (October 13 - 19) on October 18 and October 19.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions. Wet Conditions applied October 18 – 19.

Table D-3: Summary of West Sedimentation Pond Daily Field Parameters October 13 - 19.

Parameter		Temperature	Dissolved Oxygen (DO)	Salinity	Turbidity	pH	Conductivity	Visibility of Sheen	Total Daily Discharge from the West Sedimentation Pond to Howe Sound
Unit		**°C**	**mg/L**	**ppt**	**NTU**	**s.u.**	**µS/cm**		**m^3**
PE-111578 Discharge Limit		-	-	-	-	5.5 - 9.0	-	-	-[3]
Lowest Applicable Guideline [1]		-	>=8	-	-	-[2]	-	-	-
Station ID [4]	**Date**								
-[5]	2024-10-13	-[5]	-[5]	-[5]	-[5]	-[5]	-[5]	-[5]	0
-[5]	2024-10-14	-[5]	-[5]	-[5]	-[5]	-[5]	-[5]	-[5]	0
-[5]	2024-10-15	-[5]	-[5]	-[5]	-[5]	-[5]	-[5]	-[5]	0
SP-W-E	2024-10-16 12:05	13.4	9.97	0.54	11.50	9.3	1077	No	0
-[5]	2024-10-17	-[5]	-[5]	-[5]	-[5]	-[5]	-[5]	-[5]	0
SP-W-E	2024-10-18 7:29	11.5	10.41	0.51	5.01	9.4	754	No	601
SP-W-W	2024-10-18 7:37	11.4	8.11	0.12	15.00	8.5	194	No	
SP-W-W	2024-10-18 15:14	10.5	9.08	0.12	10.25	8.0	186	No	
SP-W-OUT	2024-10-18 15:36	10.5	10.47	0.12	12.60	8.5	178	No	
ESC-W-IN	2024-10-19 13:12	10.5	12.18	-[6]	195.30	8.6	64	No	6
ESC-W-IN	2024-10-19 17:15	13.0	11.11	0.04	329.93	8.9	66	No	

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-11578 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged during the monitoring period (October 13 - 19) on October 18 and October 19.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The annual average authorized discharge rate from the West Sedimentation Pond is 310 m^3/day. As noted in PE-111578 Condition 2.1.4, the actual discharge rate may deviate from the annual average rate due to annual variations in precipitation amounts within the catchment area. Therefore, the annual average authorized discharge rate is not evaluated as a discharge limit.
[4] In-pond monitoring stations have been established for the West Sedimentation Pond at locations SP-W-W and SP-W-E and are used for pond water quality monitoring. ESC-W-IN is the influent station located at the TSS settling system used for the pond.
[5] The pond did not discharge on October 13 - 17; therefore, daily monitoring of field parameters was not conducted. Daily monitoring of field parameters of the discharge from the West Sedimentation Pond was not conducted on October 19 as field staff were unable to collect field measurements prior to discharge ceasing at 10:31 am on October 19.
[6] Field measurements for salinity were not recorded for the influent station (ESC-W-IN) on October 19 at 13:12 due to a field probe malfunction. The probe was reconfigured, and additional field measurements were collected on October 19 at ESC-W-IN at 17:15.

Appendix E: Non-Contact Water Diversion Ditch Outlets Results

Table E-1: Summary of Freshwater Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1, 2]		Station OUT-01	Station OUT-02
				Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet
				OUT-01	OUT-02
				VA24C6562-005	VA24C6562-006
		Long Term	Short Term	2024-10-04 16:30	2024-10-04 16:45
General Parameters					
pH - Field	pH units	6.5 - 9.0	-	***5.9***	***5.6***
Specific Conductivity - Field	µS/cm	-	-	68	17
Temperature - Field	℃	-	-	12.0	11.8
Salinity - Field	ppt	-	-	0.04	0.01
Turbidity - Field	NTU	-	-	4.9	1.48
TSS	mg/L	-	-	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	>=5	8.98	10.41
Anions and Nutrients					
Sulphate [2]	mg/L	218	-	3.05	1.77
Chloride	mg/L	120	600	0.82	0.82
Fluoride [2]	mg/L	-	0.400-0.478	<0.020	<0.020
Ammonia ($N\text{-}NH_3$) [2]	mg/L	1.81-1.82	25.0-25.2	<0.0078	0.006
Nitrite ($N\text{-}NO_2$) [2]	mg/L	0.020	0.06	<0.0010	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	3	32.8	0.316	0.178
Total Metals					
Aluminum, total (T-Al) [2]	mg/L	0.028-0.032	-	***0.300***	***0.191***
Antimony, total (T-Sb)	mg/L	0.074	-	0.00012	<0.00010
Arsenic, total (T-As)	mg/L	0.005	-	0.00025	0.00011
Barium, total (T-Ba)	mg/L	1	-	0.00777	0.00392
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	29	<0.010	<0.010
Cadmium, total (T-Cd) [2]	mg/L	0.000036	0.000106-0.000241	0.000011	0.0000069
Chromium, total (T-Cr) [4]	mg/L	0.001	-	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	0.001	0.11	0.00014	<0.00010
Copper, total (T-Cu)	mg/L	-	-	0.0015	0.00069
Iron, total (T-Fe)	mg/L	0.3	1	0.142	0.041
Lead, total (T-Pb) [2]	mg/L	-	-	0.000446	0.000084
Manganese, total (T-Mn) [2]	mg/L	0.768	0.816	0.00588	0.00251
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000567	0.000436
Nickel, total (T-Ni) [2]	mg/L	0.025	-	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.001	-	<0.000050	<0.000050
Silver, total (T-Ag) [2]	mg/L	0.000050	0.00010	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	0.0008	-	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	0.0085	0.033	0.000159	0.000091
Vanadium, total (T-V)	mg/L	0.12	-	0.00081	<0.00050
Zinc, total (T-Zn)	mg/L	-	-	0.0116	<0.0030
Hexavalent Chromium, total	mg/L	0.001	-	<0.00050	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd) [2]	mg/L	0.000023-0.000044	0.000038-0.000066	0.0000064	<0.0000050
Copper, dissolved (D-Cu) [2]	mg/L	0.00020	0.00020-0.00039	***0.00118***	***0.00064***
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.041	0.029
Lead, dissolved (D-Pb) [2]	mg/L	0.0026-0.0032	-	0.000093	<0.000050
Manganese, dissolved (D-Mn) [2]	mg/L	0.29	1.97	0.00287	0.0014
Nickel, dissolved (D-Ni) [2]	mg/L	0.00080	0.00126-0.00133	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.0165	0.00723
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050
Zinc, dissolved (D-Zn)	mg/L	0.00989-0.0101	0.0113-0.0115	***0.0102***	0.0016
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.0058	-	-	-
Acridine	mg/L	0.003	-	-	-
Anthracene	mg/L	0.000012	-	-	-
Benz(a)anthracene	mg/L	0.000018	-	-	-
Benzo(a)pyrene	mg/L	0.00001	-	-	-
Chrysene	mg/L	-	-	-	-
Fluoranthene	mg/L	0.00004	-	-	-
Fluorene	mg/L	0.003	-	-	-
1-methylnaphthalene	mg/L	-	-	-	-
2-methylnaphthalene	mg/L	-	-	-	-
Naphthalene	mg/L	0.001	0.001	-	-
Phenanthrene	mg/L	0.0003	-	-	-
Pyrene	mg/L	0.00002	-	-	-
Quinoline	mg/L	0.0034	-	-	-
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.04	-	-	-
Ethylbenzene	mg/L	0.09	-	-	-
Methyl-tert-butyl-ether	mg/L	10	3.4	-	-
Styrene	mg/L	0.072	-	-	-
Toluene	mg/L	0.0005	-	-	-
Total Xylenes	mg/L	0.03	-	-	-
Chlorobenzene	mg/L	-	-	-	-
1,2-Dichlorobenzene	mg/L	-	-	-	-

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of freshwater aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of freshwater aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] BC WQG or CWQG indicated to be variable are calculated from sample-specific measurements for temperature, field pH, total hardness and dissolved organic carbon (DOC) content.
[3] When MeHg $\leqslant$ 0.5% of total Hg, BC WQG = 0.00002 mg/L.
[4] The approved BC WQG for hexavalent chromium [Cr(VI)] is 0.001 mg/L and 0.0089 mg/L for trivalent chromium [Cr(III)]. The more conservative criteria for Cr(VI) is applied to total chromium results.
The lowest applicable guidelines are shown in the table; however, water quality data was screened to all applicable guidelines.

Appendix F: Freshwater Receiving Environment Results

Table F-1: Summary of Freshwater Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1, 2]		Station SW-01	Station SW-02	Station SW-04	Station SW-07
				Woodfibre Creek Lower Reach	Mill Creek Mid-Reach	East Creek Lower Reach	Mill Creek Background
				SW-01	SW-02	SW-04	SW-07
				VA24C6390-002	VA24C6562-001	VA24C6562-004	VA24C6390-001
		Long Term	Short Term	2024-10-03 17:10	2024-10-04 14:15	2024-10-04 13:00	2024-10-03 10:30
General Parameters							
pH - Field	pH units	6.5 - 9.0	-	7.6	***6.3***	7.0	8.4
Specific Conductivity - Field	µS/cm	-	-	8.0	14	190	18
Temperature - Field	℃	-	-	10.9	9.6	11.8	9.2
Salinity - Field	ppt	-	-	0.00	0.01	0.42	0.01
Turbidity - Field	NTU	-	-	1.8	1.01	20.8	0.32
TSS	mg/L	-	-	<3.0	3.7	27.5	3.0
Dissolved Oxygen - Field	mg/L	>=8	>=5	11.10	11.87	10.50	11.26
Anions and Nutrients							
Sulphate [2]	mg/L	128-309	-	0.41	2.84	57.5	3.04
Chloride	mg/L	120	600	0.70	0.79	6.51	1.62
Fluoride [2]	mg/L	-	0.400-1.31	<0.020	<0.020	0.052	<0.020
Ammonia ($N\text{-}NH_3$) [2]	mg/L	0.464-1.86	2.41-25.7	<0.0050	<0.0050	0.0115	0.0187
Nitrite ($N\text{-}NO_2$) [2]	mg/L	0.020-0.080	0.06-0.24	<0.0010	<0.0010	0.0028	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	3	32.8	0.0238	0.108	1.28	0.109
Total Metals							
Aluminum, total (T-Al) [2]	mg/L	0.0325-0.270	-	0.0966	***0.136***	***0.591***	0.0349
Antimony, total (T-Sb)	mg/L	0.074	-	<0.00010	<0.00010	0.00025	<0.00010
Arsenic, total (T-As)	mg/L	0.005	-	0.00013	0.00012	0.00094	<0.00010
Barium, total (T-Ba)	mg/L	1	-	0.00213	0.0032	0.0213	0.00332
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000100	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	29	<0.01	<0.010	0.021	0.022
Cadmium, total (T-Cd) [2]	mg/L	0.0000364-0.000149	0.000106-0.00195	<0.0000050	0.0000083	0.0000422	0.0000082
Chromium, total (T-Cr) [4]	mg/L	0.001	-	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	0.001	0.11	<0.00010	<0.00010	0.00042	<0.00010
Copper, total (T-Cu)	mg/L	-	-	<0.00050	0.00064	0.00497	<0.00050
Iron, total (T-Fe)	mg/L	0.3	1	0.047	0.031	***1.14***	<0.010
Lead, total (T-Pb) [2]	mg/L	-	-	<0.000068	0.000052	0.000836	<0.000050
Manganese, total (T-Mn) [2]	mg/L	0.768-1.02	0.816-1.57	0.00120	0.00146	0.0764	0.00025
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	<0.0000050	<0.0000050	0.0000072	<0.0000050
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000396	0.000568	0.00355	0.000647
Nickel, total (T-Ni) [2]	mg/L	0.0250-0.0702	-	<0.00050	<0.00050	0.00297	<0.00050
Selenium, total (T-Se)	mg/L	0.001	-	<0.000050	<0.000050	0.000108	<0.000050
Silver, total (T-Ag) [2]	mg/L	0.0000500	0.000100	<0.000010	<0.000010	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	0.0008	-	<0.000010	<0.000010	0.000014	<0.000010
Uranium, total (T-U)	mg/L	0.0085	0.033	0.000462	0.000264	0.000639	0.00011
Vanadium, total (T-V)	mg/L	0.12	-	<0.00050	<0.00050	0.00133	<0.00050
Zinc, total (T-Zn)	mg/L	-	-	<0.0030	<0.0030	0.0085	<0.0030
Hexavalent Chromium, total	mg/L	0.001	-	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals							
Cadmium, dissolved (D-Cd) [2]	mg/L	0.0000180-0.000201	0.0000380-0.000547	<0.0000050	<0.0000050	0.0000171	0.0000059
Copper, dissolved (D-Cu) [2]	mg/L	0.000200-0.00155	0.000605-0.00959	0.00024	***0.00036***	***0.00322***	0.00021
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.025	0.018	0.059	<0.010
Lead, dissolved (D-Pb) [2]	mg/L	0.000999-0.00633	-	<0.000050	<0.000050	<0.000050	<0.000050
Manganese, dissolved (D-Mn) [2]	mg/L	0.20-0.59	1.97-6.26	0.00044	0.00088	0.016	0.0003
Nickel, dissolved (D-Ni) [2]	mg/L	0.00050-0.0025	0.00780-0.0368	<0.00050	<0.00050	***0.00251***	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.00369	0.00692	0.0693	0.00959
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050	0.00054	<0.00050
Zinc, dissolved (D-Zn)	mg/L	0.00122-0.0299	0.00714-0.0628	<0.0010	<0.0010	0.0040	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	mg/L	0.0058	-	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	0.003	-	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	0.000012	-	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	0.000018	-	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	0.00004	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.003	-	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	0.001	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	0.0003	-	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	0.00002	-	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	0.0034	-	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)							
Benzene	mg/L	0.04	-	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.09	-	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	10	3.4	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	0.072	-	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.0005	-	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	0.03	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of freshwater aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of freshwater aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] BC WQG or CWQG indicated to be variable are calculated from sample-specific measurements for temperature, field pH, total hardness and dissolved organic carbon (DOC) content.
[3] When MeHg $\leqslant$ 0.5% of total Hg, BC WQG = 0.00002 mg/L.
[4] The approved BC WQG for hexavalent chromium [Cr(VI)] is 0.001 mg/L and 0.0089 mg/L for trivalent chromium [Cr(III)]. The more conservative criteria for Cr(VI) is applied to total chromium results.

Table F-2: Summary of Freshwater Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Station SW-01	Station SW-02	Station SW-07	Station SW-04
			Lower Reach of Woodfibre Creek (near the mouth)	Upper Reach of Mill Creek (upstream of the third bridge)	Upstream Mill Creek (at the diversion inlet)	Lower Reach of East Creek (near the outlet to the outfall culvert)
			SW-01	SW-02	SW-07	SW-04
			VA24C5909-001	VA24C5953-001	VA24C5953-004	VA24C5909-002
			2024-09-28	2024-09-29	2024-09-29	2024-09-28
Methylmercury	**µg/L**	0.004	0.000023	<0.000020	<0.000020	0.000038

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of freshwater aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.

Appendix G: Estuarine Water Receiving Environment Results

Table G-1: Summary of Mill Creek Estuary Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		Station SW-03 Mill Creek Estuary SW-03 VA24C6562-003 2024-10-04 13:50
		Long Term	Short Term	
General Parameters				
pH - Field	pH units	7.0 - 8.7	-	***6.2***
Specific Conductivity - Field	µS/cm	-	-	81
Temperature - Field	°C	-	-	9.5
Salinity - Field	ppt	-	-	0.05
Turbidity - Field	NTU	-	-	1.39
TSS	mg/L	-	-	3.7
Dissolved Oxygen - Field	mg/L	-	-	11.56
Anions and Nutrients				
Sulphate	mg/L	-	-	9.83
Chloride	mg/L	-	-	47.4
Fluoride	mg/L	-	-	<0.020
Ammonia ($N\text{-}NH_3$)	mg/L	-	-	<0.0050
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	-	-	0.102
Total Metals				
Aluminum, total (T-Al)	mg/L	-	-	0.403
Antimony, total (T-Sb)	mg/L	-	-	<0.00010
Arsenic, total (T-As)	mg/L	-	-	0.00025
Barium, total (T-Ba)	mg/L	-	-	0.00544
Beryllium, total (T-Be)	mg/L	-	-	<0.000100
Boron, total (T-B)	mg/L	-	-	0.022
Cadmium, total (T-Cd)	mg/L	-	-	0.0000099
Chromium, total (T-Cr)	mg/L	-	-	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.00018
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00163
Iron, total (T-Fe)	mg/L	-	-	0.303
Lead, total (T-Pb)	mg/L	0.002	0.14	0.000856
Manganese, total (T-Mn)	mg/L	-	-	0.0141
Mercury, total (T-Hg) [2]	mg/L	0.00002	-	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00067
Nickel, total (T-Ni)	mg/L	-	-	<0.00050
Selenium, total (T-Se)	mg/L	-	-	<0.000050
Silver, total (T-Ag)	mg/L	0.0015	0.003	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	<0.000010
Uranium, total (T-U)	mg/L	-	-	0.000296
Vanadium, total (T-V)	mg/L	-	-	0.00112
Zinc, total (T-Zn)	mg/L	-	-	<0.0030
Hexavalent Chromium, total	mg/L	-	-	<0.00050
Dissolved Metals				
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.0000057
Copper, dissolved (D-Cu)	mg/L	-	-	0.00038
Iron, dissolved (D-Fe)	mg/L	-	-	0.018
Lead, dissolved (D-Pb)	mg/L	-	-	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00143
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.0129
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)				
Acenaphthene	mg/L	-	-	<0.000010
Acridine	mg/L	-	-	<0.000010
Anthracene	mg/L	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010
Benzo(a)pyrene	mg/L	-	-	<0.0000050
Chrysene	mg/L	-	-	<0.000010
Fluoranthene	mg/L	-	-	0.000019
Fluorene	mg/L	-	-	<0.000010
1-methylnaphthalene	mg/L	-	-	<0.000010
2-methylnaphthalene	mg/L	-	-	<0.000010
Naphthalene	mg/L	-	-	<0.000050
Phenanthrene	mg/L	-	-	<0.000020
Pyrene	mg/L	-	-	0.000013
Quinoline	mg/L	-	-	<0.000050
Volatile Organic Compounds (VOCs)				
Benzene	mg/L	-	-	<0.00050
Ethylbenzene	mg/L	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	-	-	<0.00050
Styrene	mg/L	-	-	<0.00050
Toluene	mg/L	-	-	<0.00040
Total Xylenes	mg/L	-	-	<0.00050
Chlorobenzene	mg/L	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	-	-	<0.00050

Notes:
Results in ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of estuarine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of estuarine water aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] When MeHg $\leqslant$ 0.5% of total Hg, BC WQG = 0.00002 mg/L.

Table G-2: Summary of Estuarine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Station SW-03
		Mill Creek Estuary
		SW-03
		VA24C5953-003
		2024-09-29
Methylmercury	**µg/L**	<0.000020

Appendix H: Marine Water Receiving Environment Results

Table H-1: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Reference Station WQR1			Reference Station WQR2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				WQR1-0.5	WQR1-2m	WQR1-SF	WQR2-0.5	WQR2-2m	WQR2-SF
				VA24C6685-001	VA24C6685-002	VA24C6685-003	VA24C6685-004	VA24C6685-005	VA24C6685-006
		Long Term	Short Term	2024-10-06 15:50	2024-10-06 16:15	2024-10-06 17:00	2024-10-06 12:10	2024-10-06 12:30	2024-10-06 15:15
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.7	7.7	7.5	7.8	7.6	7.3
Specific Conductivity - Field	µS/cm	-	-	18236	28482	32605	20198	31962	31950
Temperature - Field	℃	-	-	11.8	12.7	12.1	12.4	12.7	9.5
Salinity - Field	ppt	Narrative[2]	-	14.83	23.53	27.82	16.32	26.78	29.2
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	7.7	1.96	1.17	3.62	1.32	1.07
TSS	mg/L	Narrative[2]	Narrative[2]	8.1	<3.0	5.5	4.1	5.3	<3.0
Dissolved Oxygen - Field	mg/L	>=8	-	9.96	8.95	***6.64***	9.75	8.03	***4.83***
Anions and Nutrients									
Sulphate	mg/L	-	-	1220	1880	2360	745	1870	2360
Chloride	mg/L	-	-	8910	13400	16900	5440	13300	16800
Fluoride	mg/L	-	1.5	***<2.00***	***<2.00***	***<2.00***	***<2.00***	***<2.00***	***<2.00***
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0051	0.0082	<0.0050	0.0099	0.0061	<0.0050
Nitrite (N-NO_2)	mg/L	-	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Nitrate (N-NO_3)	mg/L	3.7	339	<0.500	0.924	<0.500	<0.500	<0.500	<0.500
Total Metals									
Aluminum, total (T-Al)	mg/L	-	-	0.127	<0.150	<0.150	0.195	<0.150	<0.150
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	<0.00200	<0.00500	<0.00500	<0.00100	<0.00500	<0.00500
Arsenic, total (T-As)	mg/L	0.0125	0.0125	<0.00200	<0.00500	<0.00500	<0.00100	<0.00500	<0.00500
Barium, total (T-Ba)	mg/L	-	-	0.0124	0.0127	0.0113	0.0127	0.0116	0.0129
Beryllium, total (T-Be)	mg/L	0.1	-	<0.000400	<0.00100	<0.00100	<0.000200	<0.00100	<0.00100
Boron, total (T-B)	mg/L	1.2	-	***2.20***	***3.48***	***4.06***	***1.43***	***3.22***	***4.20***
Cadmium, total (T-Cd)	mg/L	0.00012	-	<0.000100	***<0.000250***	***<0.000250***	<0.0000500	***<0.000250***	***<0.000250***
Chromium, total (T-Cr)	mg/L	-	-	<0.0100	<0.0250	<0.0250	<0.00500	<0.0250	<0.0250
Cobalt, total (T-Co)	mg/L	-	-	<0.00200	<0.00500	<0.00500	<0.00100	<0.00500	<0.00500
Copper, total (T-Cu)	mg/L	0.002	0.003	***<0.0100***	***<0.0250***	***<0.0250***	***<0.00500***	***<0.0250***	***<0.0250***
Iron, total (T-Fe)	mg/L	-	-	<0.200	<0.500	<0.500	0.169	<0.500	<0.500
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00100	***<0.00250***	***<0.00250***	<0.000500	***<0.00250***	***<0.00250***
Manganese, total (T-Mn)	mg/L	-	-	0.00865	<0.00500	<0.00500	0.0118	<0.00500	<0.00500
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00539	0.00798	0.0105	0.00359	0.00714	0.00997
Nickel, total (T-Ni)	mg/L	0.0083	-	***<0.0100***	***<0.0250***	***<0.0250***	<0.00500	***<0.0250***	***<0.0250***
Selenium, total (T-Se)	mg/L	0.002	-	<0.00100	***<0.00250***	***<0.00250***	<0.000500	***<0.00250***	***<0.00250***
Silver, total (T-Ag)	mg/L	0.0015	0.003	<0.000200	<0.000500	<0.000500	<0.000100	<0.000500	<0.000500
Thallium, total (T-Tl)	mg/L	-	-	<0.000200	<0.000500	<0.000500	<0.000100	<0.000500	<0.000500
Uranium, total (T-U)	mg/L	-	-	0.00145	0.00229	0.00262	0.000893	0.00201	0.00256
Vanadium, total (T-V)	mg/L	0.005	-	***<0.0100***	***<0.0250***	***<0.0250***	<0.00500	***<0.0250***	***<0.0250***
Zinc, total (T-Zn)	mg/L	0.01	0.055	***<0.0600***	***<0.150***	***<0.150***	***<0.0300***	***<0.150***	***<0.150***
Hexavalent Chromium, total	mg/L	0.0015	-	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000100	<0.000250	<0.000250	<0.0000500	<0.000100	<0.000250
Copper, dissolved (D-Cu)	mg/L	-	-	<0.00400	<0.0100	<0.0100	<0.00200	<0.00400	<0.0100
Iron, dissolved (D-Fe)	mg/L	-	-	<0.200	<0.500	<0.500	<0.100	<0.200	<0.500
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00100	<0.00250	<0.00250	<0.000500	<0.00100	<0.00250
Manganese, dissolved (D-Mn)	mg/L	-	-	0.0082	0.00765	<0.00500	0.00957	0.00896	<0.00500
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.0100	<0.0250	<0.0250	<0.00500	<0.0100	<0.0250
Strontium, dissolved (D-Sr)	mg/L	-	-	3.47	5.1	5.88	2.09	2.73	6.41
Vanadium, dissolved (D-V)	mg/L	-	-	<0.0100	<0.0250	<0.0250	<0.00500	<0.0100	<0.0250
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0200	<0.0500	<0.0500	<0.0100	<0.0200	<0.0500
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Notes:

Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.

Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.

[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.

[2] Narrative guideline for the evaluation of change from background conditions arising from discharges to the aquatic environment. The water quality data presented in the table were collected when the site was not discharging, therefore the guidelines were not evaluated.

[3] The approved total ammonia nitrogen BC WQG is salinity, pH and temperature dependent; see Tables 26E and 26F in BC WQG guidance document.

[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.

[5] When MeHg ⩽ 0.5% of total Hg, BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.

Table H-2: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Station IDZ-W1			Station IDZ-W2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				IDZ-W1-0.5	IDZ-W1-2m	IDZ-W1-SF	IDZ-W2-0.5	IDZ-W2-2m	IDZ-W2-SF
				VA24C6989-001	VA24C6989-002	VA24C6989-003	VA24C6989-004	VA24C6989-005	VA24C6989-006
		Long Term	Short Term	2024-10-09 10:59	2024-10-09 11:00	2024-10-09 12:10	2024-10-09 16:15	2024-10-09 16:40	2024-10-09 17:00
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.6	7.6	7.3	7.6	7.6	7.3
Specific Conductivity - Field	µS/cm	-	-	8035	26818	30666	19055	25659	32878
Temperature - Field	℃	-	-	10.9	12.3	10.4	12.1	12.4	10.4
Salinity - Field	ppt	Narrative[2]	-	6.26	22.29	29.84	15.41	21.20	29.36
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	7.76	3.66	1.50	5.15	3.33	1.21
TSS	mg/L	Narrative[2]	Narrative[2]	6.6	<2.0	<2.0	6.2	5.9	2.1
Dissolved Oxygen - Field	mg/L	>=8	-	10.43	8.97	***5.08***	9.58	8.87	***5.21***
Anions and Nutrients									
Sulphate	mg/L	-	-	570	1710	2380	994	1270	2260
Chloride	mg/L	-	-	4120	12200	16900	7080	9040	16300
Fluoride	mg/L	-	1.5	***<2.00***	***<2.00***	***<2.00***	***<2.00***	***<2.00***	***<2.00***
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0073	<0.0050	<0.0050	0.0063	0.0056	<0.0050
Nitrite (N-NO_2)	mg/L	-	-	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
Nitrate (N-NO_3)	mg/L	3.7	339	0.0669	0.138	0.332	0.106	0.104	0.369
Total Metals									
Aluminum, total (T-Al)	mg/L	-	-	0.337	0.0895	0.0239	0.201	0.166	0.0301
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	0.00117	0.003	0.00362	0.00202	0.00214	0.00384
Barium, total (T-Ba)	mg/L	-	-	0.0142	0.012	0.0114	0.0125	0.012	0.0121
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.83	***2.31***	***3.13***	***1.35***	***1.54***	***3.06***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000024	0.000058	0.000098	0.000031	0.000033	0.000078
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000186	0.000093	0.000079	0.000122	0.000114	0.000073
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00149	0.00116	0.00061	0.00119	0.0014	0.00066
Iron, total (T-Fe)	mg/L	-	-	0.32	0.094	0.026	0.198	0.168	0.036
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.0128	0.00628	0.00511	0.0102	0.00897	0.00392
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00237	0.00645	0.00884	0.00396	0.00433	0.00922
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silver, total (T-Ag)	mg/L	0.0015	0.003	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Thallium, total (T-Tl)	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.000794	0.00223	0.00305	0.00138	0.0015	0.00295
Vanadium, total (T-V)	mg/L	0.005	-	0.00142	0.00119	0.00124	0.00128	0.00114	0.00135
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000020	0.000057	0.000075	0.000028	0.000037	0.000078
Copper, dissolved (D-Cu)	mg/L	-	-	0.00057	0.00063	<0.00050	0.00092	0.00091	0.00056
Iron, dissolved (D-Fe)	mg/L	-	-	<0.010	<0.010	<0.010	<0.010	0.013	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00515	0.00395	0.004	0.00565	0.00602	0.00301
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	1.3	4.42	6.46	2.38	3.44	6.08
Vanadium, dissolved (D-V)	mg/L	-	-	0.00054	0.00098	0.00117	0.00072	0.00093	0.00118
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	0.0015	<0.0010	0.0011	0.0014	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	0.00003	0.000044	0.00001
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	0.000014	0.000023	0.00003	0.000015
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	0.000023	0.000039	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	0.000011	0.000019	<0.000010
2-methylnaphthalene	mg/L	0.001	-	0.000012	<0.000010	<0.000010	0.000013	0.000017	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	0.000053	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	0.000043	0.000076	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	0.000011	0.000015	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] Narrative guideline for the evaluation of change from background conditions arising from discharges to the aquatic environment. The water quality data presented in the table were collected when the site was not discharging, therefore the guidelines were not evaluated.
[3] The approved total ammonia nitrogen BC WQG is salinity, pH and temperature dependent; see Tables 26E and 26F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ⩽ 0.5% of total Hg, BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.

Table H-3: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Station IDZ-E1			Station IDZ-E2	
		0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface
		IDZ-E1-0.5	IDZ-E1-2m	IDZ-E1-SF	IDZ-E2-0.5	IDZ-E2-2m
		VA24C6561-001	VA24C6561-002	VA24C6561-003	VA24C6561-004	VA24C6561-005
		2024-10-02	2024-10-02	2024-10-02	2024-10-02	2024-10-02
Methylmercury	**µg/L**	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020