TECHNICAL MEMORANDUM

To:	**Ian McAllister, Ashleigh Crompton, Mike Champion, Jackie Boruch and Ryan Schucroft (Woodfibre LNG)**	**Date:**	**7 Dec 2024**
From:	**Cheng Kuang, Holly Pelletier and Patrick Mueller (Lorax)**	**Project #:**	**A633-8**
Subject:	**PE-111578 Weekly Discharge and Compliance Report #42 for November 24 – 30**		

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 #42) was prepared by Lorax Environmental and summarizes WDA monitoring conducted the week of November 24 – 30. 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 #42 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."

Site layout and water management figures, and site images 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

1.1 Water Management Infrastructure

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 November 24 – 30 monitoring period. The East Wastewater Treatment Plant (WWTP), East Sedimentation Pond and West Sedimentation Pond are commissioned for operation.

Operation of the West WWTP was suspended September 25. The suspension was implemented for the temporary reconfiguration of the plant to conduct 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 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, contact waters within the catchments are managed to remain on site using a system of sumps, temporary ditches and baker tanks for intermediate storage and are then directed to the East and West Sedimentation Ponds.

Flocculant-based TSS settling (ESC) systems are used at the East and West Sedimentation Ponds to remove TSS from non-contaminated contact water stored in the ponds prior to discharge. Some of the clarified water may be recirculated back to the ponds. The original West Sedimentation Pond TSS settling (ESC) system was commissioned for used on September 25 and the installed capacity was upgraded from 820 to 2725 m^3/day on November 28. A TSS settling (ESC) system for the East Sedimentation Pond was under construction during the monitoring period, and was commissioned on December 2, also with 2725 m^3/day installed capacity.

Contaminated contact water, water from the East Sedimentation Pond, and concrete contact water are directed to the East WWTP for treatment prior to discharge to Howe Sound, or recirculation back to the pond. The direct discharge to Howe Sound of TSS clarified, and East WWTP treated contact water has been implemented since October 28 to ensure that effluent discharged to Howe Sound meets PE 111578 discharge limits.

The East and West Catchment permanent outfall structures have not been constructed. Temporary discharge systems (*i.e.*, pumps, hosing and diffusors) are used to convey clarified or treated effluent to the discharge locations authorized for the East and West Catchments. Each of the authorized discharge locations has an initial dilution zone (IDZ) where discharged water mixes with Howe Sound surface waters. The IDZ is defined in PE-111578 and extends 150 m from each point of discharge into Howe Sound.

Non-contact water diversion ditches west of Mill Creek have been fully or partially upgraded and discharge to Mill Creek at station OUT-06, or to Howe Sound at station OUT-02 (Figure 1). During heavy precipitation non-contact water is also conveyed to Howe Sound via station OUT-01. Non-contact water flows to the East Catchment are diverted along pre-existing road ditches that flow to East Creek or Mill Creek. 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 construction phase water management layout and monitoring stations are shown in Appendix A, Figure 1. Contact water collection and dewatering locations and photographs of the sedimentation ponds are shown in Appendix A, Figure 2 through Figure 5.

1.2 Weather and Water Management Activities

Variable weather was observed during the monitoring period (November 24 – 30), with light precipitation recorded on November 24, 29, and 30. The total weekly precipitation amount was 10 mm. 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
11-24-2024	2.2	8.0	4.6	Scattered showers
11-25-2024	0.0	8.4	1.3	Overcast
11-26-2024	0.0	6.6	0.0	Mix of Sun and Cloud
11-27-2024	0.0	5.3	2.2	Overcast
11-28-2024	0.0	4.8	0.3	Mix of sun and cloud
11-29-2024	5.2	4.2	1.6	Scattered showers
11-30-2024	2.6	5.3	3.7	Scattered showers

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

During the November 24 – 30 monitoring period, the East Sedimentation Pond received contact water from Area 1100 Sump and Baker Tanks, Area 1200 Baker Tanks, Area 1300 Stormwater Sump, Area 4200 Sump, and Surge Pond (Appendix A, Figure 2).

Routine operation of the East WWTP continued during the monitoring period (November 24 – 30). From November 24 to 27 contact waters from the concrete batch plant contact water ditch

were directed to the East WWTP for treatment, as well as water stored in the East Sedimentation Pond (Appendix A, Figure 2). Intermittent direct discharge of treated effluent from the East WWTP to Howe Sound occurred from November 24 to 27. A total of 2,292 m^3 of treated WWTP effluent was discharged to Howe Sound from the authorized discharge location (station SP-E-OUT). Total daily discharge volumes to Howe Sound from station SP-E-OUT are provided in Appendix B (Table B-5) and are equivalent to the treated effluent volume produced by the East WWTP (Appendix C, Table C-5).

During the November 24 – 30 monitoring period, contact waters from Area 4100 and Area 4200 sumps and tanks, and from the surge pond were directed to the West Sedimentation Pond (Appendix A, Figure 3). Intermittent discharge from the West Sedimentation Pond via the West TSS settling (ESC) system to Howe Sound occurred November 24 to 28. A total of 1,935 m^3 of TSS clarified effluent was discharged to Howe Sound from the authorized discharge location (station SP-W-OUT). Daily discharge volumes from station SP-W-OUT are provided in Appendix D (Table D-7).

Installation and commissioning of a new TSS settling (ESC) system for the West Sedimentation Pond was completed, and the system was commissioned for discharge on November 28. The new TSS settling (ESC) system has an installed treatment capacity of 2,725 m^3/day (500 GPM) and is a significant upgrade to the 820 m^3/day (150 GPM) system that was replaced on November 28. A parallel 2,725 m^3/day (500 GPM) TSS settling (ESC) system for the East Sedimentation Pond was also installed during the November 24 – 30 monitoring period, but was not ready for commissioning.

2. Monitoring Summary

The PE-111578 authorized works were under construction during the November 24 – 30 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):

- 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 and is monitored at the inlet to temporary diversion (station SW-04), therefore OUT-11 is not currently monitored.
- Creek water (SW-01, SW-02, SW-03, SW-04, SW-07).

- Contact water monitoring locations (WWTP-E-IN, WWTP-E-OUT, SP-E-IN, SP-E-OUT, SP-E-NE, SP-E-NW, WWTP-W-IN, WWTP-W-OUT, ESC-W-IN, ESC-W-OUT, W500GPM-IN, W500GPM-OUT, SP-W-IN, SP-W-W, SP-W-E, and SP-W-OUT).
- Howe Sound reference and IDZ locations (WQR1, WQR2, IDZ-E1, IDZ-E2, IDZ-W1, and IDZ-W2).

East Sedimentation Pond stations SP-E-NW and SP-E-NE, and West Sedimentation Pond stations SP-W-W and SP-W-E are in-pond stations that may be monitored for water management purposes when there is no influent to, or discharge from the sedimentation ponds.

The influent culverts for East and West Sedimentation Ponds are not yet operational and the associated influent stations as defined in PE-111578 (SP-E-IN-1, SP-E-IN-2, SP-W-IN-1 and SP-W-IN-2) have not been established. Hence, temporary monitoring stations SP-E-IN and SP-W-IN are used to characterize influent quality reporting to the East Sedimentation Pond and the West Sedimentation Pond. respectively.

A flocculant-based TSS settling (ESC) system has been in use at the West Sedimentation Pond since September 25 and was replaced by a larger capacity system on November 28 (Section 1.2). The influent station names for these systems are ESC-W-IN (former system) and W500GPM-IN (new system). Similarly, the effluent station names are ESC-W-OUT (former system) and W500GPM-OUT (new system)..

Water quality was monitored at stations IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WWTP-E-IN, WWTP-E-OUT, SP-E-IN, SP-E-OUT, ESC-W-IN, SP-W-IN, ESC-W-OUT, SP-W-OUT, W500GPM-IN, and W500GPM-OUT during the monitoring period (November 24 – 30). Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (November 24 – 30) were met.

Daily field parameters were not collected at the influent stations SP-E-IN (November 25, 27, and 30) and SP-W-IN (November 25, 26, 27, and 30) since there was no influent reporting to the East and West Sedimentation Ponds 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 operational during the monitoring period.

Table 2: Summary of PE-111578 Monitoring Samples Collected November 24 – 30.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
November 24, 2024	SP-E-IN	East Sedimentation Pond influent entering the pond at cell 1	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	SP-E-OUT/ WWTP-E-OUT [2]	East WWTP effluent discharged at station SP-E-OUT		
	WWTP-E-OUT	East WWTP effluent at the meter box and discharged to holding tanks	Field Parameters.	D
	WWTP-E-IN	East WWTP influent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	SP-W-IN	West Sedimentation Pond influent entering the pond at cell 1	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	ESC-W-IN	Influent to the West Sedimentation Pond TSS settling system.	Field Parameters.	D
	SP-W-OUT/ ESC-W-OUT [3]	West TSS settling system effluent discharged at station SP-W-OUT	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	ESC-W-OUT	West TSS settling system effluent at the ESC meter box	Field Parameters.	P
November 25, 2024	SP-E-OUT/ WWTP-E-OUT [2]	East WWTP effluent discharged at station SP-E-OUT	Field Parameters.	D
	WWTP-E-OUT	East WWTP effluent at the meter box and discharged to holding tanks		
	WWTP-E-IN	East WWTP influent		
	ESC-W-IN	Influent to the West Sedimentation Pond TSS settling system.		
	SP-W-OUT/ ESC-W-OUT [3]	West TSS settling system effluent discharged at station SP-W-OUT		
	ESC-W-OUT	West TSS settling system effluent at the ESC meter box	Field Parameters.	P
	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.	W_3, M
	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		
November 26, 2024	SP-E-IN	East Sedimentation Pond influent entering the pond at cell 1	Field Parameters.	D
	SP-E-OUT/ WWTP-E-OUT [2]	East WWTP effluent discharged at station SP-E-OUT	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs.	D, W_1
	WWTP-E-OUT	East WWTP effluent at the meter box and discharged to holding tanks	Field Parameters.	D
	WWTP-E-IN	East WWTP influent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs.	D, W_1
	ESC-W-IN	Influent to the West Sedimentation Pond TSS settling system.	Field Parameters.	D
	SP-W-OUT/ ESC-W-OUT [3]	West TSS settling system effluent discharged at station SP-W-OUT		
	ESC-W-OUT	West TSS settling system effluent at the ESC meter box	Field Parameters.	P
	IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	Field and Physical Parameters.	W_3
	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		
	IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
	IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface		
	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		
November 27, 2024	WWTP-E-IN	East WWTP influent	Field Parameters.	D
	ESC-W-IN	Influent to the West Sedimentation Pond TSS settling system.	Field Parameters.	D
	SP-W-OUT/ ESC-W-OUT [3]	West TSS settling system effluent discharged at station SP-W-OUT	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, and Methylmercury.	D, W_1
	ESC-W-OUT	West TSS settling system effluent at the ESC meter box	Field Parameters.	P
November 28, 2024	SP-E-IN	East Sedimentation Pond influent entering the pond at cell 1	Field Parameters.	D
	WWTP-E-IN	East WWTP influent	Field Parameters.	D
	SP-W-IN	West Sedimentation Pond influent entering the pond at cell 1	Field Parameters.	D
	ESC-W-IN	Influent to the West Sedimentation Pond TSS settling system.	Field Parameters.	D
	SP-W-OUT/ W500GPM-OUT [3]	West TSS settling system effluent discharged at station SP-W-OUT	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	ESC-W-OUT	West TSS settling system effluent at the ESC meter box	Field Parameters.	P
	W500GPM-IN	Influent to the West Sedimentation Pond TSS settling system.	Field Parameters.	P
	W500GPM-OUT	West TSS settling system effluent at the ESC meter box		
November 29, 2024	SP-E-IN	East Sedimentation Pond influent entering the pond at cell 1	Field Parameters.	D
	WWTP-E-OUT	East WWTP effluent at the meter box and discharged to holding tanks	Field Parameters.	D
	WWTP-E-IN	East WWTP influent	Field Parameters.	D
	SP-W-IN	West Sedimentation Pond influent entering the pond at cell 1	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, and Methylmercury.	D, W_1
	W500GPM-IN	Influent to the West Sedimentation Pond TSS settling system.	Field Parameters.	P
	W500GPM-OUT	West TSS settling system effluent at the ESC meter box		

Table 2 (continued): Summary of PE-111578 Monitoring Samples Collected November 24 – 30.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
November 30, 2024	WWTP-E-IN	East WWTP influent	Field Parameters.	D
	SP-W-OUT/ W500GPM-OUT [3]	West TSS settling system effluent discharged at station SP-W-OUT	Field Parameters.	D
	W500GPM-IN	Influent to the West Sedimentation Pond TSS settling system.	Field Parameters.	P
	W500GPM-OUT	West TSS settling system effluent at the ESC meter box		

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.
Q – quarterly acute toxicity.
[1] In-Pond East Sedimentation Pond stations SP-E-NW and SP-E-NE, and West Sedimentation 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.
[2] As a result of the reconfigured pathway for effluent discharge at station SP-E-OUT effective October 28, contact water is stored in the East Sedimentation Pond and directed to the East WWTP for treatment. East WWTP effluent is discharged at station SP-E-OUT. Field measurements and analytical samples collected at station SP-E-OUT also fulfill the water quality monitoring requirements for station WWTP-E-OUT.
[3] As a result of the reconfigured pathway for effluent discharge at station SP-W-OUT effective October 28, the West Sedimentation Pond discharge is routed through a TSS settling (ESC) system prior to discharge. During the monitoring period, field measurements and analytical samples were collected at station SP-W-OUT. Additional field measurements were collected from TSS settling system influent and effluent (stations ESC-W-IN, ESC-W-OUT, W500GPM-IN and W500GPM-OUT). There are no PE-111578 monitoring requirements for TSS settling (ESC) system stations, therefore they are monitored 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). 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.

The BC WQG for total mercury is a sample-specific calculated value that is based on the concentration of methylmercury in a sample. Although an approved BC WQG for the protection of aquatic life for methylmercury has not been explicitly established, the BC Ambient Water Quality Guidelines for Mercury Overview Report indicates the total mercury WQG is derived from a methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) that is set at a concentration that protects fish from mercury bioaccumulation that may harm wildlife that consumes fish. Therefore, if methylmercury results are reported, the 0.0001 µg/L value is presented as a methylmercury WQG to support the interpretation of total mercury and methylmercury results.

3.2 Summary of Reported Results

Field measurements and analytical results available at the time of reporting for samples collected during the monitoring period (November 24 – 30) 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:

- WQR1 collected November 1 (dioxins and furans)
- WQR2 collected November 2 (dioxins and furans)
- IDZ-W1 collected November 4 (dioxins and furans)
- SW-01 collected November 12 (methylmercury, dioxins and furans)
- OUT-01 and OUT-02 collected November 12 (methylmercury)
- SW-02, SW-03, and SW-07 collected November 16 (methylmercury, dioxins and furans)
- SW-01 collected November 17 (methylmercury, dioxins and furans)
- SP-E-OUT/WWTP-E-OUT collected November 19 (methylmercury, dioxins and furans)
- SP-E-IN collected November 20 (dioxins and furans)
- SP-W-IN collected November 23 (methylmercury)
- SP-E-OUT/WWTP-E-OUT, WWTP-E-IN, SP-W-OUT/ESC-W-OUT, and SP-W-IN collected November 24 (methylmercury, dioxins and furans)
- IDZ-W2 collected November 25 (field parameters and all analytical parameters)
- IDZ-E1, IDZ-E2, and IDZ-W1 collected November 26 (field parameters and all analytical parameters)
- SP-W-OUT/ESC-W-OUT collected November 27 (methylmercury)
- SP-W-OUT/ESC-W-OUT collected November 28 (methylmercury, dioxins and furans)
- SP-W-IN collected November 29 (methylmercury)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #42.

Sample	Description	Sampling Date	Parameters Reported
WWTP-E-IN	East WWTP influent	October 13, 2024	Dioxins and Furans.
WWTP-E-OUT	East WWTP effluent		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	October 19, 2024	Dioxins and Furans.
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		
WQR2-0.5	Reference site 2; 0.5 m below surface		
SP-E-IN	East Sedimentation Pond influent	October 20, 2024	Dioxins and Furans.
SP-E-OUT	East Sedimentation Pond effluent		
SP-W-IN	West Sedimentation Pond influent		
SP-W-OUT	West Sedimentation Pond effluent		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		
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		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
WQR1-2m	Reference site 1; 2 m below surface		
IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface	October 21, 2024	Dioxins and Furans.
IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
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-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
SW-01	Lower Reach of Woodfibre Creek (near the mouth)	October 22, 2024	Dioxins and Furans.
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)		
SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
SW-07	Upstream Mill Creek (at the diversion inlet)		
WQR1-0.5	Reference site 1; 0.5 m below surface		
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 23, 2024	Dioxins and Furans.
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
WWTP-E-IN	East WWTP influent	October 24, 2024	Dioxins and Furans.
WWTP-E-OUT	East WWTP effluent		
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-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
SW-02	Upper Reach of Mill Creek (upstream of the third bridge)	October 25, 2024	Dioxins and Furans.
SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
SW-07	Upstream Mill Creek (at the diversion inlet)		
SW-01	Lower Reach of Woodfibre Creek (near the mouth)	October 26, 2024	Dioxins and Furans.
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
OUT-01	Non-contact water diversion ditch outlet		Methylmercury.
OUT-02	Non-contact water diversion ditch outlet	October 27, 2024	Methylmercury.
OUT-06	Non-contact water diversion ditch outlet		
SP-E-OUT	East Sedimentation Pond effluent		
SP-E-IN	East Sedimentation Pond influent	October 28, 2024	Methylmercury.
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT		Methylmercury, Dioxins and Furans.
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		Dioxins and Furans.
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		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR1-2m	Reference site 1; 2 m below surface		
WQR1-SF	Reference site 1; 2 m above the seafloor		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	October 29, 2024	Dioxins and Furans.
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		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
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-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	October 30, 2024	Methylmercury.
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		
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		
WQR1-0.5	Reference site 1; 0.5 m below surface	November 1, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs and Methylmercury.
WQR1-2m	Reference site 1; 2 m below surface		
WQR1-SF	Reference site 1; 2 m above the seafloor		

Table 3 (continued): Summary of Analytical Results Included in Weekly Discharge and Compliance Report #42.

Sample	Description	Sampling Date	Parameters Reported
WQR2-0.5	Reference site 2; 0.5 m below surface	November 2, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs and Methylmercury.
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT	November 3, 2024	Methylmercury.
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	November 4, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs and Methylmercury.
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		Field and Physical Parameters.
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		
WWTP-E-IN	East WWTP influent	November 5, 2024	Methylmercury.
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT	November 6, 2024	Methylmercury.
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
SP-W-IN	West Sedimentation Pond influent	November 7, 2024	Methylmercury.
WWTP-E-IN	East WWTP influent	November 8, 2024	Methylmercury.
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT		
SP-W-IN	West Sedimentation Pond influent	November 9, 2024	Methylmercury.
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
WWTP-E-IN	East WWTP influent	November 12, 2024	Methylmercury.
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT		
SP-W-IN	West Sedimentation Pond influent		
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
SW-01	Lower Reach of Woodfibre Creek (near the mouth)		Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
OUT-01	Non-contact water diversion ditch outlet		Field, Physical and General Parameters, Total and Dissolved Metals.
OUT-02	Non-contact water diversion ditch outlet		
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT	November 13, 2024	Methylmercury.
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
SP-E-IN	East Sedimentation Pond influent	November 14, 2024	Methylmercury.
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT		
SP-W-IN	West Sedimentation Pond influent		
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		Methylmercury.
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		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR2-0.5	Reference site 2; 0.5 m below surface		
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT	November 15, 2024	Methylmercury.
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		Methylmercury.
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		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR2-0.5	Reference site 2; 0.5 m below surface		
SW-02	Upper Reach of Mill Creek (upstream of the third bridge)	November 16, 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-07	Upstream Mill Creek (at the diversion inlet)		
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)	November 17, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT	November 19, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-E-IN	East Sedimentation Pond influent	November 20, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.

Table 3 (continued): Summary of Analytical Results Included in Weekly Discharge and Compliance Report #42.

Sample	Description	Sampling Date	Parameters Reported
SP-W-IN	West Sedimentation Pond influent	November 23, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-E-IN	East Sedimentation Pond influent	November 24, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
WWTP-E-IN	East WWTP influent		
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT		
SP-W-IN	West Sedimentation Pond influent		
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT		
WWTP-E-IN	East WWTP influent	November 26, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-E-OUT/ WWTP-E-OUT [1]	East WWTP effluent discharged at station SP-E-OUT		
SP-W-OUT/ ESC-W-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT	November 27, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-W-OUT/ W500GPM-OUT [2]	West TSS settling system effluent discharged at station SP-W-OUT	November 28, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-W-IN	West Sedimentation Pond influent	November 29, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.

Notes:

[1] As a result of the reconfigured pathway for effluent discharge at station SP-E-OUT effective October 28, contact water was stored in the East Sedimentation Pond and directed to the East WWTP for treatment. East WWTP effluent was discharged at station SP-E-OUT during the monitoring period (November 24 – November 30) from November 24 to November 27. During the monitoring period, field measurements and analytical samples were collected at station SP-E-OUT, and also fulfill the water quality monitoring requirements for station WWTP-E-OUT.

[2] As a result of the reconfigured pathway for effluent discharge at station SP-W-OUT effective October 28, the West Sedimentation Pond discharges through the TSS (ESC) settling system. During the monitoring period, field measurements and analytical samples were collected at station SP-W-OUT. Additional field measurements were collected from TSS settling (ESC) system influent and effluent stations (ESC-W-IN, ESC-W-OUT, W500GPM-IN and W500GPM-OUT). There are no PE-111578 monitoring requirements established for TSS settling (ESC) system stations therefore they are monitored at the discretion of field staff.

3.3 East Catchment

The East Catchment water quality monitoring results for stations at the East Sedimentation Pond, East WWTP and the authorized discharge location are discussed in this section. Results for the sedimentation pond and authorized discharge location 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. East WWTP monitoring results are screened against operational MDOs which are equivalent to the PE-111578 discharge limits or the lowest applicable WQGs for parameters without discharge limits. The screened water quality results for analytical samples available at the time of reporting and for field parameters collected during the monitoring period are presented in Appendix B (East Sedimentation Pond influent and pond water quality, and all discharges to Howe Sound) and Appendix C (East WWTP influent and effluent). Exceedances of PE-111578 discharge limits and WQGs in samples of effluent discharged to Howe Sound are summarized below. Results received for methylmercury, dioxins and furans are also discussed.

During the monitoring period (November 24 – 30), all discharge to Howe Sound from the East Catchment was East WWTP treated effluent that was monitored at the authorized discharge location (station SP-E-OUT). Therefore, monitoring results from station SP-E-OUT also represent East WWTP treated effluent that would otherwise be collected at station WWTP-E-OUT. Daily field measurements for November 24 – 30, and analytical samples collected November 19, 24, and 26 at station SP-E-OUT were available at the time of reporting.

Screening results for East Sedimentation Pond influent and East Catchment discharge water quality are tabulated in Appendix B (Tables B- 1). East WWTP influent and effluent water quality screening results are tabulated in Appendix C (Tables C-1). Analytical samples and field measurements for discharge at station SP-E-OUT met PE- 111578 discharge limits and WQGs except for nitrate (November 24 and 26) and hexavalent chromium (November 19, 24, and 26) (Table 4).

Methylmercury analytical results were available at the time of reporting for effluent discharged directly from the East Sedimentation Pond at station SP-E-OUT on October 27, November 13, and November 14 (Appendix B, Table B-2). Methylmercury concentrations ranged from 0.000140 to 0.000552 µg/L and were above the WQG for the protection of wildlife (Table 4). The corresponding total mercury concentrations were also above the WQG. These concentrations were associated with elevated TSS on November 13 and 14 but not in the October 27 sample which was low in TSS. Methylmercury analytical results were also available at the time of reporting for samples of the East WWTP effluent discharged at station SP-E-OUT on October 28, and

November 3, 6, 8, 12, and 15. Methylmercury and the associated total mercury results for these samples met WQGs (Appendix B, Table B-3).

Table 4:
Summary of Parameters Exceeding WQGs in Effluent Discharged from SP-E-OUT for Field and Analytical Results Available at the Time of Reporting

Parameter	Units	WQG[1]	N	N >WQG	Commentary
Nitrate	mg/L	3.7	3	2	Nitrate concentrations at station SP-E-OUT on November 24 (4.39 mg/L) and November 26 (4.43 mg/L) were 1.2 times greater than the long term WQG.
Hexavalent Chromium	mg/L	0.0015	3	3	Hexavalent chromium concentrations at station SP-E-OUT on November 19 (0.00152 mg/L), November 24 (0.00184 mg/L), and November 26 (0.00235 mg/L) were 1.01 to 1.6 times greater than the long-term WQG.
Total Methylmercury	µg/L	0.0001 [2]	3	3	Total methylmercury concentrations at station SP-E-OUT on October 27 (0.000552 µg/L), November 13 (0.000140 µg/L), and November 14 (0.000211 µg/L) were 5.5, 1.4 and 2.1 above the WQG.
Total Mercury	µg/L	0.0012 -0.016 [3,4]	3	3	Total mercury concentrations at station SP-E-OUT on October 27 (0.0064 µg/L), November 13 (0.0182 µg/L), and November 14 (0.0347 µg/L) were 5.5, 1.4 and 2.1 times above the calculated WQG.

N = number of samples.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.

Dioxin and furan results were reported for East Sedimentation Pond influent and effluent stations SP-E-IN and SP-E-OUT, respectively, collected on October 20 (as discussed in Report #37) (Appendix B, Table B-4). Results were also reported for WWTP samples collected October 13 and 24 (as discussed in Report #36 and #37) at WWTP influent and effluent stations WWTP-E-IN and WWTP-E-OUT, respectively, and October 28 (discussed in Report #38) at WWTP-E-OUT (Appendix C, Table C-4). The October 28 WWTP-E-OUT sample is also considered to represent station SP-E-OUT because WWTP treated effluent was being discharged at station SP-E-OUT on that day. The results for samples of effluent discharged at SP-E-OUT on October 20 and 28 were, respectively, 0.0486 and 0.00247 pg/L for the lower bound PCDD/F TEQ, and 6.15 and 0.976 pg/L for the upper bound PCDD/F TEQ. The results were higher for October 20 effluent because non-clarified East Sedimentation Pond water with elevated TSS was discharged that day (refer to Report #37). Dioxins and furans are associated with TSS. The upper bound PCDD/F TEQ for the October 20 effluent is higher than October 28 results due in part to higher concentrations of some dioxin and furan congeners, but primarily due to elevated detected limits reported for individual dioxin and furan congeners that were not detected due to test method interferences in these samples. As described in section 3.1, for congeners that are not detected the detection limit value

is used for calculating the upper bound PCDD/F TEQ, therefore elevated detection limits will increase the calculated upper bound.

3.4 West Catchment

The West Catchment water quality results for the West Sedimentation Pond and West WWTP monitoring stations are discussed in this section. Results for sedimentation pond influent and effluent stations 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. The screened water quality results for analytical samples and field parameters collected from West Sedimentation Pond influent and in-pond stations, TSS settling system stations, and discharges to Howe Sound available at the time of reporting are presented in Appendix D. Operation of the West WWTP is currently suspended and monitoring results are therefore not available. Exceedances of PE-111578 discharge limits and WQGs in samples of effluent discharged to Howe Sound and results received for methylmercury, dioxins and furans are summarized below.

During the monitoring period (November 24 – 30) all discharges from the West Catchment to Howe Sound were routed through the authorized discharge location (SP-W-OUT). Clarified water from the West Sedimentation Pond TSS settling (ESC) system discharged to Howe Sound November 24 to 28.

Analytical results for effluent discharged at station SP-W-OUT were available at the time of reporting for samples collected November 24, 27, and 28. During the monitoring period (November 24 – 30), field measurements and analytical samples collected at stations SP-W-OUT and ESC-W-OUT represent TSS clarified water. West Sedimentation Pond influent and effluent water quality screening results are presented in Appendix D, Tables D-1, D-2, and D-6. Analytical samples and field measurements for samples of TSS clarified water discharged to Howe Sound via station SP-W-OUT met PE- 111578 discharge limits and WQGs.

Methylmercury analytical results (and associated total mercury results) available at the time of reporting for samples of TSS clarified effluent discharged at SP-W-OUT on October 28, and November 3, 6, 9, and 12 met WQGs. As summarized in Table 5, samples of non-clarified effluent discharged from the West Sedimentation Pond on November 13 and 14 at station SP-E-OUT exceeded the WQGs for methylmercury and total mercury (Appendix D, Tables D-3, D-4 and D-5). The elevated mercury results on November 13 and 14 are likely associated with elevated TSS in the effluent discharged on those days.

Table 5:
Summary of Parameters Exceeding WQGs in Effluent Discharged from SP-W-OUT for Field and Analytical Results Available at the Time of Reporting

Parameter	Units	WQG[1]	N	N >WQG	Commentary
Total methylmercury	µg/L	0.0001 [2]	2	2	Total methylmercury concentrations at station SP-W-OUT on November 13 (0.000171 µg/L), and November 14 (0.000262 µg/L) were 1.7 and 2.6 times above the WQG.
Total Mercury	µg/L	0.013 and 0.016 [3,4]	2	2	Total mercury concentrations at station SP-E-OUT on November 13 (0.00224 µg/L), and November 14 (0.0774 µg/L) were 1.7 and 4.8 times above the calculated WQG.

N = number of samples.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.

Dioxin and furan results were reported for West Sedimentation Pond influent and effluent stations collected October 20 (discussed in Report #37) and October 27 and 28 (discussed in Report #38). The results for samples of effluent discharged at SP-W-OUT on October 20 and 28 were, respectively, 0.806 and 0.0264 pg/L for the lower bound PCDD/F TEQ, and 7.37 and 1.05 pg/L for the upper bound PCDD/F TEQ. The results were higher for October 20 effluent because non-clarified West Sedimentation Pond water with elevated TSS was discharged that day (refer to Report #37). Dioxins and furans are associated with TSS. The upper bound PCDD/F TEQ for the October 20 effluent are higher than October 28 results due in part to higher concentrations of some dioxin and furan congeners, but primarily due to elevated detected limits reported for individual dioxin and furan congeners that were not detected due to test method interferences in these samples. As described in section 3.1, for congeners that are not detected the detection limit value is used for calculating the upper bound PCDD/F TEQ, therefore elevated detection limits will increase the calculated upper bound.

3.5 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 November 12 non-contact water diversion ditch outlet sample (as discussed in Weekly Report #40) collected at station OUT-01

and OUT-02. Parameter concentrations met WQGs except pH, total aluminum, total iron, and dissolved copper in one or more samples (Table 6).

Table 6:
Summary of Parameters Exceeding WQGs at Non-Contact Water Diversion Ditch Outlets

Parameter	Units	WQG	N	N >WQG	Commentary
T-Al	mg/L	0.113 (OUT-01) 0.063 (OUT-02)	2	2	The total aluminum concentration measured at OUT-01 (0.223 mg/L) and OUT-02 (0.274 mg/L) on November 12 were 2.0 and 4.3 times greater than the calculated long-term WQG, respectively.
D-Cu	mg/L	0.00064 (OUT-01) 0.00026 (OUT-02)	2	2	The dissolved copper concentration measured at OUT-01 (0.00091 mg/L) and OUT-02 (0.00092 mg/L) on November 12 were 1.4 and 3.5 times greater than the calculated WQG, respectively.

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

A methylmercury analytical result was available at the time of reporting for the October 26 sample from the non-contact water diversion ditch outlet station OUT-02 (as discussed in Weekly Report #37) and for the October 27 samples collected at station OUT-01 and OUT-06 (as discussed in Weekly Report #38). The methylmercury concentration in the October 26 OUT-02 sample was 0.000022 µg/L and was 0.000028 and 0.000025 µg/L in the October 27 OUT-01 and OUT-06 samples, respectively, which met the WQG. The associated total mercury concentration also met the WQG (Appendix G; Table G-2).

3.6 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 G (estuarine).

Analytical results were available at the time of reporting for freshwater samples collected near the mouth of Woodfibre Creek (SW-01) on November 12, Mill Creek (station SW-02), upstream on Mill Creek (station SW-07) and estuarine water collected at Mill Creek Estuary (station SW-03) on November 16 (as discussed in Weekly Report #40), and near the mouth of East Creek (station SW-04) on November 17 (as discussed in Weekly Report #41).

Parameter concentrations met WQGs except pH, total aluminum, and dissolved copper in one or more samples. Field pH was below the lower limit of the applicable WQG at SW-01 (pH 6.4) and SW-03 (6.9 mg/L). Total aluminum was above the WQG in samples collected from SW-01 (0.167 mg/L), SW-02 (0.207 mg/L), SW-04 (0.125 mg/L), and SW-07 (0.0942 mg/L). Dissolved

copper was above the WQG at Woodfibre Creek (0.00022 mg/L), East Creek (0.00085 mg/L) and Mill Creek stations SW-02 and SW-07 (0.00034 and 0.00037 mg/L, respectively). Results are tabulated in Appendix F, Table F-1 and Appendix G, Table G-1.

The observed pH and concentrations of total aluminum and dissolved copper were within concentration ranges observed in the pre-construction baseline monitoring program for freshwater and estuarine water receiving environment stations except the dissolved copper concentration observed in Mill Creek (station SW-02) on November 12 (0.00034 mg/L) was 1.1 times greater than the maximum concentration observed in the pre-construction baseline monitoring program at Mill Creek (0.00031 mg/L). However, the November 12 sample collected from upstream Mill Creek (station SW-07) that represents background concentrations in Mill Creek had a higher concentration (0.00037 mg/L) than that at station SW-02; therefore, the dissolved copper concentration measured at SW-02 is not flagged as an exceedance.

Dioxins and furans analytical results were available at the time of reporting for freshwater and estuarine water samples collected on October 22, 25, and 26 (as discussed in Weekly Report #37). For all stations the lower and upper bound PCDD/F TEQ concentrations ranged from 0 to 0.0581 pg/L, and 0.932 to 3.35 pg/L, respectively, and are within baseline concentration ranges (Appendix F, Table F-2 and F-3; Appendix G, Table G-2).

3.7 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. It is expected that samples collected within the IDZ (*i.e.,* mixing zone) defined in PE-111578 for the authorized discharge locations may have parameter concentrations above baseline or background (*i.e.,* reference station) concentrations due to project influence. The analytical results, field parameters and WQGs are summarized in Appendix H.

Analytical results were available at the time of reporting for the November 1 and 2 marine water receiving environment reference station samples collected at WQR1 and WQR2 at 0.5 m and 2 m below the water surface and 2 m above the seafloor (as discussed in Weekly Report #38). Analytical results were also available for the November 4 marine water receiving environment samples collected at IDZ-W1 and IDZ-W2 at 0.5 m and 2 m below the water surface and 2 m above the seafloor (as discussed in Weekly Report #39). Only field and physical parameters were collected at station IDZ-W2 on November 4. Parameter concentrations met WQGs except dissolved oxygen and total boron in one or more samples (Appendix H, Tables H-1 and H-2).

Dissolved oxygen was below the lower limit of the WQG at marine reference stations WQR1 and WQR2 on November 1 and 2, respectively, in samples collected at 2 m above the seafloor (5.08 mg/L and 7.00 mg/L, respectively) and at IDZ-W1 and IDZ-W2 on November 4 at 2 m above the seafloor (4.99 mg/L and 4.85 mg/L, respectively). Total boron was above the WQG in all samples collected from marine reference stations WQR1 and WQR2 on November 1 and November 2, respectively, and in the sample collected at IDZ-W1 at 2 m above the seafloor on November 4 (3.82 mg/L). The marine reference station represents background conditions and is not flagged for exceedances. The dissolved oxygen and total boron concentrations observed at IDZ-W1 and IDZ-W2 on November 4 are within concentrations observed in the pre-construction baseline monitoring program for the marine reference stations.

Methylmercury analytical results were available at the time of reporting for the marine water receiving environment samples collected from station IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1, and WQR2 on October 30, and November 1 and 2 (discussed in Weekly Report #38), samples collected from station IDZ-W1 on November 4 (discussed in Weekly Report #39), and samples collected from IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1, and WQR2 on November 14 and 15 (as discussed in Weekly Report #40). For all samples, methylmercury concentrations ranged from <0.000020 to 0.000033 ug/L and were below the WQG indicated in Section 3.1 (0.0001 µg/L). The associated total mercury concentrations also met the WQG (Appendix H; Tables H-3 to Table H-7).

Dioxins and furans analytical results were available at the time of reporting for IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2 and marine reference station WQR1 and WQR2 samples collected on October 19 (as discussed in Weekly Report #36), October 20, 21, 22, 23, and 24 (as discussed in Weekly Report #37), and October 28 and 29 (as discussed in Weekly Report #38). The lower bound PCDD/F TEQ concentration ranged from 0 to 0.0793 pg/L at the reference stations, and 0 to 0.152 pg/L at the IDZ stations. The upper bound PCDD/F TEQ concentration at the reference stations ranged from 0.707 to 2.82 pg/L, whereas the concentrations ranged from 0.793 to 6.18 pg/L at the IDZ stations. The higher upper bound PCDD/F TEQ concentrations observed at the IDZ stations compared to the reference stations are due to raised detection limit values reported for individual dioxin and furan compounds in samples collected at IDZ stations compared to reference stations, from October 20 through 22. Raised detection limit values for individual compounds that are not detected will increase the calculated upper bound concentration as described in Section 3.1. The lower bound PCDD/F TEQ concentrations were within the concentration ranges observed in the pre-construction baseline monitoring program for marine reference stations or within background ranges observed at marine reference stations. Dioxins and furans results are presented in Appendix H, Table H-8 to Table H-15.

4. Quality Control

This section presents the results of the quality control (QC) evaluation for the PE-111578 weekly report (Table 7). 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 7. Any items flagged for follow-up are carried forward to future reports until they are closed.

Table 7: Weekly Report QC Evaluations and Ongoing Items

QC Procedure	Observation	Investigation/Resolution
Reporting Period (November 24 – 30, Report #42)		
Authorized Works and Monitoring Program Evaluation	The authorized works and monitoring stations have not been established as described in PE-111578.	The PE-111578 authorized works were under construction during the reporting period. The East and West Sedimentation Ponds and WWTPs have been constructed. The sedimentation pond influent culverts have not been activated, and the associated influent monitoring stations have not been established. Temporary outfalls are used for the East and West authorized discharge locations until the permanent structures are completed. Operation of the West WWTP has been suspended since September 25, and the plant has been repurposed to evaluate alternative treatment processes. The lower reach of East Creek has been temporarily diverted through OUT-11 outfall since September 17 to facilitate replacement of the East Creek outfall culvert (OUT-12). East Creek is monitored at SW-04 therefore monitoring at OUT-11 has been suspended. As communicated to BCER, the East Catchment discharge pathway for authorized discharge location SP-E-OUT was reconfigured on October 28 to direct sedimentation pond effluent to the East WWTP and to only discharge East WWTP treated effluent. This item remains open.
Pending Data	Analytical results were not reported for samples collected November 25 and 26. Methylmercury, dioxins and furans results were not reported for samples collected November 24, 27, 28, and 29.	Analytical results for samples collected November 25 and 26 were not complete at the time of Report #42 preparation. Methylmercury, dioxins and furans results for samples collected November 24, 27, 28, and 29 were not complete at the time of Report #42 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Ongoing Items from Previous Weekly Reports		
Report #36: Pending Data	Methylmercury, dioxins and furans results were not reported for samples collected October 13 and 19.	Dioxins and furans results for samples collected October 13 and 19 are discussed in Section 3.3 and 3.7, respectively, of Report #42. This item is closed.
Report #37: 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.	This item was first noted in Report #35. The total iron concentration observed at the East Creek station (SW-04) on September 28 and October 12 were 1.3 and 1.7 times the maximum concentration observed in the pre-construction baseline monitoring program at East Creek, respectively. 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. The total iron and dissolved copper concentrations observed at the East Creek station (SW-04) on October 26 were 1.8 and 1.01 times greater than the maximum concentrations observed in the pre-construction baseline monitoring program at East Creek, respectively. It is possible the East Creek water quality at station SW-04 was influenced by discharge from the Fortis controlled portal area for the Eagle Mountain Pipeline Tunnel project. Follow-up review is on-going . This item remains open.
Report #37: Pending Data	Methylmercury, dioxins and furans results were not reported for samples collected October 25, and 26.	Dioxins and furans results for samples collected October 25 and 26 are discussed in Section 3.6 of Report #42. Methylmercury results for samples collected October 25 and 26 were not complete at the time of Report #42 preparation. Retesting of methylmercury has been initiated with the laboratory due to elevated detection limits. The pending results will be included in future weekly reports when available. This item remains open.
Report #38: Pending Data	Analytical results were not reported for samples collected November 1 and 2. Methylmercury, dioxins and furans results were not reported for samples collected October 27, 28, and 30.	Analytical results for samples collected November 1 and 2 are discussed in Section 3.7 of Report #42. Methylmercury results for samples collected October 27, 28 and 30 are discussed in Sections 3.3, 3.4, 3.5, and 3.7 of Report #42. Dioxin and furan results for samples collected October 27, 28, and 30 were not complete at the time of Report #42 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #38: Non-Complaint Effluent	East Sedimentation Pond effluent on October 28 and 30 did not meet the pH discharge limit.	East Catchment discharge at SP-E-OUT (*i.e.*, East WWTP effluent) was below the lower discharge limit for field pH on October 28 and 30 (pH 5.1 to 5.3). The low pH values are attributed to carbon dioxide used for final pH adjustment in the WWTP treatment process. Review of the preventive measure to prevent reoccurrence is underway. This item remains open.
Report #39: Pending Data	Analytical results were not reported for samples collected November 4. Methylmercury, dioxins and furans results were not reported for samples collected November 3, 5, 6, 7, 8, and 9.	Analytical results for samples collected November 4 are discussed in Section 3.7 of Report #42. Methylmercury results for samples collected November 3, 5, 6, 7, 8, and 9 are discussed in Section 3.3, 3.4, and 3.7 of Report #42. Dioxins and furans results for samples collected November 3 and 4 were not complete at the time of Report #42 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #40: Non-Complaint Effluent	Non-complaint discharge from the East and West Sedimentation Ponds on November 12, 13 and 14.	Field pH measured at station SP-E-OUT on November 12 at 08:41 (pH 10) was above the upper limit of the PE-111578 discharge limit. Contact water stored in the East and West Sedimentation Ponds was discharged to Howe Sound on November 13 at 17:18 to November 15 at 03:04, and November 13 at 17:05 through November 15 at 06:12, respectively. The East and West Sedimentation Pond discharges exceeded multiple discharge limits on November 13 and November 14. The discharge of untreated and non-clarified contact water is due to high runoff flows from significant rainfall November 11-14. Discharge limit exceedances November 13 and 14 are attributed to elevated TSS in the discharged water. The anticipated potential for exceedances were communicated to BCER prior to commencing discharge. To prevent recurrence, the installed capacity for TSS removal was increased November 28 from 820 to 2725 m^3/day. The capacity was further increased by 2725 m^3/day on December 2 for a total installed TSS settling capacity of 5450 m^3/day. This significant increase in TSS settling capacity will help prevent future released of non-clarified water. Elevated pH was attributed to carbon dioxide regulator Freeze up. A heated regulator has been procured and will be installed; this will help prevent freeze-up in the future. The corrective actions have been communicated to BCER. This item is closed.
Report #40: Monitoring Program Evaluation	Sampling was not conducted as prescribed in PE-111578 on occasion.	Weekly monitoring for physical parameters was not conducted at stations IDZ-W1 and IDZ-W2 at 2 m below the water surface nor at 2 m above the seafloor. A review of monitoring requirements with the QEP and site staff will be completed at a monthly monitoring program review meeting scheduled for Dec 11. This item remains open.
Report #40: Potential Project Influence on Receiving Environment	Dissolved copper near the mouth of Mill Creek was above concentration ranges observed in the pre-construction baseline program.	The dissolved copper concentration observed in Mill Creek (station SW-02) on October 25 (0.00044 mg/L) was 1.42 times greater than the maximum concentration observed in the pre-construction baseline monitoring program at Mill Creek. Review to determine if the dissolved copper results are due to project influence is ongoing. This item remains open.
Report #40: Pending Data	Analytical results were not reported for samples collected November 10, 11, 12, and 16. Methylmercury, dioxins and furans results were not reported for samples collected November 10, 11, 12, 13, 14, and 15.	Analytical results for samples collected November 12 and 16 are discussed in Sections 3.5 and 3.6 of Report #42. Analytical results for samples collected November 10 and 11 were not complete at the time of Report #42 preparation. Methylmercury, dioxins and furans results for samples collected November 10, 11, 12, 13, 14, and 15 were not complete at the time of Report #42 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #41: Pending Data	Analytical results were not reported for samples collected November 17, 19, 20, and 23. Methylmercury, dioxins and furans results were not reported for samples collected November 18, 19, 21, and 22.	Analytical results for samples collected November 17, 19, 20 and 23 are discussed in Sections 3.3, 3.4, and 3.6 of Report #42. Analytical results for samples collected November 19 were not complete at the time of Report #42 preparation. Methylmercury, dioxins and furans results for samples collected November 17, 18, 19, 21, 22, and 23 were not complete at the time of Report #42 preparation. The pending results will be included in future weekly reports when available. 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.
Authorized works and monitoring program evaluation is an assessment of the completeness of the authorized works and 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.

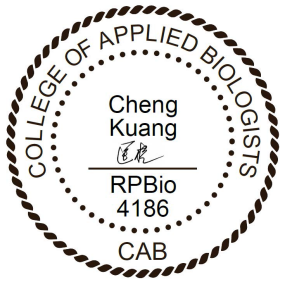
5. Closure

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.

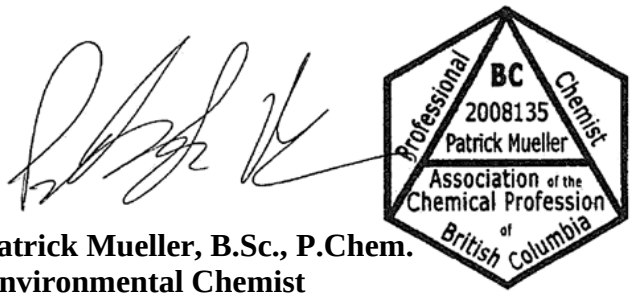
Regards,

LORAX ENVIRONMENTAL SERVICES LTD.

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

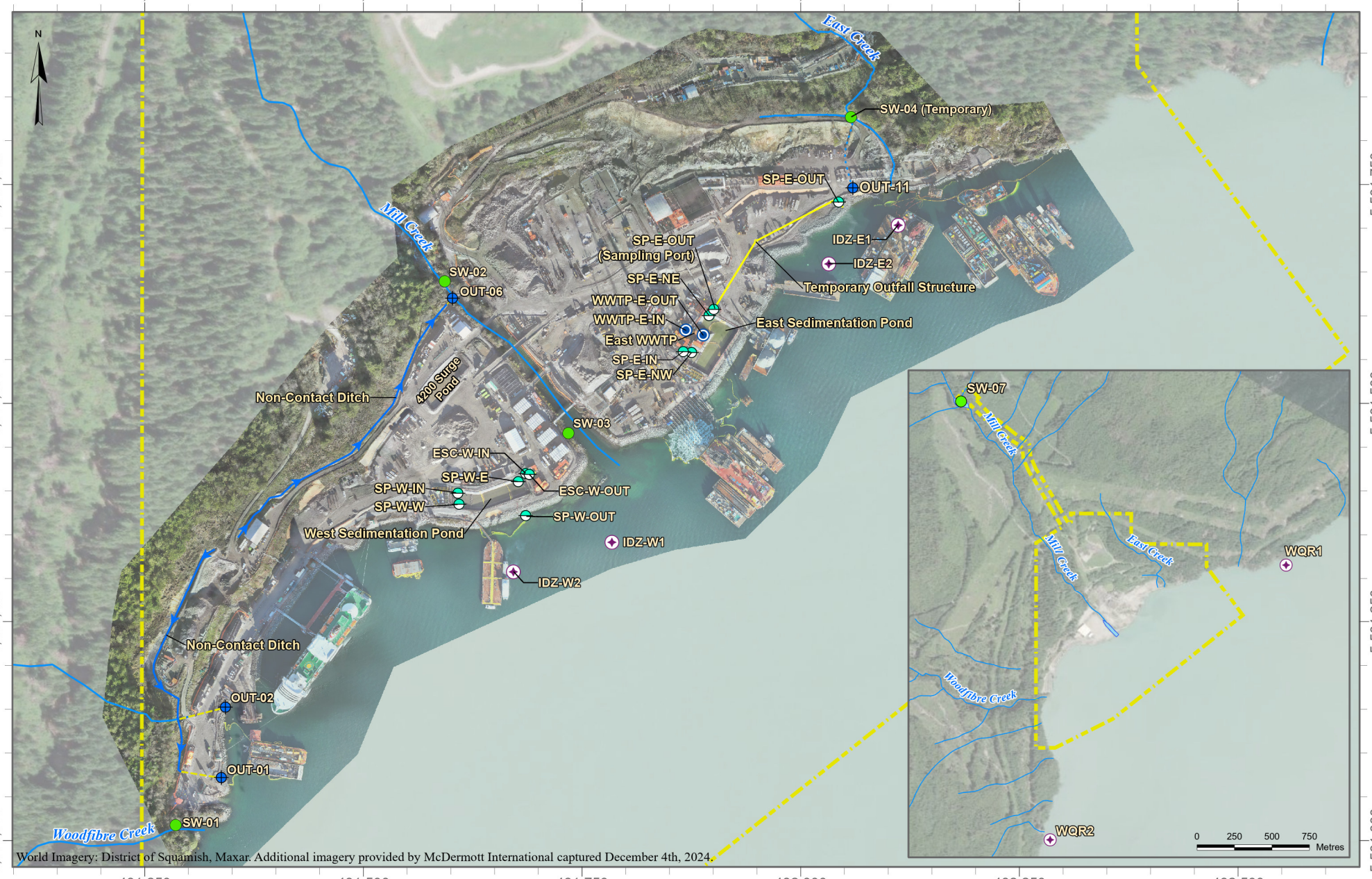


Cheng Kuang, M.Sc., RPBio.
Environmental Scientist



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

Appendix A: Figures and Site Images



LEGEND

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

DATE SAVED:	Dec 06, 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 (November 30, 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

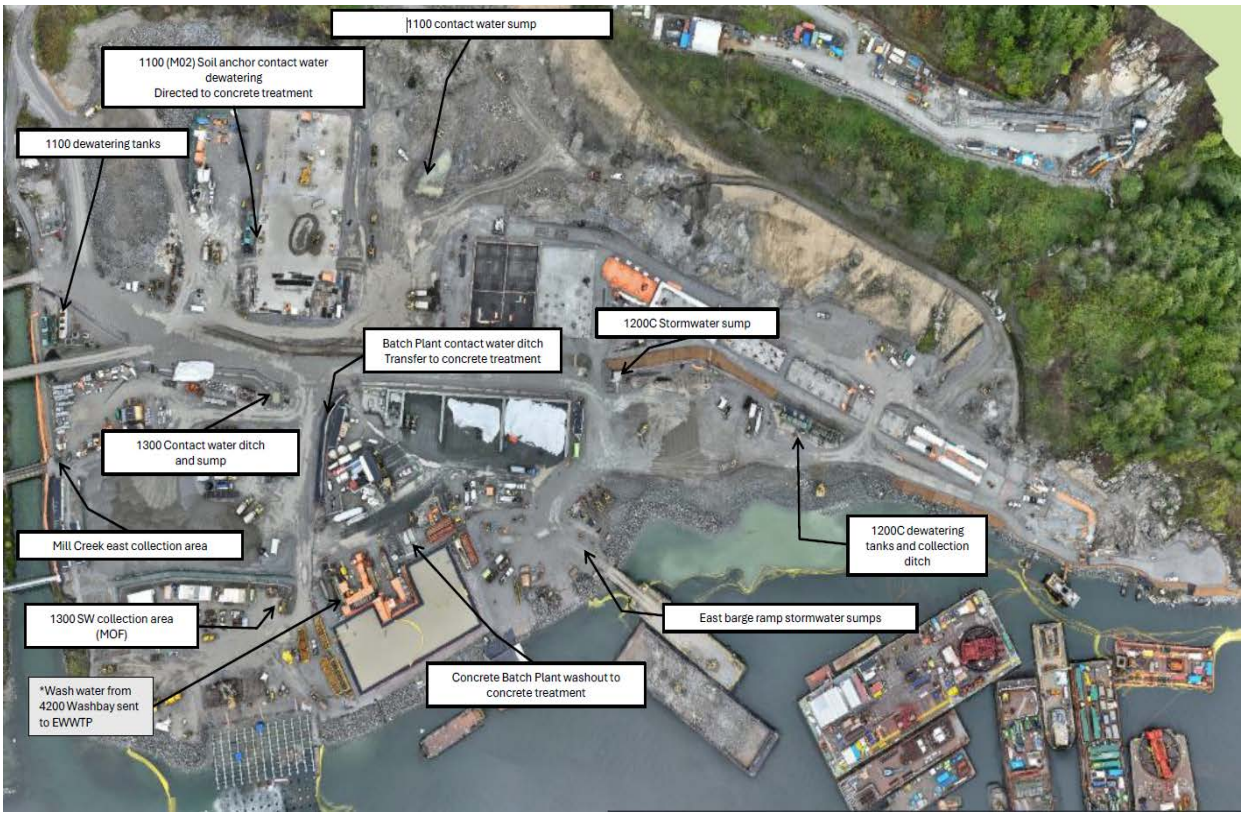


Figure 2: East Catchment contact water management facilities (November 24 – 30).

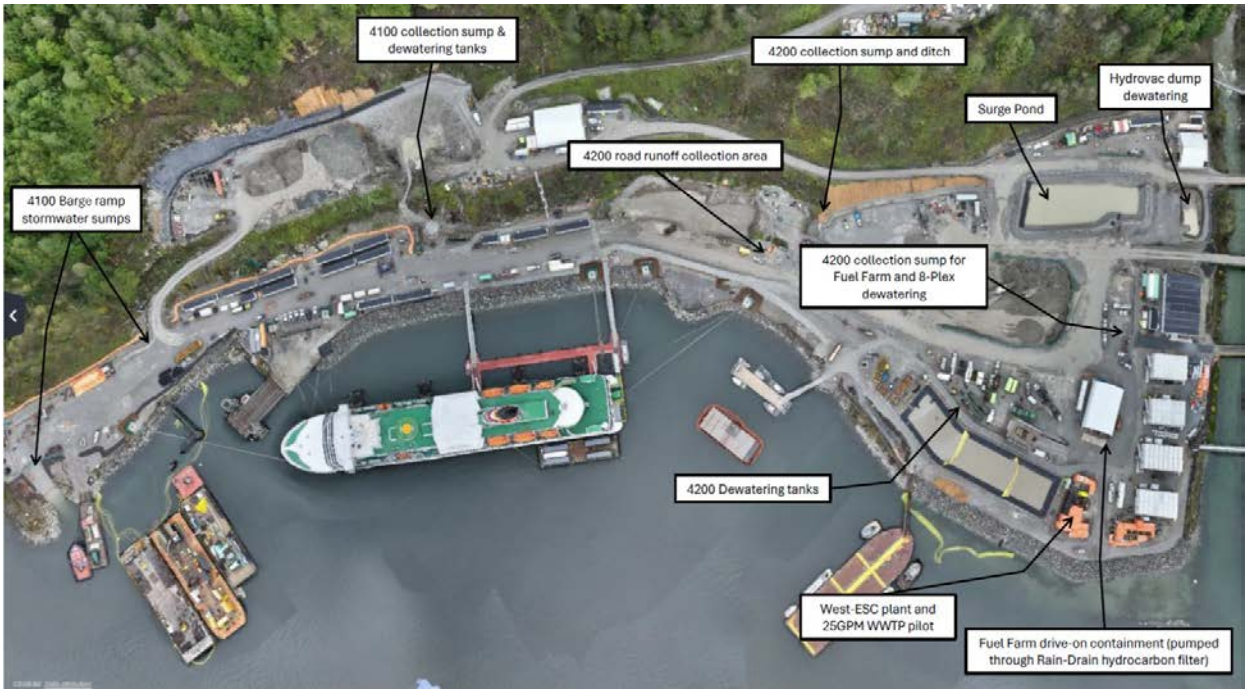


Figure 3: West Catchment contact water management facilities (November 24 – 30).

Figure 4: Aerial view of the East Sedimentation Pond (November 27, 2024). The East WWTP and the under construction East TSS settling (ESC) system are located on the left side of the pond.

Figure 5: Aerial view of the West Sedimentation Pond (November 27, 2024). The old and new TSS settling (ESC) systems and the West WWTP are located to the right of the pond.

Appendix B: East Sedimentation Pond Results

Table B-1: Summary of Water Quality Results Received at the Time of Reporting for East Sedimentation Pond Influent and East WWTP Effluent discharged at SP-E-OUT.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station SP-E-OUT [7]	Station SP-E-IN	Station SP-E-IN	Station SP-E-OUT [7]	Station SP-E-OUT [7]
					Effluent	Influent	Influent	Effluent	Effluent
					SP-E-OUT	SP-E-IN	SP-E-IN	SP-E-OUT	SP-E-OUT
					VA24D1563-001	VA24D1563-002	VA24D1856-001	VA24D1856-003	VA24D2010-002
		Long Term	Short Term		2024-11-19 17:30	2024-11-20 14:10	2024-11-24 10:41	2024-11-24 15:44	2024-11-26 14:39
General Parameters									
pH - Field	pH units	- [2]	-	5.5 - 9.0	6.4	9.4	8.88	7.16	7.09
Conductivity - Field	µS/cm	-	-	-	346	86.1	253.2	282	271.4
Temperature - Field	℃	-	-	-	7.1	5.5	7.1	8.2	5.5
Salinity - Field	ppt	-	-	-	0.26	0.06	0.19	0.2	0.21
Turbidity - Field	NTU	-	-	-	1.73	827.97	3934.79	4.7	2.03
TSS	mg/L	-	-	25[6]	<3.0	979	10100	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	-	-	11.72	13.1	11.37	12.73	12.84
Anions and Nutrients									
Sulphate	mg/L	-	-	-	42.7	20.8	38.6	43.2	46.2
Chloride	mg/L	-	-	-	5.7	5.59	9.22	6.19	7.14
Fluoride	mg/L	-	1.5	-	0.104	0.164	0.184	0.122	0.17
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	-	0.134	0.504	0.682	0.229	0.204
Nitrite (N-NO_2)	mg/L	-	-	-	0.103	0.144	0.518	0.22	0.256
Nitrate (N-NO_3)	mg/L	3.7	339	-	2.62	***3.78***	***7.22***	***4.39***	***4.43***
Total Metals									
Aluminum, total (T-Al)	mg/L	-	-	-	0.109	46.4	329	0.307	0.171
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.0018	0.00171	0.0035	0.00191	0.00197
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00156	***0.0169***	***0.0866***	0.00253	0.00305
Barium, total (T-Ba)	mg/L	-	-	-	0.00426	0.364	2.4	0.00302	0.00215
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020	0.000724	0.00445	<0.000020	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.055	0.044	<0.200	0.048	0.045
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000200	***0.000789***	***0.00406***	<0.0000050	<0.0000150
Chromium, total (T-Cr)	mg/L	-	-	-	0.00173	0.0228	0.198	0.00212	0.0024
Cobalt, total (T-Co)	mg/L	-	-	-	0.00025	0.0142	0.119	0.0004	0.00038
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00246	0.0742	0.614	0.00327	0.00317
Iron, total (T-Fe)	mg/L	-	-	-	0.023	39.5	300	0.147	0.069
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000094	0.0667	0.562	0.000555	0.000266
Manganese, total (T-Mn)	mg/L	-	-	-	0.00865	1.14	7.85	0.0074	0.00465
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000324	***0.000117***	***0.0018***	0.00000465	0.00000402
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0445	0.0446	0.0953	0.0513	0.0579
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050	***0.0136***	***0.144***	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000242	0.000518	***0.00251***	0.000276	0.00032
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	<0.000010	0.000278	***0.00182***	<0.000010	0.000011
Thallium, total (T-Tl)	mg/L	-	-	-	<0.000010	0.000348	0.00274	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	-	-	-	0.00688	0.0262	0.0774	0.0124	0.0218
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00346	0.0762	0.616	0.00456	0.00506
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0030	0.188	1.59	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	***0.00152***	0.00144	***0.00585***	***0.00184***	***0.00235***
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000250	<0.0000100	<0.0000100	<0.0000050	<0.0000150
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00214	0.00232	0.00571	0.00266	0.00284
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.015	0.014	0.020	0.037	0.015
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000055	<0.000050	<0.000050	<0.000050	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00844	0.00434	0.0243	0.00468	0.00291
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0772	0.105	0.156	0.0522	0.0429
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00345	0.00389	0.00676	0.00422	0.00479
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0022	<0.0010	<0.0010	0.0027	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	-	<0.000010	0.000067	0.000403	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000030	<0.000152	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	0.000068	0.000574	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	0.000176	0.00148	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	***0.000187***	***0.00142***	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	***0.000215***	***0.00132***	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	0.00041	0.00362	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010	0.000066	0.000378	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	0.000025	0.000099	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	0.00003	0.000125	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050	0.000189	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	0.000265	0.00188	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	0.000398	0.00361	<0.000010	<0.000010
Quinoline	mg/L	-	-	-	<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
Ethylbenzene	mg/L	0.25	-	-	<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
Styrene	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00050
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050	<0.00050	<0.00050	-[8]
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	<0.00050	<0.00050	<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 (November 24 – 30) on November 24 through November 27.
[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 did not apply during the monitoring period.
[7] From November 24 to November 27, East WWTP treated effluent was discharged at station SP-E-OUT. Field measurements and analytical samples were collected at station SP-E-OUT.
[8] Chlorobenzene and 1,2-dichlorobenzene were not analyzed in the SP-E-OUT sample collected on November 26.

Table B-2: Summary of Methylmercury Water Quality Results Received at the Time of Reporting for East Sedimentation Pond influent and East Sedimentation Pond water discharged at Station SP-E-OUT.

Parameter	Unit	Lowest Applicable Guideline[1]	Station SP-E-OUT [5]	Station SP-E-IN	Station SP-E-OUT [5]	Station SP-E-IN	Station SP-E-OUT [5]
			Effluent	Influent	Effluent	Influent	Effluent
			SP-E-OUT	SP-E-IN	SP-E-OUT	SP-E-IN	SP-E-OUT
			VA24C9042-002	VA24C9042-001	VA24D0777-001	VA24D0946-005	VA24D0946-003
			2024-10-27	2024-10-28	2024-11-13	2024-11-14	2024-11-14
Total Methylmercury	**µg/L**	0.0001 [2]	***0.000552***	***0.000584***	***0.000140***	***0.000418***	***0.000211***
Total Mercury	**µg/L**	0.0012 – 0.016 [3,4]	***0.0064***	***0.0962***	***0.0182***	***0.197***	***0.0347***

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
[5] East Sedimentation Pond water was discharged at station SP-E-OUT.
Non-detect results are screened using the detection limit value.

Table B-3: Summary of Methylmercury Water Quality Results Received at the Time of Reporting for East WWTP Effluent discharged at Station SP-E-OUT.

Parameter	Unit	Lowest Applicable Guideline[1]	Station WWTP-E-OUT [5]	Station SP-E-OUT [5]	Station SP-E-OUT [5]	Station SP-E-OUT [5]	Station SP-E-OUT [5]	Station SP-E-OUT [5]
			Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
			SP-E-OUT	SP-E-OUT	SP-E-OUT	SP-E-OUT	SP-E-OUT	SP-E-OUT
			VA24C9045-001	VA24C9754-002	VA24D0157-001	VA24D0440-002	VA24D0600-003	VA24D1066-001
			2024-10-28	2024-11-03	2024-11-06	2024-11-08	2024-11-12	2024-11-15
Total Methylmercury	**µg/L**	0.0001 [2]	0.000025	0.000041	<0.000080	0.000046	0.000043	0.000030
Total Mercury	**µg/L**	0.0046 – 0.016 [3,4]	<0.0050	<0.0050	0.00369	0.00350	0.00642	0.00303

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
[5] East WWTP treated effluent was discharged at station SP-E-OUT.
Non-detect results are screened using the detection limit value.

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

Parameter	Unit	Station SP-E-IN	Station SP-E-OUT	Station WWTP-E-OUT [1]
		Influent	Effluent	Effluent
		SP-E-IN	SP-E-OUT	SP-E-OUT
		L2757831-2	L2757831-1	L2757940-1
		2024-10-20	2024-10-20	2024-10-28
Lower Bound PCDD/F TEQ	**pg/L**	11.0	0.0486	0.00247
Upper Bound PCDD/F TEQ	**pg/L**	20.7	6.15	0.976

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.
[1] East WWTP treated effluent was discharged at station SP-E-OUT.

Table B-5: Summary of Daily Field Parameters for East Sedimentation Pond Influent and East WWTP Effluent discharged at SP-E-OUT November 24 – 30.

Parameter		Temperature	Dissolved Oxygen (DO)	Salinity	Turbidity	pH	Conductivity	Visibility of Sheen	Total Daily Discharge to Howe Sound from Station SP-E-OUT
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-IN	2024-11-24 10:41	7.1	11.37	0.19	3934.79	8.88	253.2	No	678
SP-E-OUT/WWTP-E-OUT[5]	2024-11-24 15:44	8.2	12.73	0.2	4.70	7.16	282.0	No	
SP-E-OUT/WWTP-E-OUT[5]	2024-11-25 15:38	6.7	11.75	0.21	1.17	7.02	279.8	No	650
SP-E-OUT/WWTP-E-OUT[5]	2024-11-26 14:39	5.5	12.84	0.21	2.03	7.09	271.4	No	764
SP-E-IN	2024-11-26 15:03	5.2	12.05	0.12	13.1	7.92	156.2	No	
-[4]	2024-11-27	-[4]	-[4]	-[4]	-[4]	-[4]	-[4]	-[4]	200
SP-E-IN	2024-11-28 10:23	3.7	12.61	0.21	90.54	8.16	260.2	No	0
SP-E-IN	2024-11-29 13:12	4.6	12.92	0.1	38.69	8.02	127.9	No	0
-[4]	2024-11-30	-[4]	-[4]	-[4]	-[4]	-[4]	-[4]	-[4]	0

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 (November 24 – 30) on November 24 through November 27.
[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] Site staff noted there was no active input of influent sources to the pond at the time of monitoring on November 25, 27, and 30, therefore daily measurements for station SP-E-IN were not collected. Site staff noted there was no active discharge at the time of monitoring on November 27 and the East Sedimentation Pond did not discharge November 28, 29, and 30, therefore daily field measurements for station SP-E-OUT were not collected.
[5] During the monitoring period (November 24 – 30), East WWTP treated effluent was discharged at station SP-E-OUT. Field measurements were collected at station SP-E-OUT.

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]	Station WWTP-E-IN Influent WWTP-E-IN VA24D1856-002 2024-11-24 11:07	Station SP-E-OUT [2] Effluent SP-E-OUT VA24D1856-003 2024-11-24 15:44	Station WWTP-E-IN Influent WWTP-E-IN VA24D2010-001 2024-11-26 14:24	Station SP-E-OUT [2] Effluent SP-E-OUT VA24D2010-002 2024-11-26 14:39
General Parameters						
pH - Field	pH units	5.5 – 9.0	8.89	7.16	8.76	7.09
Conductivity - Field	µS/cm	-	250.5	282	26.2	271.4
Temperature - Field	°C	-	7.4	8.2	5.9	5.5
Salinity - Field	ppt	-	0.18	0.2	0.02	0.21
Turbidity - Field	NTU	-	105.98	4.7	59.9	2.03
TSS	mg/L	-	50.7	<3.0	43.8	<3.0
Dissolved Oxygen - Field	mg/L	-	11.39	12.73	12.21	12.84
Anions and Nutrients						
Sulphate	mg/L	-	44	43.2	43.6	46.2
Chloride	mg/L	-	6.12	6.19	7.31	7.14
Fluoride	mg/L	-	0.146	0.122	0.167	0.17
Ammonia (N-NH_3)	mg/L	-	0.298	0.229	0.186	0.204
Nitrite (N-NO_2)	mg/L	-	0.207	0.22	0.329	0.256
Nitrate (N-NO_3)	mg/L	-	4.33	4.39	4.95	4.43
Total Metals						
Aluminum, total (T-Al)	mg/L	-	6.27	0.307	4.08	0.171
Antimony, total (T-Sb)	mg/L	-	0.00192	0.00191	0.00207	0.00197
Arsenic, total (T-As)	mg/L	0.0125	0.00522	0.00253	0.00458	0.00305
Barium, total (T-Ba)	mg/L	-	0.0531	0.00302	0.0391	0.00215
Beryllium, total (T-Be)	mg/L	0.1	0.000096	<0.000020	0.000058	<0.000020
Boron, total (T-B)	mg/L	1.2	0.046	0.048	0.046	0.045
Cadmium, total (T-Cd)	mg/L	0.00012	0.0000986	<0.0000050	0.0000792	<0.0000150
Chromium, total (T-Cr)	mg/L	-	0.0049	0.00212	0.00439	0.0024
Cobalt, total (T-Co)	mg/L	-	0.00199	0.0004	0.00153	0.00038
Copper, total (T-Cu)	mg/L	0.0043	***0.0149***	0.00327	***0.0107***	0.00317
Iron, total (T-Fe)	mg/L	-	4.19	0.147	2.87	0.069
Lead, total (T-Pb)	mg/L	0.0035	***0.0108***	0.000555	***0.00716***	0.000266
Manganese, total (T-Mn)	mg/L	-	0.127	0.0074	0.0965	0.00465
Mercury, total (T-Hg)	mg/L	0.000016	***0.0000213***	0.00000465	***0.0000206***	0.00000402
Molybdenum, total (T-Mo)	mg/L	-	0.0497	0.0513	0.0619	0.0579
Nickel, total (T-Ni)	mg/L	0.0083	0.00239	<0.00050	0.00167	<0.00050
Selenium, total (T-Se)	mg/L		0.000309	0.000276	0.000369	0.00032
Silver, total (T-Ag)	mg/L	0.0015	0.000049	<0.000010	0.000045	0.000011
Thallium, total (T-Tl)	mg/L	-	0.00004	<0.000010	0.000031	<0.000010
Uranium, total (T-U)	mg/L	-	0.02	0.0124	0.0236	0.0218
Vanadium, total (T-V)	mg/L	0.0081	***0.0129***	0.00456	***0.0108***	0.00506
Zinc, total (T-Zn)	mg/L	0.0133	***0.0308***	<0.0030	***0.0196***	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	***0.00216***	***0.00184***	***0.00244***	***0.00235***
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	0.00012	<0.0000125	<0.0000050	<0.0000150	<0.0000150
Copper, dissolved (D-Cu)	mg/L	-	0.00422	0.00266	0.0042	0.00284
Iron, dissolved (D-Fe)	mg/L	-	0.039	0.037	0.012	0.015
Lead, dissolved (D-Pb)	mg/L	-	0.000135	<0.000050	<0.000050	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	0.0117	0.00468	0.0115	0.00291
Nickel, dissolved (D-Ni)	mg/L	-	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	0.116	0.0522	0.114	0.0429
Vanadium, dissolved (D-V)	mg/L	-	0.00427	0.00422	0.00465	0.00479
Zinc, dissolved (D-Zn)	mg/L	-	0.0014	0.0027	0.0012	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	-	0.000039	<0.000010	0.000028	<0.000010
Acridine	mg/L	-	<0.000011	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	0.000023	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	0.000047	<0.000010	0.000019	<0.000010
Benzo(a)pyrene	mg/L	0.00001	0.0000479	<0.0000050	0.0000174	<0.0000050
Chrysene	mg/L	0.0001	0.000044	<0.000010	<0.000022	<0.000010
Fluoranthene	mg/L	-	0.000132	<0.000010	0.00007	<0.000010
Fluorene	mg/L	0.012	0.000032	<0.000010	0.000017	<0.000010
1-methylnaphthalene	mg/L	-	0.000011	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	-	0.000013	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	0.000074	<0.000020	0.000031	<0.000020
Pyrene	mg/L	-	0.000121	<0.000010	0.000065	<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	<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	<0.00050	<0.00050
Total Xylenes	mg/L	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	-	<0.00050	<0.00050	-[3]	-[3]
1,2-Dichlorobenzene	mg/L	-	<0.00050	<0.00050	-[3]	-[3]

Notes:

Results ***underlined in bold italics*** exceed the applicable minimum discharge objective.

[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] From November 24 to November 27, most of the East WWTP treated effluent was discharged at station SP-E-OUT, and the balance was recirculated within the plant. Field measurements and analytical samples of East WWTP treated effluent discharged to Howe Sound were collected at station SP-E-OUT.

[3] Chlorobenzene and 1,2-dichlorobenzene were not analyzed in the WWTP-E-IN and WWTP-E-OUT sample collected on November 26.

Table C-2: Summary of Methylmercury Water Quality Results Received at the Time of Reporting for East WWTP Influent and East WWTP Effluent discharged at Station SP-E-OUT.

Parameter	Unit	Lowest Applicable Guideline[1]	Station WWTP-E-OUT [1]	Station SP-E-OUT [1]	Station WWTP-E-IN	Station SP-E-OUT [1]	Station WWTP-E-IN	Station SP-E-OUT [1]
			Effluent	Effluent	Influent	Effluent	Influent	Effluent
			SP-E-OUT	SP-E-OUT	WWTP-E-IN	SP-E-OUT	WWTP-E-IN	SP-E-OUT
			VA24C9045-001	VA24C9754-002	VA24C9976-001	VA24D0157-001	VA24D0440-001	VA24D0440-002
			2024-10-28	2024-11-03	2024-11-05	2024-11-06	2024-11-08	2024-11-08
Total Methylmercury	**µg/L**	0.0001 [2]	0.000025	0.000041	<0.00080	<0.000080	0.000114	0.000046

Notes:
[1] East WWTP treated effluent was discharged at station SP-E-OUT.

Table C-3: Summary of Methylmercury Water Quality Results Received at the Time of Reporting for East WWTP Influent and East WWTP Effluent discharged at Station SP-E-OUT.

Parameter	Unit	Lowest Applicable Guideline[1]	Station WWTP-E-IN	Station SP-E-OUT [1]
			Influent	Effluent
			WWTP-E-IN	SP-E-OUT
			VA24D0600-002	VA24D0600-003
			2024-11-12	2024-11-12
Total Methylmercury	**µg/L**	0.0001 [2]	0.000138	0.000043

Notes:
[1] East WWTP treated effluent was discharged at station SP-E-OUT.

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

Parameter	Unit	Station WWTP-E-IN	Station WWTP-E-OUT	Station WWTP-E-IN	Station WWTP-E-OUT	Station WWTP-E-OUT [1]
		Influent	Effluent	Influent	Effluent	Effluent
		WWTP-E-IN	WWTP-E-OUT	WWTP-E-IN	WWTP-E-OUT	SP-E-OUT
		L2757781-1	L2757781-2	L2757912-1	L2757912-2	L2757940-1
		2024-10-13	2024-10-13	2024-10-24	2024-10-24	2024-10-28
Lower Bound PCDD/F TEQ	**pg/L**	0.149	0.00351	0.695	0.00139	0.00247
Upper Bound PCDD/F TEQ	**pg/L**	0.888	0.694	1.32	0.883	0.976

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.
[1] East WWTP treated effluent was discharged at station SP-E-OUT.

Table C-5: Summary of East Wastewater Treatment Plant Daily Field Parameters November 24 – 30.

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 [3]	**Date**								
WWTP-E-IN	2024-11-24 11:07	7.4	11.39	0.18	105.98	8.89	250.5	No	678
WWTP-E-OUT	2024-11-24 14:03	8.3	11.50	0.20	3.90	7.17	287.6	No	
WWTP-E-IN	2024-11-25 11:36	7.2	11.44	0.19	73.8	8.73	263.9	No	650
WWTP-E-OUT	2024-11-25 11:39	6.9	11.55	0.05	2.80	7.82	64.4	No	
WWTP-E-IN	2024-11-26 14:24	5.9	12.21	0.02	59.9	8.76	26.2	No	764
WWTP-E-OUT	2024-11-26 14:56	5.6	12.23	0.21	3.30	6.98	270.0	No	
WWTP-E-IN	2024-11-27 13:32	6.2	11.80	0.17	7.55	7.89	228.2	No	200
WWTP-E-OUT	2024-11-27 [3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	
WWTP-E-IN	2024-11-28 10:16	8.0	11.88	0.22	6.37	7.25	307.5	No	0
WWTP-E-OUT	2024-11-28 [3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	
WWTP-E-IN	2024-11-29 9:44	6.3	12.07	0.26	5.73	7.98	344.1	No	0
WWTP-E-OUT	2024-11-29 9:46	5.2	12.68	0.24	0.96	7.87	311.5	No	
WWTP-E-IN	2024-11-30 12:10	10.7	10.73	0.23	2.60	7.41	343.8	No	0
WWTP-E-OUT	2024-11-30 [3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	

Notes:
Results ***underlined in bold italics*** do not meet the applicable minimum discharge objective.
[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.
[3] From November 24 to November 27, most of the East WWTP treated effluent was discharged at station SP-E-OUT, and the balance was recirculated within the plant. Daily field measurements were collected from the meter box at station WWTP-E-OUT on November 24, 25, 26, and 29. Site staff noted there was no active effluent discharged at the time of monitoring on November 27, 28, and 30, therefore daily measurements for station WWTP-E-OUT were not collected.

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	Station SP-W-IN	Station SP-W-IN	Station SP-W-OUT [7]	Station SP-W-OUT [7]
					Influent	Influent	Effluent	Effluent
					SP-W-IN	SP-W-IN	SP-W-OUT	SP-W-OUT
					VA24D1840-001	VA24D1856-004	VA24D1856-005	VA24D2157-001
		Long Term	Short Term		2024-11-23 16:00	2024-11-24 11:51	2024-11-24 12:51	2024-11-27 10:54
General Parameters								
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.2	8.6	8.1	8.3
Conductivity - Field	µS/cm	-	-	-	98	75.6	144.7	73.8
Temperature - Field	°C	-	-	-	10.9	8.3	7.8	6.1
Salinity - Field	ppt	-	-	-	0.06	0.05	0.1	0.05
Turbidity - Field	NTU	-	-	-	830.63	79	1	1.23
TSS	mg/L	-	-	25[6]	95.9	104	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	-	-	11.39	11.77	11.97	12.79
Anions and Nutrients								
Sulphate	mg/L	-	-	-	11.4	7.53	16.7	15.8
Chloride	mg/L	-	-	-	2.36	1.61	3.87	6.02
Fluoride	mg/L	-	1.5	-	0.083	0.074	0.113	0.12
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	-	0.0148	0.0164	0.0125	0.0228
Nitrite (N-NO_2)	mg/L	-	-	-	0.011	0.0073	0.025	0.0394
Nitrate (N-NO_3)	mg/L	3.7	339	-	0.843	0.513	1.54	1.41
Total Metals								
Aluminum, total (T-Al)	mg/L	-	-	-	6.47	5.64	0.0928	0.0897
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00146	0.00115	0.00151	0.00126
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00338	0.00348	0.0022	0.00224
Barium, total (T-Ba)	mg/L	-	-	-	0.0566	0.0494	0.00687	0.00689
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000106	0.000098	<0.000020	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.026	0.02	0.02	0.013
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	0.000116	0.00012	<0.0000050	<0.0000100
Chromium, total (T-Cr)	mg/L	-	-	-	0.00478	0.00388	0.00104	0.00072
Cobalt, total (T-Co)	mg/L	-	-	-	0.00203	0.00235	0.00012	0.00011
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0153	0.0141	0.00158	0.00117
Iron, total (T-Fe)	mg/L	-	-	-	4.69	4.37	0.015	0.013
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.0147	0.014	0.000054	0.000077
Manganese, total (T-Mn)	mg/L	-	-	-	0.136	0.119	0.00061	0.00065
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.0000274***	***0.0000267***	0.00000116	0.00000142
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0218	0.0181	0.0302	0.0266
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00267	0.00293	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000163	0.000159	0.000185	0.000144
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	0.000043	0.000041	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	0.000046	0.000038	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	-	-	-	0.0107	0.00947	0.019	0.0151
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.0128	0.0106	0.00257	0.00194
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.0378	0.0417	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00103	0.00064	0.00107	0.00062
Dissolved Metals								
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000100	<0.0000050	<0.0000050	<0.0000050
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00163	0.00174	0.00138	0.00098
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.010	0.016	<0.010	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000050	0.000118	<0.000050	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00366	0.00429	0.00042	0.00041
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0597	0.0427	0.0809	0.0932
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00283	0.0016	0.00254	0.00188
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/L	0.006	-	-	0.00003	0.000023	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	0.000015	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	0.00003	0.000029	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	***0.0000266***	***0.0000321***	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	0.000033	0.000028	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	0.000099	0.000067	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	0.000025	0.000016	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	0.00001	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	0.000075	0.000044	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	0.000095	0.000062	<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	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<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
Styrene	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00050	<0.00040	<0.00040	<0.00050
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	-[8]	<0.00050	<0.00050	-[8]
1,2-Dichlorobenzene	mg/L	0.042	-	-	-[8]	<0.00050	<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 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged each day during the monitoring period (November) except on November 29.
[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 did not apply during the monitoring period.
[7] During the monitoring period, the West Sedimentation Pond discharged through the TSS settling system (ESC system). Field measurements and analytical samples were collected at station SP-W-OUT.
[3] Chlorobenzene and 1,2-dichlorobenzene were not analyzed in the SP-W-IN and SP-W-OUT samples collected on November 23 and 27, respectively.

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

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station SP-W-OUT [7]	Station SP-W-IN
					Effluent	Influent
					SP-W-OUT	SP-W-IN
					VA24D2315-001	VA24D2431-001
		Long Term	Short Term		2024-11-28 11:49	2024-11-29 13:37
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.4	8.3
Conductivity - Field	µS/cm	-	-	-	123.1	35.2
Temperature - Field	°C	-	-	-	4.9	5.4
Salinity - Field	ppt	-	-	-	0.09	0.03
Turbidity - Field	NTU	-	-	-	4.2	39.16
TSS	mg/L	-	-	25 or 75[6]	<3.0	65.3
Dissolved Oxygen - Field	mg/L	>=8	-	-	13.97	12.57
Anions and Nutrients						
Sulphate	mg/L	-	-	-	12.4	4.49
Chloride	mg/L	-	-	-	5.11	1.16
Fluoride	mg/L	-	1.5	-	0.108	0.064
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	-	0.021	<0.0050
Nitrite (N-NO_2)	mg/L	-	-	-	0.0402	0.0022
Nitrate (N-NO_3)	mg/L	3.7	339	-	1.05	0.24
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	0.0762	3.38
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00107	0.00045
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00186	0.00158
Barium, total (T-Ba)	mg/L	-	-	-	0.0046	0.0285
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020	0.000064
Boron, total (T-B)	mg/L	1.2	-	-	<0.010	0.017
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000100	0.0000736
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00050	0.00205
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00010	0.00104
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00122	0.0181
Iron, total (T-Fe)	mg/L	-	-	-	0.048	2.47
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000394	0.0114
Manganese, total (T-Mn)	mg/L	-	-	-	0.0135	0.0745
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000107	***0.0000203***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0161	0.0104
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050	0.00166
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000138	0.000077
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	<0.000010	0.000042
Thallium, total (T-Tl)	mg/L	-	-	-	0.000014	0.000024
Uranium, total (T-U)	mg/L	-	-	-	0.0065	0.00789
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00066	0.00614
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0030	0.0369
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050	<0.00050
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000100	<0.0000100
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00073	0.00175
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.016	0.033
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000092	0.000156
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0124	0.00644
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0751	0.0359
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00052	0.00102
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010	0.0048
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	-	<0.000010	0.000018
Acridine	mg/L	-	-	-	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	0.000016
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	***0.0000154***
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000020
Fluoranthene	mg/L	-	-	-	<0.000010	0.000049
Fluorene	mg/L	0.012	-	-	<0.000010	0.000014
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	0.000044
Pyrene	mg/L	-	-	-	<0.000010	0.000041
Quinoline	mg/L	-	-	-	<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	<0.00050
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 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged each day during the monitoring period (November) except on November 29.
[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 did not apply during the monitoring period.
[7] During the monitoring period, the West Sedimentation Pond discharged through the TSS settling system (ESC system). Field measurements and analytical samples were collected at station SP-W-OUT.
[3] Chlorobenzene and 1,2-dichlorobenzene were not analyzed in the SP-W-IN sample collected on November 29.

Table D-3: Summary of West Sedimentation Pond Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Station ESC-W-OUT [5]	Station SP-W-OUT [5]	Station ESC-W-OUT [5]	Station SP-W-IN [5]
			Effluent	Effluent	Effluent	Influent
			SP-W-OUT	SP-W-OUT	SP-W-OUT	SP-W-IN
			VA24C9045-002	VA24C9750-002	VA24D0154-002	VA24D0298-001
			2024-10-28	2024-11-03	2024-11-06	2024-11-07
Total Methylmercury	**µg/L**	0.0001 [2]	0.000043	<0.000080	0.000061	0.000097
Total Mercury	**µg/L**	0.0045 – 0.012 [3,4]	<0.0050	<0.0050	0.00590	0.00435

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
[5] The West Sedimentation Pond discharged through the TSS settling system (ESC system) at SP-W-OUT.
Non-detect results are screened using the detection limit value.

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

Parameter	Unit	Lowest Applicable Guideline[1]	Station SP-W-IN	Station SP-W-OUT [5]	Station SP-W-IN	Station SP-W-OUT [5]
			Influent	Effluent	Influent	Effluent
			SP-W-IN	SP-W-OUT	SP-W-IN	SP-W-OUT
			VA24D0500-001	VA24D0500-002	VA24D0600-004	VA24D0600-001
			2024-11-09	2024-11-09	2024-11-12	2024-11-12
Total Methylmercury	**µg/L**	0.0001 [2]	***0.000110***	0.000039	***0.000116***	0.000042
Total Mercury	**µg/L**	0.0032 – 0.016 [3,4]	***0.0197***	0.00173	***0.00793***	0.00135

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
[5] The West Sedimentation Pond discharged through the TSS settling system (ESC system) at SP-W-OUT.
Non-detect results are screened using the detection limit value.

Table D-5: Summary of West Sedimentation Pond Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Station SP-W-OUT [6]	Station SP-W-IN	Station SP-W-OUT [6]	Station SP-W-OUT [5]
			Effluent	Influent	Effluent	Effluent
			SP-W-OUT	SP-W-IN	SP-W-OUT	SP-W-OUT
			VA24D0777-002	VA24D0946-001	VA24D0946-002	VA24D1066-002
			2024-11-13	2024-11-14	2024-11-14	2024-11-15
Total Methylmercury	**µg/L**	0.0001 [2]	***0.000171***	***0.000219***	***0.000262***	0.000031
Total Mercury	**µg/L**	0.0054 – 0.016 [3,4]	***0.0224***	***0.0391***	***0.0774***	0.00166

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
[5] The West Sedimentation Pond discharged through the TSS settling system (ESC system) at SP-W-OUT.
[6] West Sedimentation Pond water discharged at station SP-W-OUT.
Non-detect results are screened using the detection limit value.

Table D-6: Summary of East Wastewater Treatment Plant Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station SP-W-IN	Station SP-W-OUT	Station SP-W-IN	Station ESC-W-OUT [1]
		Influent	Effluent	Influent	Effluent
		SP-W-IN	SP-W-OUT	SP-W-IN	SP-W-OUT
		L2757831-4	L2757831-3	L2757909-1	L2757940-2
		2024-10-20	2024-10-20	2024-10-27	2024-10-28
Lower Bound PCDD/F TEQ	**pg/L**	0.650	0.806	2.85	0.0264
Upper Bound PCDD/F TEQ	**pg/L**	6.02	7.37	5.19	1.05

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.
[1] The West Sedimentation Pond discharged through the TSS settling system (ESC system) at SP-W-OUT.

Table D-7: Summary of West Sedimentation Pond Daily Field Parameters November 24 – 30.

Parameter		**Temperature**	**Dissolved Oxygen (DO)**	**Salinity**	**Turbidity**	**pH**	**Conductivity**	**Visibility of Sheen**	**Total Daily Discharge to Howe Sound from station SP-W-OUT**
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-W-IN	2024-11-24 11:51	8.3	11.77	0.05	79.0	8.6	75.6	No	383
ESC-W-IN	2024-11-24 12:19	7.4	11.85	0.10	85.1	8.52	145.0	No	
ESC-W-OUT	2024-11-24 12:24	7.6	11.85	0.10	0.50	8.12	142.8	No	
SP-W-OUT	2024-11-24 12:51	7.8	11.97	0.10	1.02	8.07	144.7	No	
ESC-W-IN	2024-11-25 14:51	7.1	11.90	0.11	59.8	8.67	156.7	No	236
ESC-W-OUT	2024-11-25 14:54	7.1	11.98	0.11	1.40	8.24	154.1	No	
SP-W-OUT	2024-11-25 15:00	7.0	12.05	0.11	0.31	8.09	153.0	No	
ESC-W-IN	2024-11-26 11:08	8.2	11.95	0.03	36.6	9.18	-[5]	No	213
ESC-W-OUT	2024-11-26 11:17	5.7	12.68	0.12	0.30	8.23	153.6	No	
SP-W-OUT	2024-11-26 11:09	6.2	12.28	0.12	0.55	8.38	165.6	No	
ESC-W-OUT	2024-11-27 10:35	5.8	12.95	0.11	1.09	8.18	145.6	No	683
ESC-W-IN	2024-11-27 11:22	5.4	12.83	0.10	8.69	8.53	136.1	No	
SP-W-OUT	2024-11-27 10:54	6.1	12.79	0.05	1.23	8.30	73.8	No	
W500GPM-IN	2024-11-28 15:06	6.0	12.89	0.10	5.07	7.48	129.0	No	420
W500GPM-OUT	2024-11-28 9:48	7.7	13.57	0.09	1.77	7.24	133.4	No	
ESC-W-OUT	2024-11-28 10:31	4.9	12.99	0.10	1.83	8.22	126.9	No	
ESC-W-IN	2024-11-28 10:35	4.8	13.14	0.09	6.63	8.19	122.4	No	
SP-W-IN	2024-11-28 10:41	5.4	12.60	0.04	13.37	8.19	55.7	No	
SP-W-OUT	2024-11-28 11:49	4.9	13.97	0.09	4.20	8.36	123.1	No	
W500GPM-IN	2024-11-29 10:01	4.8	14.20	0.10	1.84	8.34	127.1	No	0
W500GPM-OUT	2024-11-29 10:05	4.9	14.42	0.10	1.45	8.40	125.3	No	
SP-W-IN	2024-11-29 13:37	5.4	12.57	0.03	39.16	8.33	35.2	No	
W500GPM-IN	2024-11-30 13:29	5.8	13.30	0.10	1.88	8.28	131.1	No	0
W500GPM-OUT	2024-11-30 13:31	5.7	13.86	0.10	1.54	8.30	131.4	No	
SP-W-OUT [6]	2024-11-30 13:20	6.2	13.02	0.10	1.21	8.26	138.0	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 each day during the monitoring period (November) except on November 29
[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] Site staff noted there was no active input of influent sources to the pond at the time of monitoring on November 25, 26, 27, and 30, therefore daily measurements for station SP-W-IN were not collected on these days. The West Sedimentation Pond discharged through the TSS settling system (ESC system) during the monitoring period. Field measurements were collected from TSS settling system effluent station ESC-W-OUT/W500GPM-OUT each day during the monitoring period, and from station SP-W-OUT if there was discharge at the time of monitoring.
[5] Field conductivity was not recorded at the TSS settling system influent station ESC-W-IN on November 26.
[6] Field measurements at SP-W-OUT were collected from residual water in the discharge line November 30, there was no discharge to Howe Sound this day.

Appendix E: Non-Contact Water Diversion Ditch Outlets Results

Table E-1: Summary of Non-Contact Water Diversion Ditch Outlet Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1, 2]		Station OUT-01 Non-Contact Water Diversion Ditch Outlet OUT-01 VA24D0618-001	Station OUT-02 Non-Contact Water Diversion Ditch Outlet OUT-02 VA24D0618-002
		Long Term	Short Term	2024-11-12 11:45	2024-11-12 12:15
General Parameters					
pH - Field	pH units	6.5 - 9.0	-	7.1	6.6
Specific Conductivity - Field	µS/cm	-	-	19	15
Temperature - Field	℃	-	-	9.8	9.6
Salinity - Field	ppt	-	-	0.01	0.01
Turbidity - Field	NTU	-	-	0.6	0.6
TSS	mg/L	-	-	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	>=5	11.16	11.57
Anions and Nutrients					
Sulphate [2]	mg/L	128	-	1.86	1.75
Chloride	mg/L	120	600	0.62	0.58
Fluoride [2]	mg/L	-	0.400	<0.020	<0.020
Ammonia ($N\text{-}NH_3$) [2]	mg/L	1.86	19.3-25.0	<0.0050	<0.0050
Nitrite ($N\text{-}NO_2$) [2]	mg/L	0.02	0.06	<0.0010	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	3	32.8	0.0854	0.0575
Total Metals					
Aluminum, total (T-Al) [2]	mg/L	0.0633-0.113	-	***0.223***	***0.274***
Antimony, total (T-Sb)	mg/L	0.074	-	<0.00010	<0.00010
Arsenic, total (T-As)	mg/L	0.005	-	0.00024	0.00015
Barium, total (T-Ba)	mg/L	1	-	0.00389	0.00321
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000020	<0.000020
Boron, total (T-B)	mg/L	1.2	29	<0.010	<0.010
Cadmium, total (T-Cd) [2]	mg/L	0.0000364-0.0000609	0.000106-0.000651	0.0000056	0.0000141
Chromium, total (T-Cr) [4]	mg/L	0.001	-	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	0.001	0.11	<0.00010	<0.00010
Copper, total (T-Cu)	mg/L	-	-	0.00113	0.00124
Iron, total (T-Fe)	mg/L	0.3	1	0.052	0.055
Lead, total (T-Pb) [2]	mg/L	-	-	0.000141	0.00018
Manganese, total (T-Mn) [2]	mg/L	0.768	0.816	0.00224	0.00237
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	0.00000299	0.00000396
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000579	0.000837
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	0.000173	0.000236
Vanadium, total (T-V)	mg/L	0.12	-	<0.00050	<0.00050
Zinc, total (T-Zn)	mg/L	-	-	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.001	-	-	-
Dissolved Metals					
Cadmium, dissolved (D-Cd) [2]	mg/L	0.000025-0.000028	0.000038	<0.0000050	<0.0000050
Copper, dissolved (D-Cu) [2]	mg/L	0.00026-0.00064	0.0018-0.0039	***0.00091***	***0.00092***
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.022	0.022
Lead, dissolved (D-Pb) [2]	mg/L	0.00257-0.00268	-	0.000076	0.000091
Manganese, dissolved (D-Mn) [2]	mg/L	0.33-0.38	1.97	0.0015	0.00082
Nickel, dissolved (D-Ni) [2]	mg/L	0.00090-0.0011	0.0145-0.0164	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.00827	0.00701
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050
Zinc, dissolved (D-Zn)	mg/L	0.0058-0.0092	0.0110-0.0113	0.0028	<0.0010
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.

Table E-2: Summary of Non-Contact Water Diversion Ditch Outlet Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Station OUT-01	Station OUT-02	Station OUT-06
			Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet
			OUT-01	OUT-02	OUT-06
			VA24C8965-003	VA24C8965-004	VA24C8964-001
			2024-10-26	2024-10-27	2024-10-27
Total Methylmercury	**µg/L**	0.0001 [2]	0.000022	0.000028	0.000025
Total Mercury	**µg/L**	0.018 [3,4]	<0.0050	<0.0050	0.006

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.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.026 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
Non-detect results are screened using the detection limit value.

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 Woodfibre Creek Lower Reach SW-01 VA24D0618-003 2024-11-12 15:35	Station SW-02 Mill Creek Mid-Reach SW-02 VA24D1148-003 2024-11-16 15:35	Station SW-04 East Creek Lower Reach SW-04 VA24D1148-004 2024-11-17 11:15	Station SW-07 Mill Creek Background SW-07 VA24D1148-001 2024-11-16 12:30
		Long Term	Short Term				
General Parameters							
pH - Field	pH units	6.5 - 9.0	-	***6.4***	7.0	7.2	6.9
Specific Conductivity - Field	µS/cm	-	-	6	13	35	12
Temperature - Field	℃	-	-	7.2	5.6	8	5.2
Salinity - Field	ppt	-	-	0	0.01	0.02	0.01
Turbidity - Field	NTU	-	-	0.02	2.11	0.1	1.66
TSS	mg/L	-	-	<3.0	<3.0	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	>=5	12.47	13.05	11.63	12.77
Anions and Nutrients							
Sulphate [2]	mg/L	128	-	0.55	2.63	2.91	2.5
Chloride	mg/L	120	600	<0.50	0.57	0.77	0.55
Fluoride [2]	mg/L	-	0.400-0.812	<0.020	<0.020	<0.022	<0.020
Ammonia ($N\text{-}NH_3$) [2]	mg/L	1.86-1.94	17.9-26.2	<0.0050	<0.0050	<0.0050	<0.0050
Nitrite ($N\text{-}NO_2$) [2]	mg/L	0.020	0.060	<0.0010	<0.0010	<0.0010	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	3	32.8	0.0389	0.0775	0.0339	0.0716
Total Metals							
Aluminum, total (T-Al) [2]	mg/L	0.037-0.10	-	***0.167***	***0.207***	***0.125***	***0.0942***
Antimony, total (T-Sb)	mg/L	0.074	-	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic, total (T-As)	mg/L	0.005	-	0.00014	0.0001	0.00021	<0.00010
Barium, total (T-Ba)	mg/L	1	-	0.00207	0.00412	0.00433	0.00346
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000020	<0.000020	<0.000020	<0.000020
Boron, total (T-B)	mg/L	1.2	29	<0.010	<0.010	<0.010	<0.010
Cadmium, total (T-Cd) [2]	mg/L	0.000036	0.00011-0.00034	<0.0000050	0.0000088	<0.000005	0.0000058
Chromium, total (T-Cr) [4]	mg/L	0.001	-	<0.00050	0.00065	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	0.001	0.11	<0.00010	0.00011	<0.00010	<0.00010
Copper, total (T-Cu)	mg/L	-	-	0.00097	0.00098	0.00118	0.00051
Iron, total (T-Fe)	mg/L	0.3	1	0.040	0.124	0.109	0.021
Lead, total (T-Pb) [2]	mg/L	-	-	0.000065	0.000156	<0.000073	<0.000050
Manganese, total (T-Mn) [2]	mg/L	0.768	0.816	0.00144	0.00363	0.00736	0.00154
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	0.00000184	0.00000095	<0.00000222	0.00000086
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000171	0.000381	0.000618	0.000392
Nickel, total (T-Ni) [2]	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050
Silver, total (T-Ag) [2]	mg/L	0.000050	0.00010	<0.000010	<0.000010	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	0.0008	-	<0.000010	<0.000010	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	0.0085	0.033	0.000572	0.000155	0.000197	0.0001
Vanadium, total (T-V)	mg/L	0.12	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total (T-Zn)	mg/L	-	-	<0.0030	<0.0030	<0.0030	<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	0.000018-0.000056	0.000038-0.000093	<0.0000050	0.0000065	<0.0000075	0.0000060
Copper, dissolved (D-Cu) [2]	mg/L	0.00020-0.00045	0.00076-0.0028	***0.00022***	***0.00034***	***0.00085***	***0.00037***
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.022	0.016	0.030	0.012
Lead, dissolved (D-Pb) [2]	mg/L	0.0014-0.0024	-	<0.000050	<0.000050	<0.000050	<0.000050
Manganese, dissolved (D-Mn) [2]	mg/L	0.31-0.38	1.97	0.00078	0.0011	0.00536	0.00149
Nickel, dissolved (D-Ni) [2]	mg/L	0.00060-0.00080	0.00095-0.0012	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.00335	0.00776	0.023	0.00549
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved (D-Zn)	mg/L	0.0041-0.0084	0.0084-0.011	<0.0010	<0.0010	0.0019	0.0012
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 Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	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
		L2757873-1	L2757873-2	L2757873-5	L2757873-4
		2024-10-22	2024-10-22	2024-10-22	2024-10-22
Lower Bound PCDD/F TEQ	**pg/L**	0	0	0	0.0226
Upper Bound PCDD/F TEQ	**pg/L**	2.84	2.48	1.75	2.59

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 F-3: Summary of Freshwater Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	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
		L2757942-2	L2757913-1	L2757913-4	L2757942-1
		2024-10-26	2024-10-25	2024-10-25	2024-10-26
Lower Bound PCDD/F TEQ	**pg/L**	0	0.000564	0.0102	0.0581
Upper Bound PCDD/F TEQ	**pg/L**	1.44	3.35	0.932	1.20

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.

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 VA24D1148-002
		Long Term	Short Term	2024-11-16 15:10
General Parameters				
pH - Field	pH units	7.0 - 8.7	-	***6.9***
Specific Conductivity - Field	µS/cm	-	-	9545
Temperature - Field	℃	-	-	7
Salinity - Field	ppt	-	-	6.4
Turbidity - Field	NTU	-	-	1.49
TSS	mg/L	-	-	<3.0
Dissolved Oxygen - Field	mg/L	-	-	11.30
Anions and Nutrients				
Sulphate	mg/L	-	-	122
Chloride	mg/L	-	-	968
Fluoride	mg/L	-	-	<0.400
Ammonia (N-NH_3)	mg/L	-	-	<0.0050
Nitrite (N-NO_2)	mg/L	-	-	<0.0200
Nitrate (N-NO_3)	mg/L	-	-	0.119
Total Metals				
Aluminum, total (T-Al)	mg/L	-	-	0.178
Antimony, total (T-Sb)	mg/L	-	-	<0.00020
Arsenic, total (T-As)	mg/L	-	-	0.0002
Barium, total (T-Ba)	mg/L	-	-	0.0053
Beryllium, total (T-Be)	mg/L	-	-	<0.000040
Boron, total (T-B)	mg/L	-	-	0.225
Cadmium, total (T-Cd)	mg/L	-	-	0.0000114
Chromium, total (T-Cr)	mg/L	-	-	<0.00100
Cobalt, total (T-Co)	mg/L	-	-	<0.00020
Copper, total (T-Cu)	mg/L	0.002	0.003	<0.00100
Iron, total (T-Fe)	mg/L	-	-	0.107
Lead, total (T-Pb)	mg/L	0.002	0.14	0.000135
Manganese, total (T-Mn)	mg/L	-	-	0.00381
Mercury, total (T-Hg) [2]	mg/L	0.00002	-	0.000001
Molybdenum, total (T-Mo)	mg/L	-	-	0.000958
Nickel, total (T-Ni)	mg/L	-	-	<0.00100
Selenium, total (T-Se)	mg/L	-	-	<0.000100
Silver, total (T-Ag)	mg/L	0.0015	0.003	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	<0.000020
Uranium, total (T-U)	mg/L	-	-	0.000304
Vanadium, total (T-V)	mg/L	-	-	<0.00100
Zinc, total (T-Zn)	mg/L	-	-	<0.0060
Hexavalent Chromium, total	mg/L	-	-	<0.00050
Dissolved Metals				
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.0000149
Copper, dissolved (D-Cu)	mg/L	-	-	<0.00040
Iron, dissolved (D-Fe)	mg/L	-	-	<0.020
Lead, dissolved (D-Pb)	mg/L	-	-	<0.000100
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00215
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	0.423
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00100
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0020
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	-	-	<0.000010
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	-	-	<0.000010
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 ⩽ 0.5% of total Hg, BC WQG = 0.00002 mg/L.

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

Parameter	Unit	Station SW-03	Station SW-03
		Mill Creek Estuary	Mill Creek Estuary
		SW-03	SW-03
		L2757873-3	L2757913-3
		2024-10-22	2024-10-25
Lower Bound PCDD/F TEQ	**pg/L**	0.0612	0.000645
Upper Bound PCDD/F TEQ	**pg/L**	1.87	1.37

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.

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
				VA24C9683-001	VA24C9683-003	VA24C9683-004	VA24C9732-001	VA24C9732-002	VA24C9732-003
		Long Term	Short Term	2024-11-01 14:20	2024-11-01 14:50	2024-11-01 15:10	2024-11-02 13:11	2024-11-02 13:32	2024-11-02 13:52
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.5	7.6	7.3	7.4	7.5	7.4
Specific Conductivity - Field	µS/cm	-	-	16328	26199	32778	11936	21112	30666
Temperature - Field	℃	-	-	9.3	10.8	10.0	8.4	9.9	10.9
Salinity - Field	ppt	Narrative[2]	-	14.08	22.66	29.61	10.28	18.34	26.81
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	1.39	0.31	0.55	1.44	0.97	0.52
TSS	mg/L	Narrative[2]	Narrative[2]	3.6	<2.0	-[6]	2.2	<2.0	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	9.85	8.77	***5.08***	10.33	9.28	***7.00***
Anions and Nutrients									
Sulphate	mg/L	-	-	958	1160	-[6]	644	795	1380
Chloride	mg/L	-	-	7440	8970	-[6]	5330	6610	10700
Fluoride	mg/L	-	1.5	<1.0	<1.0	-[6]	<1.0	<1.0	<1.0
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.021	0.0188	0.0065	0.0291	0.0193	0.0099
Nitrite (N-NO_2)	mg/L	-	-	<0.10	<0.10	-[6]	<0.10	<0.10	<0.10
Nitrate (N-NO_3)	mg/L	3.7	339	<0.50	<0.50	-[6]	<0.50	<0.50	<0.50
Total Metals									
Aluminum, total (T-Al)	mg/L	-	-	0.0881	0.0817	0.0297	0.102	0.0932	0.0463
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	0.00084	0.00081	0.00145	0.00059	0.00072	0.0012
Barium, total (T-Ba)	mg/L	-	-	0.0119	0.0118	0.0123	0.0125	0.0124	0.0115
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	-	***1.76***	***1.82***	***3.4***	***1.21***	***1.48***	***2.73***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000051	0.000051	0.000083	0.000028	0.000039	0.000061
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000165	0.000181	0.000249	0.000166	0.000168	0.000202
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00112	0.00086	0.00058	0.00088	0.0008	0.00065
Iron, total (T-Fe)	mg/L	-	-	0.098	0.094	0.024	0.12	0.108	0.043
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	-	-	0.0102	0.01	0.0101	0.0132	0.0123	0.00666
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	-	-	0.00503	0.00513	0.0095	0.00325	0.00391	0.00743
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00050	<0.00050	0.00051	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	0.00127	<0.00050	0.00076	0.0018
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	-	-	0.00136	0.00132	0.00248	0.000908	0.00109	0.00194
Vanadium, total (T-V)	mg/L	0.005	-	0.00113	0.00117	0.00155	0.00099	0.00106	0.00139
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	-	-	0.000053	0.000048	0.000082	0.000027	0.000041	0.000066
Copper, dissolved (D-Cu)	mg/L	-	-	0.00061	0.00062	0.00054	0.00072	0.00074	0.00058
Iron, dissolved (D-Fe)	mg/L	-	-	0.022	0.017	<0.010	0.034	0.022	<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	-	-	0.0097	0.00837	0.00852	0.0131	0.0102	0.00467
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	3.00	3.47	6.41	2.13	2.81	5.61
Vanadium, dissolved (D-V)	mg/L	-	-	0.00095	0.00103	0.00161	0.00084	0.00092	0.00148
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	0.0015	<0.0010	<0.0010	0.0014	0.0012
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.
[6] Physical and general parameters were not analyzed for sample WQR1-SF on November 1. The physical and general parameters sample bottle was not submitted to the laboratory.

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
				VA24C9824-001	VA24C9824-002	VA24C9824-003	VA24C9824-004	VA24C9824-005	VA24C9824-006
		Long Term	Short Term	2024-11-04 14:25	2024-11-04 14:48	2024-11-04 15:10	2024-11-04 14:18	2024-11-04 14:20	2024-11-04 14:27
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.5	7.3	7.2	7.3	7.4	7.2
Specific Conductivity - Field	µS/cm	-	-	8812	23101	32761	6089	25505	32756
Temperature - Field	℃	-	-	8.2	9.9	9.6	7.7	10.5	9.6
Salinity - Field	ppt	Narrative[2]	-	7.46	10.25	29.95	5.07	22.17	29.96
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	1.42	0.7	0.49	1.58	0.30	0.50
TSS	mg/L	Narrative[2]	Narrative[2]	<2.0	2.3	4.7	<2.0	2.6	8.5
Dissolved Oxygen - Field	mg/L	>=8	-	10.98	9.41	***4.99***	11.36	9.06	***4.85***
Anions and Nutrients									
Sulphate	mg/L	-	-	192	569	1980	-	-	-
Chloride	mg/L	-	-	1780	4710	15200	-	-	-
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	-	-	-
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0202	0.014	<0.0050	-	-	-
Nitrite (N-NO_2)	mg/L	-	-	<0.10	<0.10	<0.10	-	-	-
Nitrate (N-NO_3)	mg/L	3.7	339	<0.50	<0.50	<0.50	-	-	-
Total Metals									
Aluminum, total (T-Al)	mg/L	-	-	0.089	0.116	0.0273	-	-	-
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	<0.0010	<0.0010	<0.0010	-	-	-
Arsenic, total (T-As)	mg/L	0.0125	0.0125	0.0005	0.00054	0.00184	-	-	-
Barium, total (T-Ba)	mg/L	-	-	0.0113	0.0092	0.0118	-	-	-
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	-	-	-
Boron, total (T-B)	mg/L	1.2	-	1.05	0.97	***3.82***	-	-	-
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000031	0.000022	0.000085	-	-	-
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	-	-	-
Cobalt, total (T-Co)	mg/L	-	-	0.000152	0.000136	0.000252	-	-	-
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00096	0.00096	0.00054	-	-	-
Iron, total (T-Fe)	mg/L	-	-	0.122	0.099	0.027	-	-	-
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010	-	-	-
Manganese, total (T-Mn)	mg/L	-	-	0.0133	0.00942	0.0106	-	-	-
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	<0.0000050	<0.0000050	<0.0000050	-	-	-
Molybdenum, total (T-Mo)	mg/L	-	-	0.0027	0.00247	0.00926	-	-	-
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00050	<0.00050	0.00058	-	-	-
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	0.00104	-	-	-
Silver, total (T-Ag)	mg/L	0.0015	0.003	<0.00010	<0.00010	<0.00010	-	-	-
Thallium, total (T-Tl)	mg/L	-	-	<0.000050	<0.000050	<0.000050	-	-	-
Uranium, total (T-U)	mg/L	-	-	0.000928	0.000827	0.00287	-	-	-
Vanadium, total (T-V)	mg/L	0.005	-	0.00086	0.00077	0.00159	-	-	-
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	<0.0030	-	-	-
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	-	-	-
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.000024	0.000038	0.000072	-	-	-
Copper, dissolved (D-Cu)	mg/L	-	-	0.00095	0.00086	0.00074	-	-	-
Iron, dissolved (D-Fe)	mg/L	-	-	0.035	0.02	<0.010	-	-	-
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010	-	-	-
Manganese, dissolved (D-Mn)	mg/L	-	-	0.0116	0.00872	0.00861	-	-	-
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	0.00056	-	-	-
Strontium, dissolved (D-Sr)	mg/L	-	-	1.59	2.89	6.58	-	-	-
Vanadium, dissolved (D-V)	mg/L	-	-	0.00067	0.00086	0.00139	-	-	-
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	0.0016	<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	<0.000010	<0.000010	-	-	-
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	<0.000010	<0.000010	-	-	-
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	-	-	-
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	-	-	-
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	-	-	-
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	-	-	-
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	-	-	-
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	-	-	-
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	-	-	-
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	-	-	-
1,2-Dichlorobenzene	mg/L	0.042	-	<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	Lowest Applicable Guideline[1]	Station IDZ-E1	Station IDZ-E2	Station IDZ-W1			Station IDZ-W2		
			0.5 m Below Surface	0.5 m Below Surface	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-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	IDZ-W1-2m	IDZ-W1-SF	IDZ-W2-0.5	IDZ-W2-2m	IDZ-W2-SF
			VA24C9386-001	VA24C9386-002	VA24C9386-003	VA24C9386-004	VA24C9386-005	VA24C9386-006	VA24C9386-007	VA24C9386-008
			2024-10-30	2024-10-30	2024-10-30	2024-10-30	2024-10-30	2024-10-30	2024-10-30	2024-10-30
Total Methylmercury	**µg/L**	0.0001 [2]	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Mercury	**µg/L**	0.016 [3,4]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected. Non-detect results are screened using the detection limit value.

Table H-4: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Reference Station WQR1			Reference Station WQR2		
			0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface
			WQR1-0.5	WQR1-2m	WQR1-SF	WQR2-0.5	WQR2-2m	WQR2-SF
			VA24C9683-001	VA24C9683-003	VA24C9683-004	VA24C9732-001	VA24C9732-002	VA24C9732-003
			2024-11-01	2024-11-01	2024-11-01	2024-11-02	2024-11-02	2024-11-02
Total Methylmercury	**µg/L**	0.0001 [2]	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Total Mercury	**µg/L**	0.016 [3,4]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected. Non-detect results are screened using the detection limit value.

Table H-5: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Station IDZ-W1		
			0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface
			IDZ-W1-0.5	IDZ-W1-2m	IDZ-W1-SF
			VA24C9824-001	VA24C9824-002	VA24C9824-003
			2024-11-04	2024-11-04	2024-11-04
Total Methylmercury	**µg/L**	0.0001 [2]	<0.000020	<0.000020	0.000024
Total Mercury	**µg/L**	0.016 [3,4]	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected. Non-detect results are screened using the detection limit value.

Table H-6: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Station IDZ-E1	Station IDZ-E2	Station IDZ-W1	Station IDZ-W2	Reference Station WQR1	Reference Station WQR2
			0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface
			IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	IDZ-W2-0.5	WQR1-0.5	WQR2-0.5
			VA24D0945-001	VA24D0945-002	VA24D0945-003	VA24D0945-004	VA24D0945-005	VA24D0945-006
			2024-11-14	2024-11-14	2024-11-14	2024-11-14	2024-11-14	2024-11-14
Total Methylmercury	**µg/L**	0.0001 [2]	0.000022	<0.000020	<0.000020	0.000021	0.000024	0.000033
Total Mercury	**µg/L**	0.015 [3,4]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected. Non-detect results are screened using the detection limit value.

Table H-7: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Station IDZ-E1	Station IDZ-E2	Station IDZ-W1	Station IDZ-W2	Reference Station WQR1	Reference Station WQR2
			0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface
			IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	IDZ-W2-0.5	WQR1-0.5	WQR2-0.5
			VA24D1069-001	VA24D1069-002	VA24D1069-003	VA24D1069-004	VA24D1069-005	VA24D1069-006
			2024-11-15	2024-11-15	2024-11-15	2024-11-15	2024-11-15	2024-11-15
Total Methylmercury	**µg/L**	0.0001 [2]	0.000032	0.000028	<0.000020	<0.000020	0.000023	0.000020
Total Mercury	**µg/L**	0.015 – 0.016 [3,4]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected. Non-detect results are screened using the detection limit value.

Table H-8: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-E1	Station IDZ-E2	Station IDZ-W1	Reference Station WQR1		Reference Station WQR2
		0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	2 m Below Surface	0.5 m Below Surface
		IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	WQR1-0.5	WQR1-2m	WQR2-0.5
		L2757830-4	L2757830-1	L2757830-5	L2757830-3	L2757830-6	L2757830-2
		2024-10-19	2024-10-19	2024-10-19	2024-10-19	2024-10-20	2024-10-19
Lower Bound PCDD/F TEQ	**pg/L**	0.00397	0.0156	0.0528	0	0.00314	0.0577
Upper Bound PCDD/F TEQ	**pg/L**	0.847	0.793	0.900	0.792	0.920	0.943

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 H-9: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-E1	Station IDZ-E2	Station IDZ-W1	Station IDZ-W2
		0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface
		IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	IDZ-W2-0.5
		L2757853-1	L2757853-4	L2757853-2	L2757853-3
		2024-10-20	2024-10-20	2024-10-20	2024-10-20
Lower Bound PCDD/F TEQ	**pg/L**	0.152	0.00546	0	0.00606
Upper Bound PCDD/F TEQ	**pg/L**	4.24	5.71	4.44	4.53

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 H-10: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-E1		Station IDZ-E2	
		2 m Below Surface	2 m Above Seafloor	2 m Below Surface	2 m Above Seafloor
		IDZ-E1-2m	IDZ-E1-SF	IDZ-E2-2m	IDZ-E2-SF
		L2757852-1	L2757852-2	L2757852-3	L2757852-4
		2024-10-21	2024-10-21	2024-10-21	2024-10-21
Lower Bound PCDD/F TEQ	**pg/L**	0.0111	0.0105	0	0.00636
Upper Bound PCDD/F TEQ	**pg/L**	5.08	5.2	4.25	4.67

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 H-11: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-W1		Station IDZ-W2	
		2 m Below Surface	2 m Above Seafloor	2 m Below Surface	2 m Above Seafloor
		IDZ-W1-2m	IDZ-W1-SF	IDZ-W2-2m	IDZ-W2-SF
		L2757852-5	L2757852-6	L2757852-7	L2757852-8
		2024-10-21	2024-10-21	2024-10-21	2024-10-21
Lower Bound PCDD/F TEQ	**pg/L**	0.00678	0.00519	0.00576	0.00447
Upper Bound PCDD/F TEQ	**pg/L**	4.68	3.76	5.89	6.18

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 H-12: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	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
		L2757872-1	L2757872-2	L2757872-3	L2757872-4	L2757872-5	L2757872-6
		2024-10-22	2024-10-22	2024-10-22	2024-10-22	2024-10-22	2024-10-22
Lower Bound PCDD/F TEQ	**pg/L**	0.0793	0.0161	0.0423	0.0246	0	0.00455
Upper Bound PCDD/F TEQ	**pg/L**	2.82	0.984	1.40	1.10	1.08	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 H-13: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-W1	Station IDZ-W2	Station IDZ-W1		Station IDZ-W2	
		0.5 m Below Surface	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	2 m Below Surface	2 m Above Seafloor
		IDZ-W1-0.5	IDZ-W2-0.5	IDZ-W1-2m	IDZ-W1-SF	IDZ-W2-2m	IDZ-W2-SF
		L2757914-2	L2757914-1	L2757911-1	L2757911-2	L2757911-3	L2757911-4
		2024-10-23	2024-10-23	2024-10-24	2024-10-24	2024-10-24	2024-10-24
Lower Bound PCDD/F TEQ	**pg/L**	0.00828	0.0148	0.00104	0.000336	0.000663	0
Upper Bound PCDD/F TEQ	**pg/L**	1.83	1.77	1.30	0.912	0.844	0.818

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 H-14: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-E1	Station IDZ-E2	Station IDZ-W1	Station IDZ-W2	Reference Station WQR1		
		0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface 2 m Below Surface	2 m Below Surface	2 m Above Seafloor
		IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	IDZ-W2-0.5	WQR1-0.5	WQR1-2m	WQR1-2m
		L2757933-3	L2757933-4	L2757933-2	L2757933-1	L2757933-5	L2757933-6	L2757933-7
		2024-10-28	2024-10-28	2024-10-28	2024-10-28	2024-10-28	2024-10-28	2024-10-28
Lower Bound PCDD/F TEQ	**pg/L**	0.0145	0.0114	0.0807	0.000666	0.000837	0.000870	0
Upper Bound PCDD/F TEQ	**pg/L**	1.11	1.01	0.978	1.42	1.25	1.22	1.30

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 H-15: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-E1	Station IDZ-E2	Station IDZ-W1	Station IDZ-W2	Reference Station WQR2		
		0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface 2 m Below Surface	2 m Below Surface	2 m Above Seafloor
		IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	IDZ-W2-0.5	WQR2-0.5	WQR2-2m	WQR2-SF
		L2757962-3	L2757962-4	L2757962-2	L2757962-1	L2757962-5	L2757962-6	L2757962-7
		2024-10-29	2024-10-29	2024-10-29	2024-10-29	2024-10-29	2024-10-29	2024-10-29
Lower Bound PCDD/F TEQ	**pg/L**	0.0124	0	0	0.0180	0.00241	0.000981	0.00118
Upper Bound PCDD/F TEQ	**pg/L**	0.940	0.925	0.939	0.86	0.707	0.78	0.773

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.