

TECHNICAL MEMORANDUM

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Jackie Boruch and Ryan Schucroft (Woodfibre LNG) **Date:** 20 Dec 2024

From: Cheng Kuang, Holly Pelletier and Patrick Mueller (Lorax) **Project #:** A633-8

Subject: PE-111578 Weekly Discharge and Compliance Report #44 for December 8 – 14

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 #44) was prepared by Lorax Environmental and summarizes WDA monitoring conducted the week of December 8 – 14. 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 #44 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 F 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, pouring of concrete foundations 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 December 8 – 14 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.

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 (Appendix A, Figure 1). During heavy precipitation non-contact water from the diversion ditches is also conveyed to Howe Sound via station OUT-01. East of Mill Creek, non-contact water is diverted around the East Catchment along pre-existing road ditches that flow to East Creek or Mill Creek. To facilitate the replacement of the East Creek discharge culvert at OUT-12, the lower reach of East Creek was temporarily diverted to an adjacent culvert, OUT-11, on September 17.

The East and West catchments conveyance ditches described in PE- 111578 were designed to transport non-contaminated contact water (*i.e.*, stormwater) to the East and West sedimentation ponds and will be constructed following completion of site preparation activities (*e.g.*, site grading, bedrock excavation) along the ditch lines. Until the ditches are operational, contact waters within the catchments are managed to remain on site using a system of berms, sumps, temporary ditches and baker tanks for intermediate storage, and are then directed to the East and West Sedimentation Ponds for TSS settling prior to discharge.

Flocculant-based TSS settling systems are used at the East and West Sedimentation Ponds to remove TSS from non-contaminated contact water at the time of discharge. Some of the clarified water may be recirculated back to the ponds. The first West Sedimentation Pond TSS settling system (ESC) was commissioned for use on September 25 with an 820 m³/day installed capacity. A second TSS settling system (W500GPM) was added and commissioned for use on November 28 and provides an additional 2,725 m³/day installed capacity for clarifying water. A TSS settling

system (E500GPM) for the East Sedimentation Pond was commissioned on December 4, also with 2,725 m³/day installed capacity.

Contaminated contact water from within the East and West Catchments, and non-contaminated contact water stored in the East Sedimentation Pond are directed to the East WWTP for treatment prior to discharge to Howe Sound. Direct discharge to Howe Sound of East WWTP treated contact water has been implemented since October 28.

The East and West Catchment permanent outfall structures have not been completed. Temporary discharge systems (*i.e.*, pumps, hosing and diffusers) are used to convey clarified or treated effluent to the discharge locations authorized for the East and West Catchments. In the East Catchment, treated WWTP effluent and clarified E500GPM effluent are combined to discharge at location SP-E-OUT since December 2. Similarly, since November 28 the West Catchment discharge location, SP-W-OUT receives the combined clarified effluents from the ESC and W500GPM TSS settling systems. 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.

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 (December 8 – 14), with precipitation recorded on December 8, 10, 13, and 14. The total weekly precipitation amount was 59.2 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
12-08-2024	6.4	8.7	4.2	Overcast
12-09-2024	0.0	6.1	1.3	Overcast
12-10-2024	0.2	5.4	0.9	Mix of Sun and Cloud
12-11-2024	0.0	8.9	2.7	Overcast
12-12-2024	0.0	5.7	2.4	Mix of sun and cloud
12-13-2024	21.6	4.9	3.6	Rain
12-14-2024	31.0	10.0	4.0	Rain

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

During the December 8 – 14 monitoring period, the East Sedimentation Pond received contact water from Area 1200 Sump and Baker Tanks and Area 1300 Contact Sump (refer to Appendix A, Figure 2).

Routine operation of the East WWTP continued during the monitoring period (December 8 – 14). Contact waters from the West Catchment wash bay, Area 1300 collection area, and the concrete batch plant were periodically directed to the East WWTP for treatment, as well as water stored in the East Sedimentation Pond (Appendix A, Figure 2 and Figure 3). A total of 1,721 m³ of treated effluent from the East WWTP was directed to the authorized discharge location, SP-E-OUT on December 8, 9, 10, and 14. East Sedimentation Pond effluent was clarified through the TSS settling system (E500GPM) prior to discharge. Clarified effluent totalling 1,715 m³ was directed to the authorized discharge location SP-E-OUT on December 8, 10, 13, and 14. Daily discharge volumes from East WWTP, East TSS settling system (E500GPM) and the authorized discharge location SP-E-OUT are provided in Appendix B, Table B-6.

During the December 8 – 14 monitoring period, contact waters from Area 4100 and Area 4200 sumps and tanks and the Surge Pond were directed to the West Sedimentation Pond (Appendix A, Figure 3). West Sedimentation Pond water was clarified through the ESC and W500GPM TSS settling systems prior to discharge. Clarified effluent totaling 1,410 m³ from the ESC system was directed to the SP-W-OUT authorized discharge location on December 8, 12, 13, and 14, and a total of 722 m³ effluent was clarified through the W500GPM system and directed to the SP-W-OUT discharge location on December 8 and 10. Daily clarified effluent volumes from the ESC and W500GPM TSS settling systems, and volumes discharged to Howe Sound from the West Catchment authorized discharge location (SP-W-OUT) are provided in Appendix C (Table C-6).

2. Monitoring Summary

The PE-111578 authorized works were under construction during the December 8 – 14 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 (SP-E-IN, SP-E-NE, SP-E-NW, E500GPM-IN, E500GPM-OUT, WWTP-E-IN, WWTP-E-OUT, SP-E-OUT, SP-W-IN, SP-W-W, SP-W-E, ESC-W-IN, ESC-W-OUT, W500GPM-IN, W500GPM-OUT 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 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 the water quality of contact water directed to the East Sedimentation Pond and the West Sedimentation Pond, respectively.

A flocculant-based TSS settling system (ESC) has been in use at the West Sedimentation Pond since September 25 and a second system (W500GPM) was added on November 28 (Section 1.2). The influent and effluent station names for these systems are ESC-W-IN and ESC-W-OUT (first system) and W500GPM-IN and W500GPM-OUT (second system). A TSS settling system (E500GPM) at the East Sedimentation Pond was commissioned for use on December 4. The influent and effluent stations for this system are E500GPM-IN and E500GPM-OUT, respectively. There are no PE-111578 monitoring requirements for TSS settling system stations, therefore they are monitored at the discretion of field staff.

Water quality was monitored at stations SW-02, SW-03, SW-04, SW-07, IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WWTP-E-IN, WWTP-E-OUT, E500GPM-IN, E500GPM-OUT, SP-E-IN, SP-E-OUT, ESC-W-IN, ESC-W-OUT, W500GPM-IN, W500GPM-OUT, SP-W-IN and SP-W-OUT during the monitoring period (December 8 – 14). Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (December 8 – 14) were met.

Daily field parameters were not collected at the influent stations SP-E-IN (December 10, 11, 12, 13) and SP-W-IN (December 9, 10, 11, 12, 13) nor at effluent stations SP-E-OUT (December 8, 9, 10, 11, 12, 13) and SP-W-OUT (December 8, 9, 11) since there was no influent reporting to the East and West Sedimentation Ponds or discharged from the authorized discharge locations 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 December 8 – 14.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
December 8, 2024	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	WWTP-E-IN	East WWTP at the influent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SW-02	Upper Reach of Mill Creek (upstream of third bridge)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	M
	SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
SW-07	Upstream Mill Creek (at the diversion inlet)			
December 9, 2024	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	WWTP-E-IN	East WWTP at the influent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	ESC-W-OUT	West TSS settling system effluent at the ESC meter box	Field Parameters.	P
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	M	
December 10, 2024	WWTP-E-OUT	East WWTP at the effluent meter box	Field Parameters.	D
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, and Methylmercury.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W ₁ , W ₂
	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			
December 11, 2024	IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	Field and Physical Parameters.	W ₃
	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		
December 12, 2024	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, and Methylmercury.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, and Methylmercury.	D, W ₁
December 13, 2024	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	ESC-W-IN	Influent to the West Sedimentation Pond TSS settling system	Field Parameters.	P
	ESC-W-OUT	West TSS settling system effluent at the ESC meter box		
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
December 14, 2024	SP-E-OUT	East Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W ₁ , W ₂
	SP-E-IN	East Sedimentation Pond influent entering the pond and collected 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
	WWTP-E-OUT	East WWTP at the effluent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W ₁ , W ₂
	WWTP-E-IN	East WWTP at the influent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, and Methylmercury.	P

Table 2 (continued): Summary of PE-111578 Monitoring Samples Collected December 8 – 14.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
December 14, 2024 (continued)	SP-W-IN	West Sedimentation Pond influent entering the pond and collected 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
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	ESC-W-IN	Influent to the West Sedimentation Pond TSS settling system	Field Parameters.	P
	ESC-W-OUT	West TSS settling system effluent at the ESC meter box		
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D

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.

W₁ – initial high frequency monitoring for physical parameters at WWTP and sedimentation pond influent and effluent stations.

W₂ – initial high frequency monitoring for all parameters at WWTP and sedimentation pond influent and effluent stations.

W₃ – initial high frequency monitoring for physical parameters at IDZ stations.

W₄ – 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.

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 (December 8 – 14) and for other samples that have not been previously reported are listed below in Table 3. Testing for methylmercury, dioxins and furans typically requires up to four weeks to complete. Analytical results not available at the time of reporting will be included in future weekly reports when testing is completed. Reporting of results is pending for the following samples and parameters:

- SP-E-IN, WWTP-E-IN, WWTP-E-OUT, and SP-W-IN collected December 7 (methylmercury, dioxins and furans)
- E500GPM-OUT and SP-W-OUT collected December 7 (methylmercury)
- SW-02, SW-03, and SW-07 collected December 8 (field parameters and all analytical parameters)
- SW-04 collected December 9 (field parameters and all analytical parameters)
- W500GPM-IN and W500GPM-OUT collected December 10 (methylmercury)
- SP-W-OUT collected December 10 (methylmercury, dioxins and furans)
- IDZ-W1 and IDZ-W2 collected December 11 (field parameters and all analytical parameters)
- W500GPM-IN, W500GPM-OUT, and SP-W-OUT collected December 12 (methylmercury)
- SP-E-OUT, SP-E-IN, WWTP-E-OUT, WWTP-E-IN, and SP-W-IN collected December 14 (methylmercury, dioxins and furans)
- E500GPM-OUT collected December 14 (methylmercury)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #44.

Sample	Description	Sampling Date	Parameters Reported
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	2024-09-25	Chronic Toxicity
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	East Sedimentation Pond effluent	2024-10-27	Dioxins and Furans.
SP-E-IN	East Sedimentation Pond influent	2024-10-28	Dioxins and Furans.
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	2024-10-30	Dioxins and Furans.
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 2; 2 m above the seafloor		
WQR2-0.5	Reference site 2; 0.5 m below surface	2024-11-02	Dioxins and Furans.
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
WWTP-E-IN	East WWTP influent	2024-11-10	Methylmercury, Dioxins and Furans.
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 (ESC) effluent discharged at station SP-W-OUT		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		
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	2024-11-11	Methylmercury, Dioxins and Furans.
SP-E-IN	East Sedimentation Pond influent		
OUT-06	Non-contact water diversion ditch outlet	2024-11-12	Methylmercury.
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		
SW-01	Lower Reach of Woodfibre Creek (near the mouth)		
OUT-01	Non-contact water diversion ditch outlet		
OUT-02	Non-contact water diversion ditch outlet	2024-11-13	Dioxins and Furans.
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 (ESC) effluent discharged at station SP-W-OUT	2024-11-14	Dioxins and Furans.
SP-E-IN	East Sedimentation Pond influent		
SP-W-IN	West Sedimentation Pond influent	2024-11-23	Methylmercury.
SP-W-IN	West Sedimentation Pond influent		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	2024-11-26	Field and Physical Parameters.
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		
SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	2024-12-07	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
WWTP-E-IN	East WWTP at the influent meter box		
WWTP-E-OUT	East WWTP at the effluent meter box		
E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at the sampling port		
SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1		
SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at the sampling port	2024-12-10	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box		
W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		
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	2024-12-12	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
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		
SP-W-OUT	West Sedimentation Pond clarified effluent, collected at the sampling port		
W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box		
W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	2024-12-14	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-E-OUT	East Sedimentation Pond clarified and/or treated effluent discharge to Howe Sound, collected at the sampling port		
WWTP-E-IN	East WWTP at the influent meter box		
WWTP-E-OUT	East WWTP at the effluent meter box		
E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1		

Notes:

¹ As a result of the reconfigured pathway for effluent discharge at station SP-E-OUT effective October 28, contact water stored in the East Sedimentation Pond is directed to the East WWTP for treatment and 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 until December 3. Beginning December 4, contact water stored in the pond is also clarified using the E500GPM TSS settling system and the clarified effluent is combined with East WWTP treated effluent prior to monitoring and discharge at SP-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 discharge is routed through a TSS settling system (ESC) prior to discharge and the monitoring results are considered representative of water quality at station ESC-W-OUT until November 28 when clarified effluent from the second TSS settling system (W500GPM) was combined with effluent from ESC system prior to monitoring and discharge at SP-W-OUT. There are no PE-111578 monitoring requirements for TSS settling systems (ESC and W500GPM), therefore stations at these facilities 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 and 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. 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 (December 8 – 14), East WWTP treated effluent (December 8, 9, 10, and 14) and clarified water (December 8, 10, 13, and 14) from the East Sedimentation Pond TSS settling system (E500GPM) were combined in the SP-E-OUT discharge tank, and intermittently discharged to Howe Sound at the authorized discharge location (station SP-E-OUT). Field measurements were collected at multiple influent and effluent locations, as outlined in Section 2 and tabulated in Appendix B, Table B-5. Daily discharge volumes from the East Catchment are summarized in appendix B, Table B-6.

Analytical samples collected on December 7 (stations E500GPM-OUT, WWTP-E-IN, WWTP-E-OUT, and SP-E-IN) and December 14 (stations E500GPM-OUT, WWTP-E-IN, WWTP-E-OUT, SP-E-IN, and SP-E-OUT) were available at the time of reporting. Screening results for East Catchment contact water influent and effluent quality are tabulated in Table B-1 and Table B-2 of Appendix B, respectively. East WWTP treated effluent and E500GPM clarified effluent was discharged at station SP-E-OUT on December 7 and 14. Analytical results and field measurements monitored at stations E500GPM-OUT and WWTP-E-OUT on December 7 and 14 met PE-111578 discharge limits and WQGs except for hexavalent chromium at station WWTP-E-OUT on December 7 (Table 4). During the monitoring period (December 8 – 14), daily field measurements collected at SP-E-OUT and an analytical sample collected December 14 met PE-111578 discharge limits and WQGs.

**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
Hexavalent Chromium	mg/L	0.0015	1	1	Hexavalent chromium concentration at station WWTP-E-OUT on December 7 (0.00162 mg/L) was 1.1 times greater than the long-term WQG. East WWTP treated effluent and clarified effluent were discharged at station SP-E-OUT on December 7 at the time of sample collection. The combined effluent was not sampled.

N = number of samples.

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

Methylmercury analytical results were available at the time of reporting for WWTP influent (WWTP-E-IN) collected November 10 and East Sedimentation Pond influent (station SP-E-IN) collected November 11 (as discussed in Report #40). Results were also reported for WWTP treated effluent discharged at station SP-E-OUT on November 10 (as discussed in Report #40). East WWTP treated effluent discharged at station SP-E-OUT on November 10 had a methylmercury concentration of 0.000039 µg/L that met the WQG (Appendix B, Table B-3).

Dioxin and furan results were reported for East Sedimentation Pond influent (station SP-E-IN) collected October 28, November 11 and 14 (as discussed in Reports #38 and #40) and for WWTP influent (WWTP-E-IN) collected November 10 (as discussed in Report #40). Results were also reported for East Sedimentation Pond effluent collected October 27 (as discussed in Report #38) and treated East WWTP effluent discharged at station SP-E-OUT collected November 10 and 13 (as discussed in Report #40). The PCDD/F TEQ concentrations in the October 27, and the November 10 and 13 station SP-E-OUT effluent samples ranged from 0 to 0.594 pg/L (lower bound) and 1.09 to 2.14 pg/L (upper bound).

3.4 West Catchment

The West Catchment water quality results for the West Sedimentation Pond, the TSS settling systems (ESC and W500GPM) and West WWTP monitoring stations are discussed in this section. Results for sedimentation pond and TSS settling system 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 are presented in Appendix C. Operation of the West WWTP is currently suspended (refer to Section 1.1) 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 (December 8 – 14), the TSS settling systems (ESC and W500GPM) intermittently treated water stored in the West Sedimentation Pond and produced clarified effluent that was combined and discharged to Howe Sound on December 8, 10, 12, 13, and 14 at the authorized discharge location, SP-W-OUT. Daily clarified effluent and discharge volumes from the West Catchment are summarized in Appendix C, Table C-6.

Field measurements were collected during the monitoring period (December 8 – 14) at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix C, Table C-5. Analytical samples collected on December 7 (SP-W-IN and SP-W-OUT), December 10 (SP-W-OUT, W500GPM-IN, and W500GPM-OUT), December 12 (SP-W-OUT, W500GPM-IN, and W500GPM-OUT), and December 14 (SP-W-IN) were available at the time of reporting. On December 12, the effluent monitored at SP-W-OUT was W500GPM clarified water that was recirculated to the West Sedimentation Pond at the time of sampling. Only clarified effluent from the ESC TSS settling system was discharged to Howe Sound on December 12. Screening results for West Catchment contact water influent quality and effluent quality are tabulated in Table C-1 and Table C-2 of Appendix C, respectively.

During the monitoring period (December 8 – 14), analytical results and field measurements monitored at station SP-W-OUT met PE-111578 discharge limits and WQGs except for total zinc on December 10 (Table 5).

**Table 5:
Summary of Parameters Exceeding PE-111578 Discharge Limits in Effluent Discharged from SP-W-OUT for Field and Analytical Results Available at the Time of Reporting**

Parameter	Units	Discharge Limit	N	N >Limit	Commentary
Total Zinc	mg/L	0.0133	3	1	Total zinc measured at station SP-W-OUT on December 10 (0.0149 mg/L) was 1.1 times greater than the PE-111578 discharge limit. BCER was notified on December 12.

N = number of samples.

Methylmercury analytical results were available at the time of reporting for West Sedimentation Pond influent (station SP-W-IN) and TSS clarified effluent discharged at SP-W-OUT on November 10 (as discussed in Report #40) and for West Sedimentation Pond influent collected November 23 (as discussed in Report #41). The effluent discharged at SP-W-OUT on November 10 showed 0.000037 ug/L methylmercury and met WQGs for methylmercury and total mercury (Appendix C, Table C-3).

Dioxin and furan results were reported for West Sedimentation Pond influent (station SP-W-IN) collected November 10 and 14, and TSS clarified effluent discharged at SP-W-OUT on November 10 and 13 (as discussed in Report #40). The lower bound and upper bound PCDD/F TEQ for the November 10 effluent sample was 0.00735 and 1.33 pg/L, respectively. The lower bound and

upper bound PCDD/F TEQ for November 13 effluent sample was 0.427 and 1.78 pg/L, respectively.

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 D.

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.

Methylmercury results were available at the time of reporting for the November 11 and 12 non-contact water diversion ditch outlet water samples collected at stations OUT-01, OUT-02 and OUT-06 (as discussed in Weekly Report #40). The methylmercury concentrations from all stations ranged from 0.000023 to 0.000030 µg/L, and methylmercury and total mercury results met WQGs. Results are tabulated in Appendix D, Table D-1.

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 a possible indicator of project influence. The analytical results, field parameters, and WQGs are summarized in Appendix E (freshwater).

Methylmercury results were available at the time of reporting for the freshwater sample collected near the mouth of Woodfibre Creek (station SW-01) on December 6 (as discussed in Weekly Report #43). The methylmercury concentration was <0.000020 µg/L and met the WQG. Results are tabulated in Appendix E, Table E-1.

Dioxins and furans results were available at the time of reporting for the December 6 (Weekly Report #43) freshwater sample collected from Woodfibre Creek (SW-01). The lower and upper bound PCDD/F TEQ concentrations were 0.0227 and 0.887 pg/L, respectively. The lower and upper bound PCDD/F TEQ concentrations were within the concentration ranges observed in the baseline monitoring program for Woodfibre Creek.

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 or reference stations are considered to represent the natural condition of the water and not flagged as a possible indicator of project influence. Similarly, WQG exceedances at marine reference stations are considered to represent background conditions that are not influenced by the project. 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 F.

Analytical results and field measurements were available at the time of reporting for marine water samples collected at 0.5 and 2 m below the water surface and 2 m above the seafloor on November 26 at IDZ-E1, IDZ-E2, and IDZ-W1 (as discussed in Weekly Report #42) and on December 10 at IDZ-E1 and IDZ-E2. Only field and physical parameters were collected on November 26 and December 10. Parameter concentrations met WQGs except dissolved oxygen in some samples (Appendix F; Tables F-1 to F-3).

In some of the marine samples collected 2 m below the surface and in all of the marine samples collected 2 m above the seafloor on November 26 and December 10, dissolved oxygen was below the lower limit of the WQG (<8 mg/L) and ranged from 3.88 to 7.18 mg/L. Low concentrations of dissolved oxygen are indicative of influence from the deeper saline waters in the northern basin of Howe Sound and are a natural condition of the marine water at the WDA monitoring stations. The dissolved oxygen concentrations observed at the IDZ monitoring stations are within concentrations that have been observed in the baseline monitoring program or within background ranges observed at marine reference stations and are therefore not attributed to project influence.

Methylmercury analytical results were available at the time of reporting for the marine water receiving environment samples collected from station IDZ-E2 on November 12 (discussed in Weekly Report #40) at 0.5 m and 2 m below the water surface and 2 m above the seafloor. For all samples, methylmercury concentrations ranged from <0.000020 to 0.000028 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 F; Tables F-4).

Dioxins and furans analytical results were available at the time of reporting for marine samples collected from 0.5 and 2 m below surface and 2 m above the seafloor at stations IDZ-W1 and IDZ-W2 on October 30 and at marine reference station WQR2 on November 2 (as discussed in Weekly Report #38) as well as at station IDZ-E1 on November 10 and at station IDZ-E2 on

November 12 (as discussed in Weekly Report #40). For all samples, the lower and upper bound PCDD/F TEQ concentrations ranged from 0.000239 to 0.109 pg/L, and 0.606 to 2.02 pg/L, respectively. The lower and upper bound PCDD/F TEQ concentrations were within the concentration ranges observed in the baseline monitoring program or within background ranges observed at marine reference stations. Dioxins and furans results are presented in Appendix F, Table F-5 to F-7.

Chronic toxicity test results for the September 25 marine receiving environment samples were received on December 9. Marine water samples were tested for chronic toxicity to Pacific topsmelt (fish) and echinoderm (invertebrate). All chronic toxicity tests were conducted using 100% (undiluted) marine water collected from 0.5 m below the surface at stations IDZ-W1 and IDZ-W2 and marine reference stations WQR1 and WQR2 in the receiving environment of Howe Sound. The salinity of the September 25 samples (4.2 to 6.2 ppt) was below the acceptable range for marine toxicity tests; therefore, salinity was adjusted to 30 ± 2 ppt prior to testing as per standard test protocol.

Chronic toxicity test results showed no statistically significant differences between the marine samples (IDZ-W1, IDZ-W2, WQR1, and WQR2) and laboratory controls (natural seawater control and salt control) for any of the endpoints tested for Pacific topsmelt. For the echinoderm test, a statistically significant difference in fertilization rate was observed in the WQR2 reference station sample ($86.0 \pm 2.9\%$) relative to the laboratory control ($90.3 \pm 3.5\%$) at the significance level of $\alpha=0.05$.

Analytical water samples were collected at IDZ-W2 and WQR2 (0.5 m below surface) on September 25 in tandem with toxicity sampling and results were presented in Weekly Report #35. Water quality results showed similar conditions between the two samples, and parameter concentrations met WQGs except for field pH in the WQR2 sample (pH 6.3) and total boron in the IDZ-W2 and WQR2 samples (2.04 and 1.82 mg/L, respectively). Hence the water quality data do not explain the observed chronic effect on echinoderm fertilization rate in the WQR2 sample. The toxicity results observed in the marine reference station (WQR2) suggests natural variability in echinoderm chronic toxicity in the Howe Sound receiving environment unrelated to project influence.

4. Quality Control

This section presents the results of the quality control (QC) evaluation for the PE-111578 weekly report (Table 6). 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 6. Any items flagged for follow-up are carried forward to future reports until they are closed.

Table 6: Weekly Report QC Evaluations and Ongoing Items

QC Procedure	Observation	Investigation/Resolution
Reporting Period (December 8 – 14, Report #44)		
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. On November 28 and December 4 TSS settling systems were commissioned for use at the West and East Sedimentation Ponds, respectively, to increase the capacity for TSS settling in pond effluent. This item remains open.
Non-Compliant Effluent	Non-compliant discharge from the West Catchment on December 10.	Total zinc measured at station SP-W-OUT on December 10 was above the PE-111578 discharge limit. Review of the non-compliance is underway, and outcomes will be communicated to BCER. This item remains open.
Pending Data	Analytical results were not reported for samples collected December 8, 9 and 11. Methylmercury, dioxins and furans results were not reported for samples collected December 10, 12, and 14.	Analytical results for samples collected December 8, 9, and 11 were not complete at the time of Report #44 preparation. Methylmercury, dioxins and furans results for samples collected December 10, 12, and 14 were not complete at the time of Report #44 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Ongoing Items from Previous Weekly Reports		
Report #38: Pending Data	Dioxins and furans results were not reported for samples collected October 27, 28, 30, and November 2.	Dioxin and furan results for samples collected October 27, 28, 30, and November 2 are discussed in Sections 3.3, 3.4, and 3.6 of Report #44. This item is closed.
Report #40: Pending Data	Methylmercury, dioxins and furans results were not reported for samples collected November 14, 15, and 16.	Methylmercury, dioxins and furans results for samples collected November 10, 11, 12, 13, and 14 are discussed in Sections 3.3, 3.4, 3.6, and 3.7 of Report #44. Methylmercury results for samples collected November 16 and dioxins and furans results for samples collected November 14, 15, and 16 were not complete at the time of Report #44 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #41: Pending Data	Methylmercury, dioxins and furans results were not reported for samples collected November 17, 19, and 20.	The methylmercury results for the sample collected November 23 is presented in Appendix C of Report #44. Methylmercury, dioxins and furans results for samples collected November 17, 19, and 20 were not complete at the time of Report #44 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #42: Pending Data	Analytical results were not reported for samples collected November 25. Methylmercury, dioxins and furans results were not reported for samples collected November 24 and 28.	Analytical results for samples collected November 26 are discussed in Section 3.7 of Report #44. Analytical results for samples collected November 25 were not complete at the time of Report #44 preparation. Methylmercury results for samples collected November 28 and dioxins and furans results for samples collected November 24 and 28 were not complete at the time of Report #44 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #43: Pending Data	Analytical results were not reported for samples collected December 5 and 6. Methylmercury, dioxins and furans results were not reported for samples collected December 4, 5, 6, and 7.	Analytical results for samples collected December 7 are discussed in Sections 3.3 and 3.4 of Report #44. Analytical results for samples collected December 5 and 6 were not complete at the time of Report #44 preparation. Methylmercury, dioxins and furans results for samples collected December 4, 5, 6, and 7 were not complete at the time of Report #44 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.

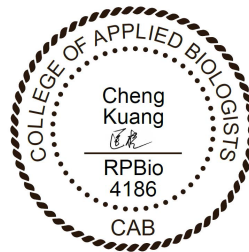
5. Closure

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**

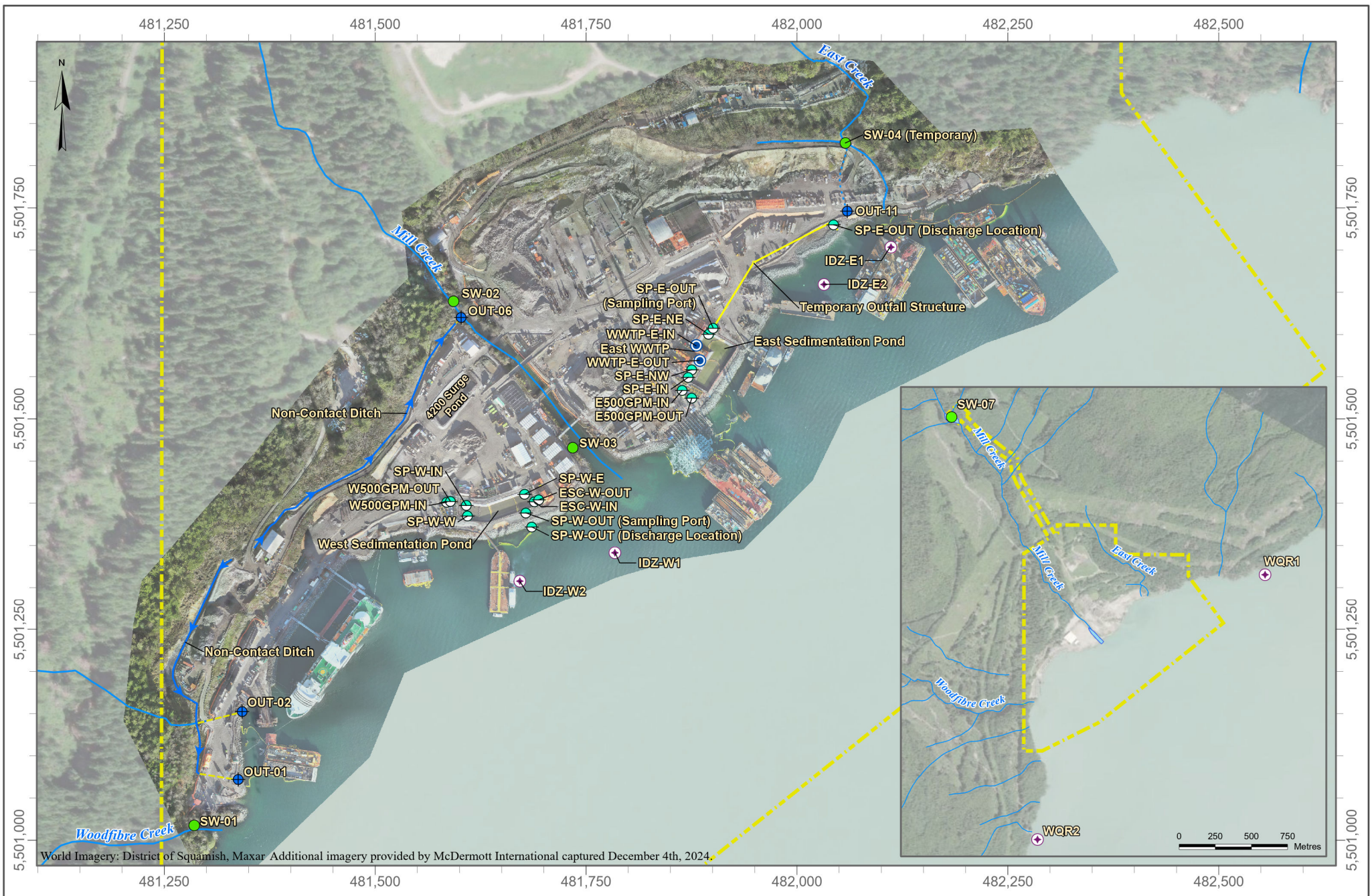


**Cheng Kuang, M.Sc., RPBio.
Environmental Scientist**



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

Appendix A: Figures and Site Images



World Imagery: District of Squamish, Maxar. Additional imagery provided by McDermott International captured December 4th, 2024.

LEGEND	
	Freshwater Monitoring Station
	Marine Water Monitoring Stations (Water Quality)
	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 20, 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

CLIENT:

PROJECT:

Woodfibre LNG Project Construction Phase

TITLE:
Completed or Under Construction Water Management Facilities and Established PE-111578 Monitoring Stations (December 14, 2024)

PROJECT #: A633-7

FIGURE: 1



Figure 2: East Catchment contact water management facilities (December 8 – 14).



Figure 3: West Catchment contact water management facilities (December 8 – 14).



Figure 4: Aerial view of the East Sedimentation Pond (December 12, 2024). The East WWTP is located on the left side and the E500GPM TSS settling system is situated along the bottom edge of the pond.



Figure 5: Aerial view of the West Sedimentation Pond (December 12, 2024). The TSS settling systems are located to the left (W500GPM) and right (ESC) of the pond.

Appendix B: East Catchment Monitoring Results

Table B-1: East Catchment Contact Water Influent Analytical Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline ¹		PE-111578 Discharge Limit	Station WWTP-E-IN	Station WWTP-E-IN	Station SP-E-IN	Station SP-E-IN
					Influent	Influent	Influent	Influent
					WWTP-E-IN VA24D3034-002	WWTP-E-IN VA24D3585-003	SP-E-IN VA24D3034-001	SP-E-IN VA24D3585-001
		Long Term	Short Term	2024-12-07 12:00	2024-12-14 17:53	2024-12-07 12:30	2024-12-14 11:53	
General Parameters								
pH - Field	pH units	- ²	-	5.5 - 9.0	8.7	7.4	9.3	6.5
Conductivity - Field	µS/cm	-	-	-	188	263	168	268
Temperature - Field	°C	-	-	-	8.7	6.1	7.7	6.0
Salinity - Field	ppt	-	-	-	0.13	0.20	0.12	0.20
Turbidity - Field	NTU	-	-	-	406.74	230.48	1049.07	390.87
TSS	mg/L	-	-	25 ⁶	182	154	1230	667
Dissolved Oxygen - Field	mg/L	>=8	-	-	11.63	12.32	11.82	12.1
Anions and Nutrients								
Sulphate	mg/L	-	-	-	23.8	60.0	26.4	57.9
Chloride	mg/L	-	-	-	6.67	10.6	7.51	11.9
Fluoride	mg/L	-	1.5	-	0.134	0.121	0.133	0.123
Ammonia (N-NH ₃)	mg/L	0.31-29 ³	2.1-191 ³	-	0.0912	0.199	0.129	0.325
Nitrite (N-NO ₂)	mg/L	-	-	-	0.114	0.0937	0.155	0.0942
Nitrate (N-NO ₃)	mg/L	3.7	339	-	2.05	3.85	4.06	4.89
Total Metals								
Aluminum, total (T-Al)	mg/L	-	-	-	24.6	10.9	64.4	35
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	-	0.00185	0.00185	0.00241	0.00197
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.0103	0.00398	0.0184	0.0089
Barium, total (T-Ba)	mg/L	-	-	-	0.232	0.0842	0.629	0.261
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000372	0.000164	0.000998	0.000511
Boron, total (T-B)	mg/L	1.2	-	-	0.034	0.038	<0.050	0.047
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	0.000364	0.000145	0.000925	0.000435
Chromium, total (T-Cr)	mg/L	-	-	-	0.0122	0.00455	0.0304	0.0139
Cobalt, total (T-Co)	mg/L	-	-	-	0.00739	0.00315	0.0207	0.00986
Copper, total (T-Cu)	mg/L	- ²	- ²	0.0043	0.0401	0.013	0.0973	0.0406
Iron, total (T-Fe)	mg/L	-	-	-	20.4	8.74	61.8	29.4
Lead, total (T-Pb)	mg/L	- ²	- ²	0.0035	0.0335	0.00921	0.0897	0.031
Manganese, total (T-Mn)	mg/L	-	-	-	0.598	0.375	1.75	1.06
Mercury, total (T-Hg)	mg/L	0.000016 ⁵	-	-	0.0000645	0.0000288	0.000123	0.000125
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0519	0.0554	0.056	0.058
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00684	0.00248	0.0173	0.00763
Selenium, total (T-Se)	mg/L	0.002	-	-	0.00037	0.000271	0.000575	0.000475
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	0.000127	0.00004	0.000355	0.000126
Thallium, total (T-Tl)	mg/L	-	-	-	0.00021	0.000056	0.000646	0.000198
Uranium, total (T-U)	mg/L	-	-	-	0.019	0.0147	0.0205	0.019
Vanadium, total (T-V)	mg/L	- ²	-	0.0081	0.0406	0.0184	0.108	0.0543
Zinc, total (T-Zn)	mg/L	- ²	- ²	0.0133	0.436	0.0558	0.307	0.132
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00253	0.0013	0.0037	0.00194
Dissolved Metals								
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000200	<0.0000450	<0.0000200	<0.0000450
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.0031	0.00159	0.00308	0.0015
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.443	<0.010	0.171	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.00108	<0.000050	0.000466	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0201	0.053	0.0085	0.0488
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.088	0.131	0.103	0.139
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00538	0.00279	0.00656	0.00329
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0044	0.0068	0.0018	0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/L	0.006	-	-	0.000065	0.000023	0.000126	0.000037
Acridine	mg/L	-	-	-	<0.000018	<0.000010	<0.000037	<0.000021
Anthracene	mg/L	-	-	-	0.000039	0.000011	0.000152	0.000032
Benz(a)anthracene	mg/L	-	-	-	0.000084	0.000019	0.000264	0.00006
Benzo(a)pyrene	mg/L	0.00001	-	-	0.0000712	0.0000184	0.000234	0.0000519
Chrysene	mg/L	0.0001	-	-	0.000084	0.000022	0.00028	0.000068
Fluoranthene	mg/L	-	-	-	0.000257	0.000063	0.000749	0.000186
Fluorene	mg/L	0.012	-	-	0.000053	0.000021	0.000114	0.000037
1-methylnaphthalene	mg/L	0.001	-	-	0.00002	0.000013	0.000036	0.000012
2-methylnaphthalene	mg/L	0.001	-	-	0.000026	0.000017	0.000048	0.000015
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050	0.000076	<0.000050
Phenanthrene	mg/L	-	-	-	0.000161	0.000046	0.000474	0.00011
Pyrene	mg/L	-	-	-	0.000232	0.000063	0.000678	0.000185
Quinoline	mg/L	-	-	-	0.000053	<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	-	-	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<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.

Results in **orange** text exceeded the PE-111578 East Sedimentation Pond Discharge Limit.

The East Sedimentation Pond discharged during the monitoring period (December 1 - 7) on December 8, 9, 10, 13, and 14.

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

² The WQG was not evaluated for parameters with discharge limits.

³ The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.

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

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

⁶ The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for Wet Conditions. Wet Conditions applied December 13 and 14.

Table B-3: East Catchment Methylmercury and Corresponding Total Mercury Results Received at the Time of Reporting.

Parameter					Total Methylmercury	Total Mercury
Unit					µg/L	µg/L
Lowest Applicable Guideline ¹					0.0001 ²	0.0098 – 0.020 ^{3,4}
Station	Water Type	Sample ID	Lab ID	Sampling Date		
Influent						
SP-E-IN	Influent	SP-E-IN	VA24D0519-001	2024-11-11	<u>0.000133</u>	<u>0.0318</u>
WWTP-E-IN	Influent	WWTP-E-IN	VA24D0512-001	2024-11-10	<u>0.000111</u>	<u>0.0109</u>
Effluent						
SP-E-OUT and WWTP-E-OUT ⁵	Effluent	WWTP-E-OUT	VA24D0512-002	2024-11-10	0.000039	0.0155

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 on this day, therefore these results are considered representative of water quality at station WWTP-E-OUT at the time of sampling.

Non-detect results are screened using the detection limit value.

Table B-4: East Catchment Dioxin and Furan Toxicity Equivalency Quantity (TEQ) Results Received at the Time of Reporting.

Parameter					Lower Bound PCDD/F TEQ	Upper Bound PCDD/F TEQ
Unit					pg/L	pg/L
Station	Water Type	Sample ID	Lab ID	Sampling Date		
Influent						
SP-E-IN	Influent	SP-E-IN	L2757939-1	2024-10-28	3.58	5.27
SP-E-IN	Influent	SP-E-IN	L2758088-1	2024-11-11	2.06	2.37
SP-E-IN	Influent	SP-E-IN	L2758141-2	2024-11-14	4.43	7.98
WWTP-E-IN	Influent	WWTP-E-IN	L2758090-1	2024-11-10	0.263	2.34
Effluent						
SP-E-OUT	Effluent	SP-E-OUT	L2757939-2	2024-10-27	0.0206	1.09
SP-E-OUT and WWTP-E-OUT ¹	Effluent	WWTP-E-OUT	L2758090-2	2024-11-10	0	1.59
SP-E-OUT and WWTP-E-OUT ¹	Effluent	SP-E-OUT	L2758120-1	2024-11-13	0.594	2.14

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 on this day, therefore these results are considered representative of water quality at station WWTP-E-OUT at the time of sampling.

Table B-5: East Catchment Field Measurements Collected During the Monitoring Period (December 8 – 14).

Parameter			Temp.	Dissolved Oxygen (DO)	Salinity	Turbidity	Estimated TSS ³	pH	Conductivity	Visibility of Sheen
Unit			°C	mg/L	ppt	NTU	mg/L	s.u.	µS/cm	
PE-111578 Discharge Limit			-	-	-	-	25 or 75 ⁶	5.5 - 9.0	-	-
Lowest Applicable Guideline¹			-	>=8	-	-	- ²	- ²	-	-
Station ID	Water Type	Date								
Influent⁴										
SP-E-IN	Influent	2024-12-08 10:23	7.2	12.63	0.13	139.56	107.1	7.7	177	No
SP-E-IN	Influent	2024-12-09 12:31	6.9	12.90	0.16	21.86	19.3	8.2	215	No
SP-E-IN	Influent	2024-12-14 11:53	6.0	12.10	0.20	390.87	294.5	6.5	268	No
WWTP-E-IN	Influent	2024-12-08 10:16	7.2	11.95	0.13	170.39	130.1	8.3	183	No
WWTP-E-IN	Influent	2024-12-09 12:13	8.3	12.67	0.37	93.17	72.5	6.2	507	No
WWTP-E-IN	Influent	2024-12-14 17:53	6.1	12.32	0.20	230.48	174.9	7.4	263	No
E500GPM-IN	Influent	2024-12-08 10:28	7.1	11.84	0.13	174.37	133.0	8.5	181	No
E500GPM-IN	Influent	2024-12-09 12:23	7.1	12.52	0.16	133.38	102.5	8.2	222	No
E500GPM-IN	Influent	2024-12-13 12:14	6.4	12.59	0.19	27.89	23.8	7.1	255	No
E500GPM-IN	Influent	2024-12-14 18:18	7.0	12.41	0.09	677.34	508.2	7.4	118	No
Effluent⁵										
SP-E-OUT ⁵	Effluent	2024-12-08 ⁵	8.0 ⁵	- ⁵	- ⁵	6.23 ⁵	7.6 ⁵	6.9 ⁵	- ⁵	- ⁵
SP-E-OUT ⁵	Effluent	2024-12-09 ⁵	7.0 ⁵	- ⁵	- ⁵	4.21 ⁵	6.1 ⁵	5.9 ⁵	- ⁵	- ⁵
SP-E-OUT ⁵	Effluent	2024-12-10 ⁵	4.6 ⁵	- ⁵	- ⁵	3.85 ⁵	5.9 ⁵	5.9 ⁵	- ⁵	- ⁵
SP-E-OUT ⁵	Effluent	2024-12-13 ⁵	5.9 ⁵	- ⁵	- ⁵	1.16 ⁵	3.9 ⁵	6.9 ⁵	- ⁵	- ⁵
SP-E-OUT	Effluent	2024-12-14 16:38	6.0	12.97	0.22	2.07	4.5	7.0	293	No
WWTP-E-OUT	Effluent	2024-12-08 10:19	8.4	11.91	0.21	2.92	5.2	6.3	290	No
WWTP-E-OUT	Effluent	2024-12-09 12:09	8.8	12.51	0.36	26.75	23.0	6.2	512	No
WWTP-E-OUT	Effluent	2024-12-10 13:25	7.1	11.02	0.15	3.18	5.4	5.8	205	No
WWTP-E-OUT	Effluent	2024-12-14 18:07	6.5	12.68	0.41	0.75	3.6	6.4	540	No
E500GPM-OUT	Effluent	2024-12-08 10:34	7.1	13.33	0.13	125.42 ⁷	96.5 ⁷	8.4	172	No
E500GPM-OUT	Effluent	2024-12-09 12:27	7.0	12.97	0.16	5.63	7.2	8.2	217	No
E500GPM-OUT	Effluent	2024-12-13 12:20	4.4	12.31	0.17	4.32	6.2	7.9	220	No
E500GPM-OUT	Effluent	2024-12-14 17:00	6.4	14.26	0.18	4.55	6.4	7.8	236	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-111578 East Sedimentation Pond Discharge Limit.

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 TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.

⁴ Site staff noted there was no active input of influent to the pond at the time of monitoring on December 10, 11, 12, and 13, therefore daily measurements for station SP-E-IN were not collected.

⁵ On December 8, 9, 10 and 13 field measurements were not collected at SP-E-OUT because there was no discharge at the time of monitoring; average temperature, turbidity and pH measurements logged at the SP-E-OUT meter box during the discharge period are reported. There was no discharge December 11 and 12, therefore daily measurements for SP-E-OUT were not collected on those days.

⁶ The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for Wet Conditions. Wet Conditions applied December 13 and 14.

⁷ On December 8, East WWTP treated effluent and clarified effluent were combined and discharged at SP-E-OUT. Although elevated turbidity was measured in the East TSS settling system effluent (E500GPM-OUT) on December 8 (125.42 NTU), high-frequency automated turbidity measurements at the SP-E-OUT meter box indicate TSS met the discharge limit on December 8.

Table B-6: East Catchment Daily Discharge Volumes for the Monitoring Period (December 8 – 14).

	East Sedimentation Pond Effluent	East TSS Settling System (E500GPM) Clarified Effluent (Station E500GPM-OUT)	East WWTP Treated Effluent (Station WWTP-E-OUT)	Discharge to Howe Sound (Station SP-E-OUT)
Unit	m³	m³	m³	m³
PE-111578 Discharge Limit	- ¹	- ¹	1100	- ¹
Date				
2024-12-08	0	835	735	1,570
2024-12-09	0	0	405	405
2024-12-10	0	164	543	707
2024-12-11	0	0	0	0
2024-12-12	0	0	0	0
2024-12-13	0	384	0	384
2024-12-14	0	332	38	370

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-111578 East Sedimentation Pond Discharge Limit.

¹ The annual average authorized discharge rate from the East Sedimentation Pond is 650 m³/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.

Appendix C: West Catchment Monitoring Results

Table C-3: West Catchment Methylmercury and Corresponding Total Mercury Results Received at the Time of Reporting.

Parameter					Total Methylmercury	Total Mercury
Unit					µg/L	µg/L
Lowest Applicable Guideline ¹					0.0001 ²	0.0039 – 0.019 ^{3,4}
Station	Water Type	Sample ID	Lab ID	Sampling Date		
Influent						
SP-W-IN	Influent	SP-W-IN	VA24D0512-003	2024-11-10	0.000063	0.00560
SP-W-IN	Influent	SP-W-IN	VA24D1840-001	2024-11-23	<u>0.000144</u>	<u>0.0274</u>
Effluent						
SP-W-OUT and ESC-W-OUT ⁵	Effluent	ESC-W-OUT	VA24D0512-004	2024-11-10	0.000037	0.00143

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, therefore results are also considered representative of water quality at station ESC-W-OUT at the time of sampling.

Table C-4: West Catchment Dioxin and Furan Toxicity Equivalency Quantity (TEQ) Results Received at the Time of Reporting.

Parameter					Lower Bound PCDD/F TEQ	Upper Bound PCDD/F TEQ
Unit					pg/L	pg/L
Station	Water Type	Sample ID	Lab ID	Sampling Date		
Influent						
SP-W-IN	Influent	SP-W-IN	L2758090-3	2024-11-10	0.0715	1.93
SP-W-IN	Influent	SP-W-IN	L2758141-1	2024-11-14	0.516	2.58
Effluent						
SP-W-OUT and ESC-W-OUT ¹	Effluent	ESC-W-OUT	L2758090-4	2024-11-10	0.00735	1.33
SP-W-OUT and ESC-W-OUT ¹	Effluent	SP-W-OUT	L2758120-2	2024-11-13	0.427	1.78

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, therefore results at station SP-W-OUT are considered representative of water quality at Station ESC-W-OUT, and vice versa.

Table C-5: West Catchment Field Measurements Collected During the Monitoring Period (December 8 – 14).

Parameter			Temperature	Dissolved Oxygen (DO)	Salinity	Turbidity	Estimated TSS ³	pH	Conductivity	Visibility of Sheen
Unit			°C	mg/L	ppt	NTU	mg/L	s.u.	µS/cm	
PE-111578 Discharge Limit			-	-	-	-	25 or 75 ⁶	5.5 - 9.0	-	-
Lowest Applicable Guideline¹			-	≥8	-	-	- ²	- ²	-	-
Station ID	Water Type	Date								
Influent⁴										
SP-W-IN	Influent	2024-12-08 15:37	8.1	11.92	0.04	34.11	28.4	7.2	56	No
SP-W-IN	Influent	2024-12-14 12:37	5.6	12.42	0.06	130.02	100.0	8.4	75	No
W500GPM-IN	Influent	2024-12-08 15:31	7.8	12.02	0.06	2.39	4.8	7.6	92	No
W500GPM-IN	Influent	2024-12-10 12:46	5.5	12.10	0.07	88.57	69.1	7.3	88	No
W500GPM-IN	Influent	2024-12-12 16:18	6.6	12.47	0.05	32.56	27.3	7.7	73	No
ESC-W-IN	Influent	2024-12-13 16:14	5.1	13.10	0.05	15.38	14.5	7.8	69	No
ESC-W-IN	Influent	2024-12-14 15:57	5.6	12.54	0.05	43.60	35.5	7.8	63	No
Effluent⁵										
SP-W-OUT ⁵	Effluent	2024-12-08 ⁵	- ⁵	- ⁵	- ⁵	- ⁵	- ⁵	- ⁵	- ⁵	- ⁵
SP-W-OUT	Effluent	2024-12-10 13:06	5.5	12.10	0.07	6.31	7.7	7.8	92	No
SP-W-OUT ⁵	Effluent	2024-12-12 16:56	5.1 ⁵	13.55 ⁵	0.05 ⁵	7.55 ⁵	8.6 ⁵	7.7 ⁵	70 ⁵	No ⁵
SP-W-OUT	Effluent	2024-12-13 16:06	5.3	13.39	0.05	4.97	6.7	7.6	71	No
SP-W-OUT	Effluent	2024-12-14 18:27	6.2	12.45	0.05	0.63	3.5	7.9	68	No
W500GPM-OUT	Effluent	2024-12-08 15:30	7.8	11.97	0.06	1.93	4.4	7.5	91	No
W500GPM-OUT	Effluent	2024-12-10 12:11	6.0	13.08	0.07	6.51	7.9	7.8	92	No
W500GPM-OUT	Effluent	2024-12-12 16:36	5.5	13.56	0.05	5.88	7.4	7.7	72	No
W500GPM-OUT	Effluent	2024-12-14 15:45	7.3	10.33	0.06	6.68	8.0	7.8	87	No
ESC-W-OUT ⁵	Effluent	2024-12-08 ⁵	7.5 ⁵	- ⁵	- ⁵	14.5 ⁵	13.5 ⁵	8.2 ⁵	- ⁵	- ⁵
ESC-W-OUT	Effluent	2024-12-09 11:46	6.6	10.20	0.07	4.33	6.2	7.7	97	No
ESC-W-OUT ⁵	Effluent	2024-12-12 ⁵	6.8 ⁵	- ⁵	- ⁵	2.87 ⁵	5.1 ⁵	7.1 ⁵	- ⁵	- ⁵
ESC-W-OUT	Effluent	2024-12-13 16:06	5.3	13.39	0.05	4.97	6.7	7.6	71	No
ESC-W-OUT	Effluent	2024-12-14 16:09	6.2	12.93	0.05	2.73	5.0	7.6	75	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-111578 West Sedimentation Pond Discharge Limit.

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 TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.

⁴ Site staff noted there was no active input of influent sources to the pond at the time of monitoring on December 9, 10, 11, 12, and 13, therefore daily measurements for station SP-W-IN were not collected on these days.

⁵ On December 8 field measurements were not collected at SP-W-OUT because there was no discharge at the time of monitoring. Field measurements were not collected at ESC-W-OUT on December 8, therefore average temperature, turbidity, and pH measurements logged at the meter box during the discharge period are reported. Field measurements were not collected from station SP-W-OUT on December 9 and 11 because there was no discharge. December 12 field measurements were collected from the SP-W-OUT sampling port, however the sample monitored at SP-W-OUT was W500GPM TSS settling system effluent that was recirculated to the West Sedimentation Pond on that day. The ESC TSS settling system clarified effluent was discharged to Howe Sound on December 12 and field measurements were not collected therefore average meter box readings are reported for temperature, turbidity, and pH.

⁶ The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions. Wet Conditions applied December 13 and 14.

Table C-6: West Catchment Daily Discharge Volumes for the Monitoring Period (December 8 – 14).

	West Sedimentation Pond Effluent	West TSS Settling System (W500GPM) Clarified Effluent (Station W500GPM-OUT)	West TSS Settling System (ESC) Clarified Effluent (Station ESC-W-OUT)	West WWTP Treated Effluent ¹ (Station WWTP-W-OUT)	Discharge to Howe Sound (Station SP-W-OUT)
Unit	m³	m³	m³	m³	m³
PE-111578 Discharge Limit	- ²	- ²	- ²	1100	- ²
Date					
2024-12-08	0	577	134	0	711
2024-12-09	0	0	0	0	0
2024-12-10	0	125	0	0	125
2024-12-11	0	0	0	0	0
2024-12-12	0	0	213	0	213
2024-12-13	0	0	525	0	525
2024-12-14	0	0	487	0	487

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-111578 West Sedimentation Pond Discharge Limit.

¹ The West WWTP is not being operated, therefore discharges are not expected from this facility.

² The annual average authorized discharge rate from the West Sedimentation Pond is 310 m³/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.

Appendix D: Non-Contact Water Diversion Ditch Outlets Results

Table D-1: 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-06	Station OUT-01	Station OUT-02
			Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet
			OUT-06	OUT-01	OUT-02
			VA24D0615-001	VA24D0618-001	VA24D0618-002
			2024-11-11	2024-11-12	2024-11-12
Total Methylmercury	µg/L	0.0001 ²	0.000030	0.000029	0.000023
Total Mercury	µg/L	0.010-0.017 ^{3,4}	0.00503	0.00299	0.00396

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 E: Freshwater Receiving Environment Results

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

Parameter	Unit	Lowest Applicable Guideline ¹	Station SW-01
			Lower Reach of Woodfibre Creek (near the mouth)
			SW-01
			VA24D0618-003
			2024-11-12
Total Methylmercury	µg/L	0.0001 ²	<0.000020
Total Mercury	µg/L	0.0092 ^{3,4}	0.00184

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.

Table E-2: Summary of Freshwater Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station SW-01
		Lower Reach of Woodfibre Creek (near the mouth)
		SW-01
		L2758119-1
		2024-11-12
Lower Bound PCDD/F TEQ	pg/L	0.0227
Upper Bound PCDD/F TEQ	pg/L	0.887

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 F: Marine Water Receiving Environment Results

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

Parameter	Unit	Lowest Applicable Guideline ¹		Station IDZ-E1			Station IDZ-E2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				IDZ-E1-0.5	IDZ-E1-2m	IDZ-E1-SF	IDZ-E2-0.5	IDZ-E2-2m	IDZ-E2-SF
				VA24D2018-004	VA24D2018-005	VA24D2018-006	VA24D2018-007	VA24D2018-008	VA24D2018-009
		Long Term	Short Term	2024-11-26 10:30	2024-11-26 10:32	2024-11-26 10:34	2024-11-26 10:14	2024-11-26 10:12	2024-11-26 10:10
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.52	7.42	7.34	7.52	8.50	7.34
Specific Conductivity - Field	µS/cm	-	-	21424	28572	32823	23629	27669	32827
Temperature - Field	°C	-	-	7.1	8.6	9.4	7.4	8.5	9.4
Salinity - Field	ppt	Narrative ²	-	20.15	26.47	30.16	22.26	25.63	30.19
Turbidity - Field	NTU	Narrative ²	Narrative ²	1.45	1.25	1.28	1.29	1.07	1.10
TSS	mg/L	Narrative ²	Narrative ²	<2.0	<2.0	2.2	<2.0	<2.0	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	8.61	6.93	4.01	9.25	7.18	4.00

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. Salinity WQG was not evaluated. The water quality data presented in the table were collected when the site was discharging, therefore the turbidity and TSS WQGs were evaluated. Background values are the maximum measured in the November 19 WQR1 and WQR2 reference station samples at the 0.5 m depth (1.80 NTU and <2.0 mg TSS/L) (Report #43). In the absence of reference samples collected on November 26, it is considered reasonable to use the November 19 reference stations as background stations for November 26 IDZ samples.

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

Parameter	Unit	Lowest Applicable Guideline ¹		Station IDZ-W1		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				IDZ-W1-0.5	IDZ-W1-2m	IDZ-W1-SF
				VA24D2018-001	VA24D2018-002	VA24D2018-003
		Long Term	Short Term	2024-11-26 10:55	2024-11-26 10:57	2024-11-26 10:59
General Parameters						
pH - Field	pH units	7.0 - 8.7	-	7.53	7.50	7.34
Specific Conductivity - Field	µS/cm	-	-	22014	23138	32861
Temperature - Field	°C	-	-	7.0	7.3	9.4
Salinity - Field	ppt	Narrative ²	-	20.82	21.78	30.21
Turbidity - Field	NTU	Narrative ²	Narrative ²	1.28	1.17	1.06
TSS	mg/L	Narrative ²	Narrative ²	<2.0	<2.0	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	8.79	8.24	3.88

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. Salinity WQG was not evaluated. The water quality data presented in the table were collected when the site was discharging, therefore the turbidity and TSS WQGs were evaluated. Background values are the maximum measured in the November 19 WQR1 and WQR2 reference station samples at the 0.5 m depth (1.80 NTU and <2.0 mg TSS/L) (Report #43). In the absence of reference samples collected on November 26, it is considered reasonable to use the November 19 reference stations as background stations for November 26 IDZ samples.

Table F-3: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline ¹		Station IDZ-E1			Station IDZ-E2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				IDZ-E1-0.5	IDZ-E1-2m	IDZ-E1-SF	IDZ-E2-0.5	IDZ-E2-2m	IDZ-E2-SF
				VA24D3223-001	VA24D3223-002	VA24D3223-003	VA24D3223-004	VA24D3223-005	VA24D3223-006
		Long Term	Short Term	2024-12-10 14:30	2024-12-10 14:35	2024-12-10 14:40	2024-12-10 11:45	2024-12-10 11:50	2024-12-10 11:55
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.5	7.4	7.3	7.5	7.4	7.3
Specific Conductivity - Field	µS/cm	-	-	18737	27191	33288	15718	23896	33880
Temperature - Field	°C	-	-	6.4	8.1	9.6	6.0	7.3	9.7
Salinity - Field	ppt	Narrative ²	-	17.75	25.43	30.44	14.84	22.57	31.0
Turbidity - Field	NTU	Narrative ²	Narrative ²	1.64	1.17	1.03	2.10	1.48	1.25
TSS	mg/L	Narrative ²	Narrative ²	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	11.04	8.96	5.48	10.93	9.07	5.15

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. Salinity WQG was not evaluated. The water quality data presented in the table were collected when the site was discharging, therefore the turbidity and TSS WQGs were evaluated. Background values are the maximum measured in the December 5 WQR1 and December 6 WQR2 reference station samples at the 0.5 m depth (2.03 NTU and <2.0 mg TSS/L). In the absence of reference samples collected on December 10, it is considered reasonable to use the December 5 and 6 reference stations as background stations for December 10 IDZ samples.

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

Parameter	Unit	Lowest Applicable Guideline ¹	Station IDZ-E2		
			0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
			IDZ-E2-0.5	IDZ-E2-2m	IDZ-E2-SF
			VA24D0610-001	VA24D0610-002	VA24D0610-003
			2024-11-12	2024-11-12	2024-11-12
Total Methylmercury	µg/L	0.0001 ²	0.000022	0.000028	<0.000020
Total Mercury	µg/L	0.0044-0.0076 ^{3,4}	0.00167	0.00123	0.00105

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 F-5: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-W1			Station IDZ-W2		
		0.5 m Below Surface	2 m Below Surface	2 m Above the Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above the Seafloor
		IDZ-W1-0.5	IDZ-W1-2m	IDZ-W1-SF	IDZ-W2-0.5	IDZ-W2-2m	IDZ-W2-SF
		L2757978-3	L2757978-5	L2757978-7	L2757978-4	L2757978-6	L2757978-8
		2024-10-30	2024-10-30	2024-10-30	2024-10-30	2024-10-30	2024-10-30
Lower Bound PCDD/F TEQ	pg/L	0.109	0.0192	0.00756	0.000239	0.000642	0.000630
Upper Bound PCDD/F TEQ	pg/L	1.63	1.31	1.20	1.13	1.15	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.

Table F-6: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Reference Station WQR2			Station IDZ-E1		
		0.5 m Below Surface	2 m Below Surface	2 m Above the Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above the Seafloor
		WQR2-0.5	WQR2-2m	WQR2-SF	IDZ-E1-0.5	IDZ-E1-2m	IDZ-E1-SF
		L2758003-1	L2758003-2	L2758003-3	L2758097-1	L2758097-2	L2758097-3
		2024-11-02	2024-11-02	2024-11-02	2024-11-10	2024-11-10	2024-11-10
Lower Bound PCDD/F TEQ	pg/L	0.000690	0.000837	0.000765	0.0252	0.0240	0.0395
Upper Bound PCDD/F TEQ	pg/L	0.606	0.877	1.05	1.26	1.24	2.02

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-7: Summary of Marine Water Quality Results for Dioxins and Furans Received at the Time of Reporting.

Parameter	Unit	Station IDZ-E2		
		0.5 m Below Surface	2 m Below Surface	2 m Above the Seafloor
		IDZ-E2-0.5	IDZ-E2-2m	IDZ-E2-SF
		L2758096-1	L2758096-2	L2758096-3
		2024-11-12	2024-11-12	2024-11-12
Lower Bound PCDD/F TEQ	pg/L	0.00163	0.00259	0.0322
Upper Bound PCDD/F TEQ	pg/L	1.31	1.48	1.41

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.