

TECHNICAL MEMORANDUM

To: Ian McAllister, Ashleigh Crompton, Mike Champion, Mark Zan and Ryan Schucroft (Woodfibre LNG) **Date:** 23 May 2025

From: Holly Pelletier, Cheng Kuang and Patrick Mueller (Lorax) **Project #:** A633-9

Subject: PE-111578 Weekly Discharge and Compliance Report #64 for May 11 - May 17

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 #64) was prepared by Lorax Environmental and summarizes WDA monitoring conducted for the period of May 11 - May 17. 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 #64 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 and treated water samples.

1. Current Conditions

1.1 Water Management Infrastructure

The Construction Phase of the Woodfibre LNG Export Facility commenced in October 2023. Shoring works along the foreshore areas were initiated in December 2023, and in early 2024 construction of water management infrastructure commenced. Land-based construction occurs within two water management areas east and west of Mill Creek, referred to as the east and west catchments, respectively. Non-contact water is intercepted and diverted around the construction areas to Howe Sound and Mill Creek. Stormwater runoff collected within the east and west catchment areas (7.12 and 5.92 ha, respectively) is managed as site contact water and is conveyed to the East Wastewater Treatment Plant (WWTP) for treatment or to the East and West Sedimentation Ponds for settling of suspended particulate. Discharge to Howe Sound from the East and West Sedimentation Ponds commenced April and October 2024, respectively.

The West WWTP was commissioned August and September 2024, but operation of the West WWTP was subsequently suspended September 25, 2024 for temporary reconfiguration to conduct pilot-scale evaluations of alternative treatment processes. The evaluations were completed April 2025 and did not yield improved treatment outcomes; therefore, the approved treatment process is maintained. Lower than expected volumes of contaminated contact water have been encountered during construction, therefore the operation of the West WWTP remains suspended and west catchment waters that require treatment are directed to the East WWTP.

Non-contact water diversion ditches west of Mill Creek have been upgraded and the ditches 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 (station SW-04), the lower reach of East Creek was temporarily diverted to an adjacent culvert, OUT-11, on September 17, 2024.

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 WWTP for treatment, or 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 pond effluent. The first West Sedimentation Pond TSS settling system (ESC)

was commissioned for use on September 25, 2024, with an 820 m³/day installed capacity. A second TSS settling system (W500GPM) was commissioned for use on November 28 and provides an additional 2,725 m³/day installed capacity for clarifying water. A third TSS settling system (E500GPM) was commissioned for use at the East Sedimentation Pond on December 4, 2024, also with 2,725 m³/day installed capacity. Preparations are underway for the next stages of construction that will include further upgrades to water management in the east and west catchments. The upgrades will consolidate the three TSS settling systems currently on site into a single high capacity system located adjacent to the West Sedimentation Pond with a staged commissioning that is planned to commence in August 2025.

Discharge from the East and West Sedimentation Ponds is controlled using pumps. Water stored in the ponds is pumped to a TSS settling system prior to discharge through the authorized outfall structures adjacent to each pond. Some of the TSS clarified water may be recirculated back to the ponds or used for road dust suppression. Non-contaminated contact water stored in the East Sedimentation Pond is clarified through the E500GPM prior to re-use or discharge to Howe Sound at location SP-E-OUT. 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 (SP-E-OUT and SP-W-OUT) has an initial dilution zone (IDZ) where discharged water mixes with Howe Sound surface waters. The IDZ is defined in PE-111578 and extends in a 150 m radius 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

A mix of sunny and cloudy conditions were observed during the monitoring period (May 11 - May 17), with precipitation recorded on May 13, 15, 16, and 17. The total precipitation amount during the monitoring period was 16.4 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
2025-05-11	0	16.6	9.2	Mix of Sun and Cloud
2025-05-12	0	18.4	7.3	Mix of Sun and Cloud
2025-05-13	0.2	17.9	8.4	Mix of Sun and Cloud
2025-05-14	0	17.9	10.9	Mix of Sun and Cloud
2025-05-15	4.2	12.0	8.8	Mix of Sun and Cloud
2025-05-16	4.6	13.3	8.7	Mix of Sun and Cloud
2025-05-17	7.4	13.4	9.0	Mix of Sun and Cloud

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

From May 11 - May 17, the East Sedimentation Pond received non-contaminated contact water from Area 1100 North Collection Sump, Area 1100 Trench 10, and recirculated water from the

East WWTP and E500GPM TSS settling system (Appendix A, Figure 2). Non-contaminated contact waters from Area 4100 Collection Sump were directed to the West Sedimentation Pond, as well as recirculated water from the W500GPM and ESC TSS settling systems (Appendix A, Figure 3).

Routine operation of the East WWTP continued during the monitoring period (May 11 - May 17). Concrete contact waters 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). East WWTP treated effluent was discharged to the East Sedimentation Pond each day during the monitoring period (May 11 - May 17). Pond effluent was clarified through the E500GPM TSS settling system and recirculated as influent to the East Sedimentation Pond on May 11 and 12. Effluent was not discharged to Howe Sound (station SP-E-OUT) during the monitoring period. Daily water volumes processed by the East WWTP and the East TSS settling system (E500GPM) are provided in Appendix B (Table B-5).

West Sedimentation Pond effluent was clarified through the W500GPM system and recirculated to the West Sedimentation Pond or used for road dust suppression each day during the monitoring period (May 11 - May 17). The West ESC (150 GPM) TSS settling system was not operational. Effluent was not discharged to Howe Sound (station SP-W-OUT) during the monitoring period. Daily clarified effluent volumes from the TSS settling systems are provided in Appendix C (Table C-5).

2. Monitoring Summary

The locations of compliance and supplementary monitoring stations are shown on Figure 1. 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 compliance and supplementary monitoring stations are currently being monitored:

- Non-contact diversion ditch outlet monitoring stations (OUT-01, OUT-02, OUT-06, and OUT-11). East Creek water was temporarily diverted to OUT-11 on September 17, 2024 and is monitored at the inlet to temporary diversion (station SW-04), therefore OUT-11 is not currently monitored.
- Creek water monitoring stations for Woodfibre, Mill and East Creek (SW-01, SW-02, SW-03, SW-04, SW-07).
- Contact water monitoring locations (SP-E-IN, E500GPM-IN, E500GPM-OUT, WWTP-E-IN, WWTP-E-OUT, SP-W-IN, ESC-W-IN, ESC-W-OUT, W500GPM-IN and W500GPM-OUT).
- Effluent compliance stations (SP-E-OUT and SP-W-OUT).

- Howe Sound reference and IDZ monitoring stations (WQR1, WQR2, IDZ-E1, IDZ-E2, IDZ-W1, and IDZ-W2).

The influent culverts for East and West Sedimentation Ponds are not 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 been replaced with temporary influent monitoring stations SP-E-IN and SP-W-IN (East and West Sedimentation Pond, respectively) located in-pond, at the influent end of each pond.

Two flocculant-based TSS settling systems are used at the West Sedimentation Pond (ESC and W500GPM) as described in Section 1.1. Influent and effluent are monitored for each system at stations ESC-W-IN, ESC-W-OUT, W500GPM-IN and W500GPM-OUT. One TSS settling system (E500GPM) is used at the East Sedimentation Pond (Section 1.1). Influent and effluent are monitored at stations E500GPM-IN and E500GPM-OUT, respectively. The TSS settling system stations are supplemental to the PE-111578 monitoring requirements and are monitored at the discretion of field staff.

Water quality was monitored at stations SW-01, SW-02, SW-03, SW-04, SW-07, IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WWTP-E-IN, WWTP-E-OUT, SP-E-IN, E500GPM-IN, E500GPM-OUT, SP-W-IN, W500GPM-IN, and W500GPM-OUT during the monitoring period (May 11 - May 17). Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (May 11 - May 17) were met.

Daily field parameters and a weekly analytical sample were not collected at the east and west catchment effluent stations (SP-E OUT and SP-W-OUT) during the monitoring period (May 11 - May 17) as there was no discharge to Howe Sound on those days. 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 it was not operational during the monitoring period.

The spring high frequency (5-in-30) monitoring requirements for receiving environment stations were met in April and May. Non-contact diversion ditch outlet stations OUT-01 and OUT-06 were not sampled after the first two of the five sampling events, and station OUT-02 was not sampled in the final sampling event, as water was not discharging from the stations at the time of monitoring.

Table 2: Summary of PE-111578 Monitoring Samples Collected May 11 - May 17.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency		
May 11, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D		
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D		
	WWTP-E-OUT	East WWTP at the effluent meter box				
	E500GPM-IN	East 500 GPM TSS settling system at the influent meter box	Field Parameters.	P		
	E500GPM-OUT	East 500 GPM TSS settling system at the effluent meter box				
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D		
	W500GPM-IN	West 500 GPM TSS settling system at the influent meter box	Field Parameters.	P		
W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box					
May 12, 2025	SP-E-IN	East Sedimentation Pond monitored at cell 1 of the pond	Field Parameters.	D		
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D		
	WWTP-E-OUT	East WWTP at the effluent meter box				
	E500GPM-IN	East 500 GPM TSS settling system at the influent meter box	Field Parameters.	P		
	E500GPM-OUT	East 500 GPM TSS settling system at the effluent meter box				
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D		
	W500GPM-IN	West 500 GPM TSS settling system at the influent meter box	Field Parameters.	P		
W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box					
May 13, 2025	SW-01	Lower Reach of Woodfibre Creek (near the mouth)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans	M		
	SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)				
	SW-07	Upstream Mill Creek (at the diversion inlet)				
May 14, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	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	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				
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D		
	W500GPM-IN	West 500 GPM TSS settling system at the influent meter box	Field Parameters.	P		
	W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box				
	SW-02	Lower Reach of Mill Creek (upstream of the third bridge)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans	M		
SW-03	Mill Creek Estuary					
May 15, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D		
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D		
	WWTP-E-OUT	East WWTP at the effluent meter box				
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	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 500 GPM TSS settling system at the influent meter box	Field Parameters.	P		
	W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	P		
	IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	Field and Physical Parameters.	W ₃		
	IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface				
	IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor				
	IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface				
	IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface				
	IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor				
	IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface				
	IDZ-W1-2m	Howe Sound IDZ station W1; 2 m below surface				
	IDZ-W1-SF	Howe Sound IDZ station W1; 2 m above the seafloor				
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					
May 16, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond			Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box			Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box				
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D		
	W500GPM-IN	West 500 GPM TSS settling system at the influent meter box	Field Parameters.	P		
	W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box				
May 17, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D		
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D		
	WWTP-E-OUT	East WWTP at the effluent meter box				
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D		
	W500GPM-IN	West 500 GPM TSS settling system at the influent meter box	Field Parameters.	P		
	W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box				

Notes:

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

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

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

M₅ – spring high frequency (5-in-30) sampling for 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 field and physical parameters at IDZ stations.

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

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 a total of 210 polychlorinated dibenzo-*p*-dioxin (PCDD) and polychlorinated dibenzofuran (PCDF) compounds. A sub-set of 17 of the most toxic PCDDs and PCDFs are typically evaluated for toxicity by converting the individual parameter concentrations to toxic equivalent (TEQ) values that are summed and evaluated 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 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 to levels that could 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 included in this weekly report (Report #64) are listed below in Table 3. Testing for methylmercury, dioxins and furans typically requires up to four

weeks to complete. Analytical results not reported will be included in future weekly reports. Reporting of results is pending for the following samples and parameters:

- IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1, WQR2 collected March 25 at 0.5 m below surface (chronic toxicity)
- WQR1 and WQR2 collected April 11 (dioxins and furans)
- SW-02, SW-03, and SW-07 collected April 12 (dioxins and furans)
- SW-01 and SW-04 collected April 13 (dioxins and furans)
- IDZ-W1, IDZ-W2, WQR2 collected April 13 (dioxins and furans)
- IDZ-E1, IDZ-E2, WQR1 collected April 14 (dioxins and furans)
- SP-E-IN, SP-E-OUT, SP-W-IN, SP-W-OUT collected April 16 (dioxins and furans)
- WWTP-E-IN and WWTP-E-OUT collected April 19 (dioxins and furans)
- SW-02, SW-03, and SW-07 collected April 20 (dioxins and furans)
- SP-W-IN and SP-W-OUT collected April 21 (dioxins and furans)
- IDZ-W1, IDZ-W2, and WQR2 collected April 21 (methylmercury, dioxins and furans)
- SW-01 and SW-04 collected April 22 (dioxins and furans)
- IDZ-E1, IDZ-E2, and WQR1 collected April 23 (methylmercury, dioxins and furans)
- SP-E-IN, SP-E-OUT, WWTP-E-IN, and WWTP-E-OUT collected April 24 (dioxins and furans)
- SW-02, SW-03, and SW-07 collected April 28 (dioxins and furans)
- SW-01 and SW-04 collected April 29 (dioxins and furans)
- SP-E-IN and SP-W-IN collected May 2 (dioxins and furans)
- WWTP-E-IN and WWTP-E-OUT collected May 3 (dioxins and furans)
- IDZ-W1 and IDZ-W2 collected May 5 (methylmercury, dioxins and furans)
- IDZ-E1, IDZ-E2, WQR1, and WQR2 collected May 6 (methylmercury, dioxins and furans)
- IDZ-W1, IDZ-W2, and WQR2 collected May 7 (field and all analytical parameters)
- SP-W-IN and W500GPM-OUT collected May 9 (dioxins and furans)
- IDZ-E1, IDZ-E2 and WQR1 collected May 9 (field and all analytical parameters)
- SP-E-IN, WWTP-E-IN, and WWTP-E-OUT collected May 10 (dioxins and furans)
- SW-01 and SW-04 collected May 12 (field and all analytical parameters)
- SW-02, SW-03, and SW-07 collected May 13 (field and all analytical parameters)
- SP-E-IN, WWTP-E-IN, and WWTP-E-OUT collected May 14 (methylmercury, dioxins and furans)
- SP-W-IN and W500GPM-OUT collected May 15 (methylmercury, dioxins and furans)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #64.

Sample	Description	Sampling Date	Parameters Reported
SW-02	Lower Reach of Mill Creek (upstream of the third bridge)	April 28, 2025	Methylmercury.
SW-03	Mill Creek Estuary		
SW-07	Upstream Mill Creek (at the diversion inlet)		
SW-01	Lower Reach of Woodfibre Creek (near the mouth)	April 29, 2025	Methylmercury.
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	May 6, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
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		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR1-2m	Reference site 1; 2 m below surface		
WQR1-SF	Reference site 1; 2 m above the seafloor		
WQR2-0.5	Reference site 2; 0.5 m below surface		
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	May 9, 2024	Methylmercury.
W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box		
SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	May 10, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, and Methylmercury.
WWTP-E-IN	East WWTP at the influent meter box		
WWTP-E-OUT	East WWTP at the effluent meter box		
SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	May 14, 2024	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		
SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	May 15, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box		

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 (May 11 - May 17), the TSS settling system (E500GPM) was operated on May 11 and 12 and produced clarified East Sedimentation Pond effluent that was recirculated to the pond. The east catchment did not discharge during the monitoring period. Daily clarified effluent volumes, East WWTP treated effluent volumes, and discharge volumes from the east catchment are listed in Appendix B, Table B-5.

Field measurements were collected May 11 - May 17 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix B, Table B-4. Analytical samples collected on May 10 (stations SP-E-IN, WWTP-E-IN and WWTP-E-OUT, as discussed in Report #63) and May 14 (stations SP-E-IN, WWTP-E-IN and WWTP-E-OUT) were available at the time of reporting. Screening results for east catchment contact water quality are summarized in Table B-1 and Table B-2 of Appendix B.

Total copper was above the MDO in East WWTP effluent (WWTP-E-OUT) collected May 10 (Appendix B, Table B-2). East WWTP treated effluent is directed to the East Sedimentation Pond and there was no discharge to Howe Sound on May 10. This item is tracked in Table 4.

Methylmercury results were available for East Sedimentation Pond influent (SP-E-IN) and East WWTP influent and effluent (WWTP-E-IN and WWTP-E-OUT, respectively) collected May 10 (as discussed in Report #63). Methylmercury and total mercury were above the MDO in East WWTP effluent (WWTP-E-OUT) collected May 10 (Appendix B, Table B-3). East WWTP treated effluent is directed to the East Sedimentation Pond and there was no discharge from the pond to Howe Sound on that day.

3.4 West Catchment

The west catchment water quality monitoring results for stations at the West Sedimentation Pond, the TSS settling systems (ESC and W500GPM) and West WWTP monitoring stations, and the authorized discharge location 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 suspended (refer to Section 1.1) and monitoring results are therefore not available for the stations at this facility. 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 (May 11 - May 17), West Sedimentation Pond effluent was directed to the TSS settling system (W500GPM) each day and clarified effluent was recirculated to the pond or used for road dust suppression. The smaller TSS settling system (ESC) was not operational. The west catchment did not discharge to Howe Sound during the monitoring period. Daily clarified effluent and discharge volumes from the west catchment are summarized in Appendix C, Table C-5.

Field measurements were collected May 11 - May 17 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix C, Table C-4. Analytical samples collected May 15 (stations SP-W-IN and W500GPM-OUT) were available at the time of reporting. Screening results for west catchment contact water quality are tabulated in Table C-1 and Table C-2 of Appendix C.

Methylmercury results were available for West Sedimentation Pond influent (SP-W-IN) and W500GPM effluent (W500GPM-OUT) collected May 9 (as discussed in Report #63). Results are tabulated in Appendix C, Table C-3.

Field measurements and analytical results for samples collected at W500GPM-OUT met discharge limits and WQGs (Appendix C; Table C-2, Table C-3 and Table C-4).

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. 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.

There were no outstanding analytical results for non-contact water diversion ditch samples at the time of report preparation.

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 D (freshwater) and Appendix E (estuarine).

Methylmercury results were available at the time of reporting for freshwater and estuarine water samples collected at the lower freshwater reach of Mill Creek (SW-02), the Mill Creek estuary (SW-03) and upstream on Mill Creek (SW-07) on April 28 as well as near the mouth of Woodfibre Creek and East Creek (stations SW-01 and SW-04, respectively) on April 29 (as discussed in Report #62). The methylmercury concentrations met the WQG (0.0001 µg/L) and ranged from <0.000020 to 0.000026 µg/L in all of the samples collected from Mill Creek, East Creek, and Woodfibre Creek. The corresponding total mercury results also met WQGs. Results are tabulated in Appendix D, Table D-1 (freshwater) and Appendix E, Table E-1 (estuarine).

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 May 6 at IDZ-E1, IDZ-E2, and marine reference stations WQR1 and WQR2. The aforementioned marine

water samples reflect the fourth sampling event for the spring high frequency monitoring (5-in-30) requirement at IDZ-E1, IDZ-E2, WQR1 and WQR2.

Parameter concentrations met WQGs except dissolved oxygen and total boron in some samples (Appendix F; Tables F-1 and F-2). In samples collected at 2 m above the seafloor at marine reference stations WQR1 and WQR2, dissolved oxygen (6.98 and 6.94 mg/L, respectively) was below the lower limit of the WQG (8 mg/L). Total boron was above the WQG (1.2 mg/L) in samples collected at 2 m below the surface and 2 m above the seafloor at IDZ-E1, IDZ-E2, and WQR2, as well as at 2 m above the seafloor at WQR1, and concentrations ranged from 1.24 to 2.89 mg/L. Low concentrations of dissolved oxygen and elevated concentrations of total boron are indicative of influence from the deeper saline waters in the northern basin of Howe Sound and are a natural condition of marine water at the WDA monitoring stations. The dissolved oxygen and total boron concentrations observed at the IDZ monitoring stations are within concentrations that have been observed in the pre-construction baseline monitoring program or within background ranges observed at marine reference stations and are therefore not attributed to project influence.

4. Quality Control

This section presents the results of the quality control (QC) evaluation for the PE-111578 weekly report (Table 4). 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 4. Any items flagged for follow-up are carried forward to future reports until they are closed.

Table 4: Weekly Report QC Evaluations and Ongoing Items

QC Procedure	Observation	Investigation/Resolution
Reporting Period (May 11 - May 17, Report #64)		
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 for water management have been constructed, except for some of the conveyance ditches which require completion of site grading prior to installation. Sumps, pumps and hoses are used for temporary conveyance until the ditches are completed. The lower reach of East Creek has been temporarily diverted through OUT-11 outfall since September 17, 2024, to facilitate replacement of the East Creek outfall culvert (OUT-12). All monitoring stations have been established except at SP-E-IN-1, SP-E-IN-2, SP-W-IN-1 and SP-W-IN-2 where substitute stations are established in lieu of those listed in PE-111578 (refer to Section 2). This item remains open.
Pending Data	Analytical results not reported.	Analytical results and field parameters for receiving environment samples collected May 12 and 13 were not included with Report #64. Methylmercury, dioxins and furans results for contact water and treated water samples collected May 14 and 15 were not included with Report #64. The pending results will be included in future weekly reports when available. This item remains open.
Ongoing Items from Previous Weekly Reports		
Report #57: Pending Data	Analytical results not reported.	Chronic toxicity results for marine receiving environment samples collected March 25 were not included with Report #64. The pending results will be included in future weekly reports when available. This item remains open.
Report #59: Pending Data	Analytical results not reported.	Dioxins and furans results for receiving environment samples collected April 11 and 12 were not included with Report #64. The pending results will be included in future weekly reports when available. This item remains open.
Report #60: Pending Data	Analytical results not reported.	Dioxins and furans results for receiving environment, contact water, and treated water samples collected April 13, 14, 16, and 19 were not included with Report #64. The pending results will be included in future weekly reports when available. This item remains open.
Report #62: WWTP Performance Evaluation	Field pH, total copper, total mercury, total zinc, and hexavalent Cr above the MDO	This item was first noted in Report #46 (January 8 sample) and has been updated with January 14 results (Report #47), January 24 and January 28 results (Report #49), February 5 and 6 results (Report #50), February 10 results (Report #51), February 15 and 20 results (Report #52), February 24 results (Report #53), March 8 results (Report #55), March 17 results (Report #56), April 24 results (Reports #61 and #62), May 3 results (Report #63), and May 10 results (Report #64). The total copper concentrations were 0.00809, 0.00595, 0.00895, 0.00518, 0.00542, 0.00525, 0.00450, 0.00734, and 0.00464 mg/L in samples collected at WWTP-E-OUT on January 8, 14, 24, 28, February 24, March 8, 17, April 24, and May 10, respectively, and ranged from 0.00613 to 0.0108 mg/L in four replicate samples collected on February 15. The total mercury concentrations were 0.0355, 0.185, 0.223, 0.0882, 0.0101, 0.0269, and 0.0524 µg/L in samples collected on January 24, 30, February 20, 24, April 24, May 3, and May 10 respectively, and were 0.0615 and 0.0644 mg/L in two replicate samples collected February 15. The total zinc concentrations were 0.0137, 0.0152, and 0.0156 mg/L in the samples collected on January 24, February 20 and 24, and were 0.0223 and 0.0234 mg/L in two of four replicate samples collected February 15. Hexavalent chromium concentrations were 0.00197 and 0.00166 mg/L in samples collected January 24 and 28 at WWTP-E-OUT. Field pH was 9.1, 9.2, and 9.6 in samples collected at WWTP-E-OUT on February 5, 6 and 10, respectively. As of May 10, and since February/March, field pH and total metals have been consistently meeting MDOs except total copper (April/May) and total mercury (April/May). The WWTP is not designed to treat mercury, therefore possible contact water sources of mercury are being evaluated. Treatment performance for total copper continues to be monitored. This item remains open.
Report #61: Pending Data	Analytical results not reported.	Methylmercury results for receiving environment samples collected April 21 and 23 and dioxins and furans results for receiving environment, contact water and treated water samples collected April 20, 21, 22, 23, and 24 were not included with Report #64. The pending results will be included in future weekly reports when available. This item remains open.
Report #62: Discharge WQG Evaluation	Total mercury and methylmercury above WQG	Total mercury and methylmercury measured at station SP-E-OUT on April 24 (0.00851 and 0.000264 µg/L, respectively) were 2.6 times greater than the calculated WQG. Potential sources are being reviewed. This item remains open.
Report #62: Pending Data	Analytical results not reported.	Methylmercury results for receiving environment samples collected April 28 and 29 are discussed in Section 3.6 of Report #64. Dioxins and furans results for receiving environment samples collected April 28 and 29 and for contact water and treated water samples collected May 2 and 3 were not included with Report #64. The pending results will be included in future weekly reports when available. This item remains open.
Report #63: Pending Data	Analytical results not reported.	Analytical results and field parameters for receiving environment samples collected May 6 and for contact water and treated water samples collected May 10 are discussed in Sections 3.7 and 3.3 of Report #64, respectively. Analytical results and field parameters for receiving environment samples collected May 7 and 9 were not included with Report #64. Methylmercury, dioxins and furans results for receiving environment samples collected May 5 and 6 and contact water and treated water samples collected May 9 and 10 were not included with Report #64. 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.

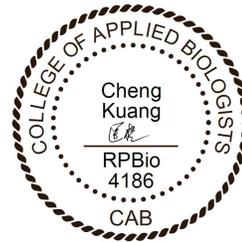
5. Closure

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.
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Environmental Chemist**

Appendix A: Figures and Site Images

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World Imagery: District of Squamish. Additional imagery provided by McDermott International captured April 28th, 2025.

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

DATE SAVED:	May 22, 2025
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: Water Management Facilities and Established PE-111578 Monitoring Stations (May 17, 2025)

PROJECT #: A633-7

FIGURE: 1



Figure 2: East Catchment contact water management facilities (May 11 - May 17).



Figure 3: West Catchment contact water management facilities (May 11 - May 17).

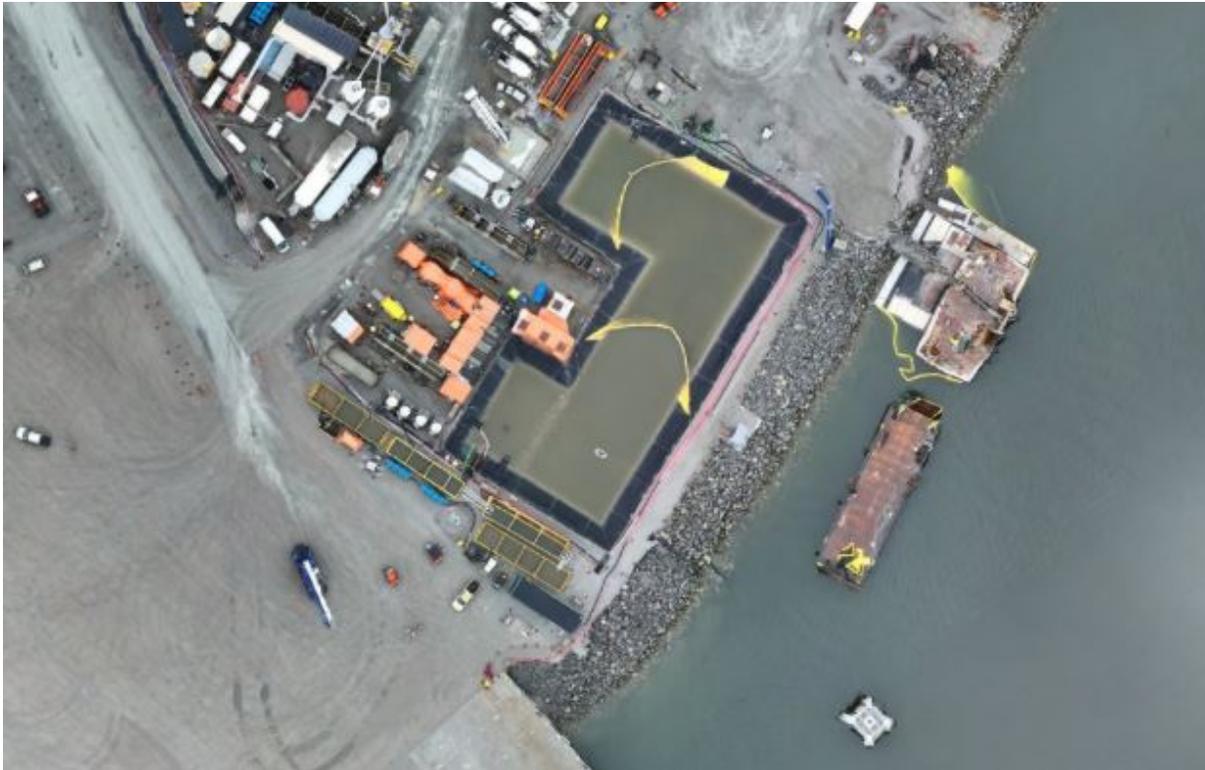


Figure 4: Aerial view of the East Sedimentation Pond (May 16, 2025). The East WWTP is located on the left side and the E500GPM TSS settling system is situated along the bottom edge of the pond.



Figure 5: Aerial view of the West Sedimentation Pond (May 16, 2025). 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
					Influent	Influent
		WWTP-E-IN VA25B0826-002	WWTP-E-IN VA25B1187-002			
		2025-05-10 12:30	2025-05-14 7:30			
General Parameters						
pH - Field	pH units	- ²	-	5.5 - 9.0	7.4	7.5
Conductivity - Field	µS/cm	-	-	-	1238	1701
Temperature - Field	°C	-	-	-	16.4	17.7
Salinity - Field	ppt	-	-	-	0.75	1.01
Turbidity - Field	NTU	-	-	-	8.65	11.11
TSS	mg/L	-	-	25 or 75 ⁶	45.1	10.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	10.63	9.67
Anions and Nutrients						
Sulphate	mg/L	-	-	-	462	546
Chloride	mg/L	-	-	-	19.1	20.6
Fluoride	mg/L	-	1.5	-	0.332	0.253
Ammonia (N-NH ₃)	mg/L	5.3 ³	35 ³	-	<0.0050	<0.0050
Nitrite (N-NO ₂)	mg/L	-	-	-	<0.0050	<0.0100
Nitrate (N-NO ₃)	mg/L	3.7	339	-	<0.0250	<0.0500
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	2.07	0.88
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	-	0.00129	0.00125
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00268	0.00254
Barium, total (T-Ba)	mg/L	-	-	-	0.0194	0.00826
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.00004	<0.000040
Boron, total (T-B)	mg/L	1.2	-	-	0.082	0.132
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000700	<0.0000550
Chromium, total (T-Cr)	mg/L	-	-	-	0.00264	0.00325
Cobalt, total (T-Co)	mg/L	-	-	-	0.00068	<0.00020
Copper, total (T-Cu)	mg/L	- ²	- ²	0.0043	0.00895	0.0109
Iron, total (T-Fe)	mg/L	-	-	-	1.96	0.503
Lead, total (T-Pb)	mg/L	- ²	- ²	0.0035	0.00346	0.00158
Manganese, total (T-Mn)	mg/L	-	-	-	0.0627	0.027
Mercury, total (T-Hg)	mg/L	0.000016 ⁵	-	-	0.0000305	- ⁷
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.141	0.172
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00121	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000564	0.000601
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	0.000019	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000046	0.00002
Uranium, total (T-U)	mg/L	-	-	-	0.026	0.0414
Vanadium, total (T-V)	mg/L	- ²	-	0.0081	0.00563	0.0033
Zinc, total (T-Zn)	mg/L	- ²	- ²	0.0133	0.0303	0.02
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050	<0.00050
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000250	<0.0000450
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00193	0.00342
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.023	0.062
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000084	0.000326
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0106	0.0175
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.127	0.101
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00230	0.00246
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.01	0.0105
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	-	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	<0.000010
Quinoline	mg/L	-	-	-	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	<0.00050

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

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

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

The East Catchment did not discharge during the monitoring period (May 11 – May 17).

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

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

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

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

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

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

⁷ Total mercury results for WWTP-E-IN on May 14 were pending at the time of reporting and will be included in future weekly reports when available.

Table B-2: East Catchment Effluent Analytical Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline ¹		PE-111578 Discharge Limit	Station WWTP-E-OUT	Station WWTP-E-OUT
					Effluent	Effluent
		WWTP-E-OUT	WWTP-E-OUT			
		VA25B0826-003	VA25B1187-003			
		Long Term	Short Term		2025-05-10 13:00	2025-05-14 7:15
General Parameters						
pH - Field	pH units	- ²	-	5.5 - 9.0	6.4	6.8
Conductivity - Field	µS/cm	-	-	-	1376	1856
Temperature - Field	°C	-	-	-	16.7	18.0
Salinity - Field	ppt	-	-	-	0.83	1.1
Turbidity - Field	NTU	-	-	-	2.16	5.63
TSS	mg/L	-	-	25 or 75 ⁶	<3.0	3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	9.22	8.65
Anions and Nutrients						
Sulphate	mg/L	-	-	-	565	542
Chloride	mg/L	-	-	-	21.6	20.7
Fluoride	mg/L	-	1.5	-	0.248	<0.400
Ammonia (N-NH ₃)	mg/L	14 ³	92 ³	-	0.0067	0.0122
Nitrite (N-NO ₂)	mg/L	-	-	-	<0.0100	<0.0200
Nitrate (N-NO ₃)	mg/L	3.7	339	-	<0.0500	<0.100
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	0.232	0.164
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	-	0.00129	0.00127
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00168	0.00151
Barium, total (T-Ba)	mg/L	-	-	-	0.00338	0.00401
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000040	<0.000040
Boron, total (T-B)	mg/L	1.2	-	-	0.109	0.148
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000450	<0.0000400
Chromium, total (T-Cr)	mg/L	-	-	-	0.00142	0.00252
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00020	<0.00020
Copper, total (T-Cu)	mg/L	- ²	- ²	0.0043	0.00464	0.00365
Iron, total (T-Fe)	mg/L	-	-	-	0.3	0.171
Lead, total (T-Pb)	mg/L	- ²	- ²	0.0035	0.000765	0.000524
Manganese, total (T-Mn)	mg/L	-	-	-	0.0177	0.00969
Mercury, total (T-Hg)	mg/L	0.000016 ⁵	-	-	0.0000524	⁷
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.124	0.173
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.00054	0.000584
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000020	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000021	0.000023
Uranium, total (T-U)	mg/L	-	-	-	0.00962	0.0212
Vanadium, total (T-V)	mg/L	- ²	-	0.0081	0.00292	0.00254
Zinc, total (T-Zn)	mg/L	- ²	- ²	0.0133	<0.0060	<0.0060
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050	<0.00050
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000250	<0.0000300
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00375	0.00246
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.020	0.055
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000100	0.000218
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00907	0.00763
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.106	0.12
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00207	0.00233
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0084	0.0037
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	-	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	<0.000010
Quinoline	mg/L	-	-	-	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	<0.00050

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

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

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

The East Catchment did not discharge during the monitoring period (May 11 – May 17).

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

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

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

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

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

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

⁷ Total mercury results for WWTP-E-IN on May 14 were pending at the time of reporting and will be included in future weekly reports when available.

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	0.0054 – 0.02 ^{3,4}
Station	Water Type	Sample ID	Lab ID	Sampling Date		
Influent						
SP-E-IN	Influent	SP-E-IN	VA25B0826-001	2025-05-10	<u>0.000327</u>	<u>0.0560</u>
WWTP-E-IN	Influent	WWTP-E-IN	VA25B0826-002	2025-05-10	<u>0.000563</u>	<u>0.0305</u>
Effluent						
WWTP-E-OUT	Effluent	WWTP-E-OUT	VA25B0826-003	2025-05-10	<u>0.000244</u>	<u>0.0524</u>

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 B-4: East Catchment Field Measurements Collected During the Monitoring Period (May 11 - May 17).

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 Guideline ¹			-	≥8	-	-	- ²	- ²	-	-
Station ID	Water Type	Date								
Influent ⁴										
SP-E-IN	Influent	2025-05-11 9:46	15.2	10.67	0.80	10.03	10.5	7.1	1275	Yes
SP-E-IN	Influent	2025-05-12 14:02	18.4	10.07	0.85	5.60	7.2	7.1	1466	No
SP-E-IN	Influent	2025-05-13 12:41	19.6	9.69	0.95	21.66	19.2	7.0	1677	No
SP-E-IN	Influent	2025-05-14 7:45	17.3	9.41	1.00	9.30	9.9	7.4	1672	No
SP-E-IN	Influent	2025-05-15 10:56	16.7	9.96	1.05	9.59	10.2	6.8	1718	Yes
SP-E-IN	Influent	2025-05-16 10:58	15.3	11.12	1.09	7.99	9.0	6.8	1732	No
SP-E-IN	Influent	2025-05-17 11:31	15.3	10.15	1.09	18.52	16.8	7.1	1722	No
WWTP-E-IN	Influent	2025-05-11 9:36	15.1	10.62	0.79	7.97	8.9	6.9	1262	No
WWTP-E-IN	Influent	2025-05-12 14:14	19.1	9.85	0.83	8.44	9.3	7.2	1452	No
WWTP-E-IN	Influent	2025-05-13 12:23	18.6	9.86	0.92	22.86	20.0	7.2	1581	No
WWTP-E-IN	Influent	2025-05-14 7:30	17.7	9.67	1.01	11.11	11.3	7.5	1701	No
WWTP-E-IN	Influent	2025-05-15 10:46	16.7	9.88	1.00	10.58	10.9	7.0	1651	No
WWTP-E-IN	Influent	2025-05-16 10:47	15.3	11.18	1.07	8.85	9.6	7.1	1695	No
WWTP-E-IN	Influent	2025-05-17 11:17	15.4	10.34	1.06	20.79	18.5	7.1	1688	No
E500GPM-IN	Influent	2025-05-11 10:21	15.3	10.78	0.77	5.09	6.8	7.4	1238	No
E500GPM-IN	Influent	2025-05-12 13:57	18.4	10.40	0.82	5.10	6.8	7.0	1422	No
Effluent ⁵										
WWTP-E-OUT	Effluent	2025-05-11 9:52	15.6	9.41	0.87	2.66	5.0	6.5	1396	No
WWTP-E-OUT	Effluent	2025-05-12 14:07	17.2	9.71	0.93	3.33	5.5	6.6	1545	No
WWTP-E-OUT	Effluent	2025-05-13 12:16	17.6	9.70	1.00	3.48	5.6	7.1	1675	No
WWTP-E-OUT	Effluent	2025-05-14 7:15	18.0	8.65	1.10	5.63	7.2	6.8	1856	No
WWTP-E-OUT	Effluent	2025-05-15 10:42	16.8	9.78	1.13	5.28	6.9	6.5	1846	No
WWTP-E-OUT	Effluent	2025-05-16 10:53	15.1	11.04	1.13	4.58	6.4	6.4	1778	No
WWTP-E-OUT	Effluent	2025-05-17 11:26	15.4	9.03	1.21	4.10	6.1	6.6	1916	No
E500GPM-OUT	Effluent	2025-05-11 10:17	15.0	11.88	0.77	2.95	5.2	7.5	1226	No
E500GPM-OUT	Effluent	2025-05-12 13:56	18.7	9.66	0.81	2.90	5.2	7.2	1410	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 $TSS = 0.7458 * [turbidity \text{ as NTU}] + 3$.

⁴ Daily field measurements for station SP-E-IN were collected from cell 1 of the East Sedimentation Pond.

⁵ There was no discharge at the authorized discharge location (SP-E-OUT) during the monitoring period (May 11 – May 17), therefore daily field 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 each day of Wet Conditions.

Table B-5: East Catchment Daily Discharge Volumes for the Monitoring Period (May 11 - May 17).

	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				
2025-05-11	0	1,495 ²	787 ³	0
2025-05-12	0	605 ²	727 ³	0
2025-05-13	0	0	789 ³	0
2025-05-14	0	0	369 ³	0
2025-05-15	0	0	467 ³	0
2025-05-16	0	0	774 ³	0
2025-05-17	0	0	636 ³	0

Notes:

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

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

Results in orange text exceeded the PE-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.

² E500GPM clarified effluent is discharged to Howe Sound or recirculated to the East Sedimentation Pond based on operational considerations. Therefore, the E500GPM clarified effluent volume is generally higher than the volume discharged to Howe Sound. The E500GPM was operational during the monitoring period (May 11 – May 17) on May 11 and 12.

³ East WWTP treated effluent was recirculated to the East Sedimentation Pond.

Appendix C: West Catchment Monitoring Results

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

Parameter	Unit	Lowest Applicable Guideline ¹		PE-111578 Discharge Limit	Station SP-W-IN Influent SP-W-IN VA25B1379-001
		Long Term	Short Term		2025-05-15 13:00
General Parameters					
pH - Field	pH units	- ²	-	5.5 - 9.0	8.0
Conductivity - Field	µS/cm	-	-	-	784
Temperature - Field	°C	-	-	-	17.3
Salinity - Field	ppt	-	-	-	0.46
Turbidity - Field	NTU	-	-	-	12.79
TSS	mg/L	-	-	25 or 75 ⁶	12.3
Dissolved Oxygen - Field	mg/L	≥8	-	-	11.98
Anions and Nutrients					
Sulphate	mg/L	-	-	-	230
Chloride	mg/L	-	-	-	19.5
Fluoride	mg/L	-	1.5	-	0.249
Ammonia (N-NH ₃)	mg/L	1.4 ³	9.4 ³	-	0.0129
Nitrite (N-NO ₂)	mg/L	-	-	-	<0.0050
Nitrate (N-NO ₃)	mg/L	3.7	339	-	<0.0250
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.526
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	-	0.0011
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00181
Barium, total (T-Ba)	mg/L	-	-	-	0.00933
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.01
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000300
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	-	0.0002
Copper, total (T-Cu)	mg/L	- ²	- ²	0.0043	0.00191
Iron, total (T-Fe)	mg/L	-	-	-	0.313
Lead, total (T-Pb)	mg/L	- ²	- ²	0.0035	0.00168
Manganese, total (T-Mn)	mg/L	-	-	-	0.0359
Mercury, total (T-Hg)	mg/L	0.000016 ⁵	-	-	0.00000451
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0788
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000343
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	0.000053
Uranium, total (T-U)	mg/L	-	-	-	0.0186
Vanadium, total (T-V)	mg/L	- ²	-	0.0081	0.00174
Zinc, total (T-Zn)	mg/L	- ²	- ²	0.0133	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000200
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00067
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.01
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.0001
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0218
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.128
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00116
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	<0.000010
Acridine	mg/L	-	-	-	<0.000010
Anthracene	mg/L	-	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020
Pyrene	mg/L	-	-	-	<0.000010
Quinoline	mg/L	-	-	-	<0.000050
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.11	-	-	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050
Styrene	mg/L	-	-	-	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050

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

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

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

The West Catchment did not discharge during the monitoring period (May 11 – May 17).

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

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

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

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

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

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

Table C-2: West Catchment Contact Water Effluent Analytical Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline ¹		PE-111578 Discharge Limit	Station W500GPM-OUT Effluent W500GPM-OUT VA25B1379-002
		Long Term	Short Term		2025-05-15 13:45
General Parameters					
pH - Field	pH units	- ²	-	5.5 - 9.0	8.0
Conductivity - Field	µS/cm	-	-	-	813
Temperature - Field	°C	-	-	-	17.0
Salinity - Field	ppt	-	-	-	0.48
Turbidity - Field	NTU	-	-	-	5.81
TSS	mg/L	-	-	25 or 75 ⁶	4.3
Dissolved Oxygen - Field	mg/L	≥8	-	-	13.47
Anions and Nutrients					
Sulphate	mg/L	-	-	-	226
Chloride	mg/L	-	-	-	19.1
Fluoride	mg/L	-	1.5	-	0.243
Ammonia (N-NH ₃)	mg/L	1.4 ³	9.4 ³	-	0.0329
Nitrite (N-NO ₂)	mg/L	-	-	-	<0.0050
Nitrate (N-NO ₃)	mg/L	3.7	339	-	<0.0250
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.156
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	-	0.0011
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00171
Barium, total (T-Ba)	mg/L	-	-	-	0.00656
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	<0.010
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000200
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00010
Copper, total (T-Cu)	mg/L	- ²	- ²	0.0043	0.00104
Iron, total (T-Fe)	mg/L	-	-	-	0.091
Lead, total (T-Pb)	mg/L	- ²	- ²	0.0035	0.000578
Manganese, total (T-Mn)	mg/L	-	-	-	0.0257
Mercury, total (T-Hg)	mg/L	0.000016 ⁵	-	-	0.00000273
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0763
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000314
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	0.000052
Uranium, total (T-U)	mg/L	-	-	-	0.0185
Vanadium, total (T-V)	mg/L	- ²	-	0.0081	0.00129
Zinc, total (T-Zn)	mg/L	- ²	- ²	0.0133	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000200
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00064
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.00008
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0216
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.126
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00107
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	0.000039
Acridine	mg/L	-	-	-	<0.000015
Anthracene	mg/L	-	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	-	0.000013
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000017
Fluoranthene	mg/L	-	-	-	<0.000016
Fluorene	mg/L	0.012	-	-	0.000038
1-methylnaphthalene	mg/L	0.001	-	-	0.000127
2-methylnaphthalene	mg/L	0.001	-	-	0.000137
Naphthalene	mg/L	0.001	-	-	0.000059
Phenanthrene	mg/L	-	-	-	0.000025
Pyrene	mg/L	-	-	-	<0.000019
Quinoline	mg/L	-	-	-	<0.000050
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.11	-	-	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050
Styrene	mg/L	-	-	-	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050

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

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

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

The West Catchment did not discharge during the monitoring period (May 11 – May 17).

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

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

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

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

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

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

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	0.0044 – 0.0045 ^{3,4}
Station	Water Type	Sample ID	Lab ID	Sampling Date		
Influent						
SP-W-IN	Influent	SP-W-IN	VA25B0798-004	2025-05-09	0.000056	0.00256
Effluent						
W500GPM-OUT	Effluent	W500GPM-OUT	VA25B0798-001	2025-05-09	0.000046	0.00203

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 C-4: West Catchment Field Measurements Collected During the Monitoring Period (May 11 - May 17).

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 Guideline ¹			-	≥8	-	-	- ²	- ²	-	-
Station ID	Water Type	Date								
Influent ⁴										
SP-W-IN	Influent	2025-05-11 10:36	16.1	12.29	0.34	8.44	9.3	8.4	573	No
SP-W-IN	Influent	2025-05-12 14:40	19.9	11.87	0.34	12.25	12.1	8.3	622	No
SP-W-IN	Influent	2025-05-13 12:52	19.9	10.31	0.33	14.05	13.5	8.5	617	No
SP-W-IN	Influent	2025-05-14 12:47	19.8	10.10	0.45	66.16	52.3	7.8	816	No
SP-W-IN	Influent	2025-05-15 13:00	17.3	11.98	0.46	12.79	12.5	8.0	784	No
SP-W-IN	Influent	2025-05-16 11:11	16.1	12.48	0.45	7.19	8.4	7.9	753	No
SP-W-IN	Influent	2025-05-17 11:49	16.2	11.36	0.43	36.54	30.3	7.9	722	No
Effluent ⁵										
W500GPM-IN	Influent	2025-05-11 10:45	16.1	12.24	0.34	4.79	6.6	8.5	573	No
W500GPM-IN	Influent	2025-05-12 14:49	19.7	12.10	0.34	9.62	10.2	8.6	620	No
W500GPM-IN	Influent	2025-05-13 13:02	20.0	10.65	0.33	11.82	11.8	8.6	620	No
W500GPM-IN	Influent	2025-05-14 13:17	19.9	10.88	0.33	39.16	32.2	8.5	605	No
W500GPM-IN	Influent	2025-05-15 13:45	17.4	11.17	0.46	25.27	21.8	8.0	787	No
W500GPM-IN	Influent	2025-05-16 11:33	16.4	11.39	0.45	11.39	11.5	8.2	756	No
W500GPM-IN	Influent	2025-05-17 11:56	16.3	10.57	0.43	15.80	14.8	8.2	722	No
W500GPM-OUT	Effluent	2025-05-11 10:51	16.3	11.99	0.34	2.88	5.1	8.4	576	No
W500GPM-OUT	Effluent	2025-05-12 14:47	19.9	11.54	0.34	3.95	5.9	8.4	622	No
W500GPM-OUT	Effluent	2025-05-13 13:00	20.2	10.82	0.34	4.25	6.2	8.5	635	No
W500GPM-OUT	Effluent	2025-05-14 13:13	19.8	11.34	0.32	7.27	8.4	8.5	591	No
W500GPM-OUT	Effluent	2025-05-15 13:45	17.0	13.47	0.48	5.81	7.3	8.0	813	No
W500GPM-OUT	Effluent	2025-05-16 11:29	16.4	13.38	0.45	5.59	7.2	8.0	758	No
W500GPM-OUT	Effluent	2025-05-17 11:59	16.4	10.84	0.43	6.05	7.5	8.1	727	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 $TSS = 0.7458 * [\text{turbidity as NTU}] + 3$.

⁴ Daily field measurements for station SP-W-IN were collected from cell 1 of the West Sedimentation Pond.

⁵ There was no discharge at the authorized discharge location (SP-W-OUT) during the monitoring period (May 11 – May 17), therefore daily field measurements for SP-W-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 each day of Wet Conditions.

Table C-5: West Catchment Daily Discharge Volumes for the Monitoring Period (May 11 - May 17).

	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)	Water Reclaimed for Dust Suppression (Station W500GPM-OUT)	West WWTP Treated Effluent ¹ (Station WWTP-W-OUT)	Discharge to Howe Sound (Station SP-W-OUT)
Unit	m ³	m ³	m ³	m ³	m ³	m ³
PE-111578 Discharge Limit	- ²	- ²	- ²	- ²	120	- ²
Date						
2025-05-11	0	2,061 ³	0	52	0	0
2025-05-12	0	2,410 ³	0	131	0	0
2025-05-13	0	1,154 ³	0	99	0	0
2025-05-14	0	1,150 ³	0	72	0	0
2025-05-15	0	1,931 ³	0	39	0	0
2025-05-16	0	2,144 ³	0	33	0	0
2025-05-17	0	2,027 ³	0	0	0	0

Notes:

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

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

Results in orange text exceeded the PE-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.

³ W500GPM clarified effluent is discharged to Howe Sound or recirculated to the West Sedimentation Pond based on operational considerations. Therefore, the W500GPM clarified effluent volume may be higher than the volume discharged to Howe Sound at station SP-W-OUT. The W500GPM was operational each day during the monitoring period (May 11 – May 17).

⁴ The ESC system was not operational during the monitoring period (May 11 – May 17).

Appendix D: Freshwater Receiving Environment Results

Table D-1: Freshwater 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	0.0028-0.0090 ^{3,4}
Station	Water Type	Sample ID	Lab ID	Sampling Date		
SW-02	Lower Freshwater Reach of Mill Creek (upstream of the third bridge)	SW-02	VA25A9553-002	2025-04-28	<0.000020	0.00082
SW-07	Upstream Mill Creek (at the diversion inlet)	SW-07	VA25A9553-003	2025-04-28	0.000026	0.00072
SW-01	Lower Reach of Woodfibre Creek (near the mouth)	SW-01	VA25A9703-002	2025-04-29	<0.000020	0.00180
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)	SW-04	VA25A9703-001	2025-04-29	<0.000020	0.00099

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: Estuarine Water Receiving Environment Results

Table E-1: Mill Creek Estuary 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	0.0046 ^{3,4}
Station	Water Type	Sample ID	Lab ID	Sampling Date		
SW-03	Mill Creek estuary	SW-03	VA25A9553-001	2025-04-28	<0.000020	0.00092

Notes:

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

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

² From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.

³ CCME guideline for total mercury = 0.026 µg/L.

⁴ When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.

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

Appendix F: 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
				VA25B0359-001	VA25B0359-002	VA25B0359-003	VA25B0359-004	VA25B0359-005	VA25B0359-006
		Long Term	Short Term	2025-05-06 9:40	2025-05-06 9:30	2025-05-06 9:20	2025-05-06 10:55	2025-05-06 10:40	2025-05-06 10:20
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.86	8.04	7.69	7.60	8.00	7.65
Specific Conductivity - Field	µS/cm	-	-	4215	17940	31461	9978	22772	31467
Temperature - Field	°C	-	-	10.2	11.2	9.3	11.1	11.6	9.3
Salinity - Field	ppt	Narrative ²	-	3.2	14.81	28.9	7.87	19.01	28.85
Turbidity - Field	NTU	Narrative ²	Narrative ²	3.92	1.8	0.69	2.62	1.08	0.54
TSS	mg/L	Narrative ²	Narrative ²	<2.0	3.1	<2.0	<2.0	5.3	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	11.53	11.04	9.88	11.17	11.14	10.08
Anions and Nutrients									
Sulphate	mg/L	-	-	344	805	2090	421	1030	2020
Chloride	mg/L	-	-	2730	6160	15400	3390	7890	14700
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH ₃)	mg/L	2-8.1 ³	13-54 ³	0.0137	0.0183	0.0409	0.0144	0.0198	0.0385
Nitrite (N-NO ₂)	mg/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (N-NO ₃)	mg/L	3.7	339	0.56	<0.50	1.21	<0.50	<0.50	<0.50
Total Metals									
Aluminum, total (T-Al)	mg/L	-	-	0.141	0.123	0.0052	0.117	0.0769	0.0084
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	<0.00040	0.0006	0.00152	0.00041	0.00069	0.0014
Barium, total (T-Ba)	mg/L	-	-	0.0084	0.0085	0.009	0.0081	0.0088	0.0087
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.64	1.24	2.62	0.90	1.73	2.56
Cadmium, total (T-Cd)	mg/L	0.00012	-	<0.000020	0.000027	0.000055	<0.000020	0.000042	0.000062
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000119	0.0001	0.000081	0.000144	0.000084	0.000083
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00086	0.00085	<0.00050	0.00086	0.00077	<0.00050
Iron, total (T-Fe)	mg/L	-	-	0.177	0.129	<0.010	0.14	0.083	0.011
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010	0.00011	<0.00010	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.00824	0.00689	0.00238	0.00698	0.00567	0.00252
Mercury, total (T-Hg)	mg/L	0.000016 ⁵	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00247	0.00355	0.00889	0.00238	0.00438	0.00836
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	<0.00080	<0.00050	<0.00050	<0.00070
Silver, total (T-Ag)	mg/L	0.0005	0.0037	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Thallium, total (T-Tl)	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.00052	0.000858	0.00231	0.000538	0.00118	0.00218
Vanadium, total (T-V)	mg/L	0.005	-	0.0008	0.00082	0.00125	0.00072	0.00079	0.00119
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000020	0.000055	0.000056	0.000026	0.00004	0.00005
Copper, dissolved (D-Cu)	mg/L	-	-	0.00059	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.02	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00522	0.00269	0.00267	0.00417	0.00351	0.00222
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.592	4.94	5.29	1.86	4.57	5.87
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	0.00092	0.00108	<0.00050	0.00086	0.00126
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	0.0014	<0.0010	<0.0010	0.0028	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	0.000015	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	0.000027	<0.000010	<0.000010	0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

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

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

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

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

Parameter	Unit	Lowest Applicable Guideline ¹		Reference Station WQR1			Reference Station WQR2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				WQR1-0.5	WQR1-2m	WQR1-SF	WQR2-0.5	WQR2-2m	WQR2-SF
				VA25B0359-009	VA25B0359-008	VA25B0359-007	VA25B0359-012	VA25B0359-011	VA25B0359-010
Long Term	Short Term	2025-05-06 10:55	2025-05-06 10:40	2025-05-06 11:30	2025-05-06 13:55	2025-05-06 13:40	2025-05-06 13:20		
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.55	8.02	7.46	8.01	8.13	7.53
Specific Conductivity - Field	µS/cm	-	-	6298	29460	32165	9095	26382	32152
Temperature - Field	°C	-	-	11.2	11.5	8.6	11.6	11.8	8.6
Salinity - Field	ppt	Narrative ²	-	4.78	23.29	30.19	7.03	22.2	30.17
Turbidity - Field	NTU	Narrative ²	Narrative ²	3.85	0.47	0.37	3.21	0.62	0.53
TSS	mg/L	Narrative ²	Narrative ²	2.6	2.3	<2.0	3	6.0	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	11.44	11.46	6.98	11.27	10.79	6.94
Anions and Nutrients									
Sulphate	mg/L	-	-	338	420	2060	602	998	- ⁶
Chloride	mg/L	-	-	2660	3300	15000	4610	7560	- ⁶
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	- ⁶
Ammonia (N-NH ₃)	mg/L	2-13 ³	13-85 ³	0.0104	0.0141	0.0521	0.0155	0.0194	0.0361
Nitrite (N-NO ₂)	mg/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	- ⁶
Nitrate (N-NO ₃)	mg/L	3.7	339	<0.50	<0.50	<0.50	3.13	<0.50	- ⁶
Total Metals									
Aluminum, total (T-Al)	mg/L	-	-	0.156	0.156	0.0178	0.124	0.0736	0.0074
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	<0.00040	<0.00040	0.00161	0.00052	0.00069	0.00170
Barium, total (T-Ba)	mg/L	-	-	0.0088	0.0089	0.0089	0.0087	0.0089	0.0089
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.55	0.74	2.45	0.89	1.64	2.89
Cadmium, total (T-Cd)	mg/L	0.00012	-	<0.000020	<0.000020	0.000062	<0.000020	0.000035	0.000083
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000124	0.00011	0.000084	0.000128	0.000095	0.000079
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00088	0.00092	<0.00050	0.00085	0.00074	<0.00050
Iron, total (T-Fe)	mg/L	-	-	0.178	0.171	0.019	0.152	0.09	0.011
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.0079	0.00782	0.00225	0.00724	0.0057	0.00130
Mercury, total (T-Hg)	mg/L	0.000016 ⁵	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00174	0.0019	0.00845	0.00268	0.00419	0.00984
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	<0.00070	<0.00050	<0.00050	<0.00070
Silver, total (T-Ag)	mg/L	0.0005	0.0037	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Thallium, total (T-Tl)	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.000456	0.000532	0.00233	0.000742	0.00115	0.00263
Vanadium, total (T-V)	mg/L	0.005	-	0.00082	0.00082	0.00147	0.00086	0.00084	0.00155
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000020	0.000034	0.000092	<0.000020	0.000048	0.000082
Copper, dissolved (D-Cu)	mg/L	-	-	0.00054	<0.00050	<0.00050	0.00051	<0.00050	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.019	<0.010	<0.010	0.017	<0.010	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00463	0.0036	0.00126	0.00473	0.00339	0.00118
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.831	3.40	6.60	1.03	3.87	6.26
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	0.0007	0.00162	<0.00050	0.00078	0.00149
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	0.000014	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

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

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

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