

TECHNICAL MEMORANDUM

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Mark Zan and Ryan Schucroft (Woodfibre LNG) **Date:** 17 Oct 2025

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

Subject: PE-111578 Weekly Discharge and Compliance Report #85 for October 5 – 11

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 Services Ltd. (Lorax) provides water quality database management and WDA compliance reporting services to Woodfibre LNG.

This technical memorandum (Report #85) was prepared by Lorax and summarizes WDA monitoring conducted for the period of October 5 – 11. 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 #85 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 D for contact water, treated water and receiving environment samples.

1. Current Conditions

1.1 Water Management Infrastructure

The Construction Phase of the Woodfibre LNG Export Facility commenced in October 2023. Shoring works along the foreshore areas were initiated in December 2023, and construction of water management infrastructure commenced in early 2024. 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. Intermittent discharge to Howe Sound from the East and West Sedimentation Ponds commenced April and October 2024, respectively.

Non-contact water from the slopes above and outside the Woodfibre LNG construction area is intercepted by diversion ditches and conveyed to Howe Sound or Mill Creek. Diversion ditches for the west catchment convey water 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 is also conveyed to Howe Sound via station OUT-01. East of Mill Creek, non-contact water is intercepted and 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 WWTP was commissioned April 2024 and the West WWTP was commissioned August 2024. Operation of the West WWTP was subsequently suspended September 25, 2024 for a 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 original treatment process has been maintained. Lower than expected volumes of contaminated contact water have been encountered during construction; therefore, operation of the West WWTP remains suspended and all site waters that require treatment are directed to the East WWTP, with treated effluent discharged to the East Sedimentation Pond.

The water 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 prior to re-use or discharge.

Discharge from the East and West Sedimentation Ponds is controlled using pumps. Prior to water management upgrades that commenced during the week of June 22 - 28, 2025, water stored in the ponds was pumped to a TSS settling system for clarification and then discharged through the authorized outfall structures associated with each pond. Some of the TSS-clarified water was recirculated back to the ponds or was re-used for construction (*e.g.*, dust suppression), and this will continue with the revised configuration. Each sedimentation pond has an associated authorized discharge location (stations SP-E-OUT and SP-W-OUT) with 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.

A flocculant-based TSS settling system (2700GPM) at the West Sedimentation Pond is used to clarify all non-contaminated contact water prior to re-use at site or discharge at SP-W-OUT. Water collected in the East Sediment Pond is periodically transferred to the West Sedimentation Pond to allow treatment by the 2700GPM system. The fully built 2700GPM TSS settling system will have the installed capacity to clarify 14,700 m³/day of contact water and will consist of six parallel treatment trains, each with an installed capacity of 2450 m³/day. Only one train will be operated during dry conditions or when contact water flows are below approximately 2450 m³/day, whereas at higher flows, additional trains will be activated as needed to match the influent volumes. Treatment trains 1, 2, 3 and 4 have been commissioned, and preparations are underway to commission the remaining two treatment trains.

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

Variable weather conditions were observed during the October 5 – 11 monitoring period, with precipitation recorded on October 7 (0.2 mm), October 9 (0.8 mm), October 10 (16 mm) and October 11 (6.2 mm). The total precipitation amount during the monitoring period was 23.2 mm. The daily weather conditions are summarized in Table 1.

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

Date	Precipitation (mm)	Max. Temp (°C)	Min. Temp (°C)	Weather Description
2025-10-05	0	18.3	7.9	Sunny
2025-10-06	0	18.3	8	Sunny
2025-10-07	0.2	15.5	8.8	Overcast
2025-10-08	0	14.5	10.5	Overcast
2025-10-09	0.8	18.8	9.9	Overcast
2025-10-10	16.0	14.2	11.4	Rain
2025-10-11	6.2	14.9	9.5	Rain

Note: Data retrieved from the Woodfibre on-site weather station operated by Stantec.

From October 5 – 11, the East Sedimentation Pond received water from Area 1100 (Trench 7, 6435 Sump and M01 Sump), the Flare Anchor ‘A’ area, stormwater from the Oily Water Tank area, the MOF Sump, and recirculated effluent from the East WWTP (Appendix A, Figure 2). There was no discharge to Howe Sound from station SP-E-OUT during the monitoring period. A total of 266 m³ from the East Sedimentation Pond was transferred to the West Sedimentation Pond from October 5 – 11 (Appendix B, Table B-5).

Routine operation of the East WWTP continued during the monitoring period (October 5 – 11) except from October 6 to 9 during maintenance. Concrete contact water and water from the 36T contaminated baker tank was 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 on October 5, 10 and 11. Daily water volumes processed by the East WWTP are provided in Appendix B (Table B-5).

From October 5 – 11, the West Sedimentation Pond received water from the Area 4100 and Area 4200 Sumps, the 8-Plex Sumps, the East Sedimentation Pond as well as recirculated effluent from the 2700GPM TSS settling system (Appendix A, Figure 3). West Sedimentation Pond effluent was clarified through the 2700 GPM system on October 10 and 11 and recirculated back to the pond or intermittently discharged to Howe Sound. A total of 498 m³ of clarified effluent was intermittently discharged to Howe Sound from station SP-W-OUT on October 10 (3:31 PM to 9:38 PM). Clarified effluent was not reclaimed for construction use from October 5 – 11. Daily clarified effluent volumes from the TSS settling system that were recirculated to the West Sedimentation Pond or discharged to Howe Sound, and volumes of water reclaimed for construction use are provided in Appendix C (Table C-3).

2. Monitoring Summary

The locations of PE-111578 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 PE-111578 and supplementary monitoring stations are currently being monitored:

- Non-contact diversion ditch outlet monitoring stations (OUT-01, OUT-02 and OUT-06). East Creek water has been temporarily diverted to OUT-11 since 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, WWTP-E-IN, COMB-WWTP-E-IN, WWTP-E-OUT, SP-W-IN, 2700GPM-IN, and 2700GPM-OUT).

- Supplementary contact water stations at the outlet of each sampling train. These samples are identified as W2700T#-OUT (with # equal to the train number).
- Effluent compliance stations (SP-E-OUT and SP-W-OUT). As described in Section 1.1, when there is surplus water, West Sedimentation Pond clarified effluent from the individual 2700GPM trains is directed to SP-W-OUT for discharge. As of September 26, a manifold is being implemented that combines effluent from the individual trains into a single discharge line configured with a new SP-W-OUT sampling port. Prior to September 26, the SP-W-OUT monitoring station was not safe to access and the SP-W-OUT station was monitored at the outlet of the individual 2700GPM TSS settling trains.
- 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.

A flocculant-based TSS settling system (2700GPM) is used at the West Sedimentation Pond as described in Section 1.1. Influent and effluent are monitored at stations 2700GPM-IN and 2700GPM-OUT, respectively. The 2700GPM-OUT station represents the combined discharge from all six individual treatment trains and is approximately 10 m from the location of the SP-W-OUT station. At times when only one 2700GPM treatment train is operated, the 2700GPM-OUT sample has been collected at the outlet of that train. Monitoring of the individual 2700GPM settling system treatment trains is supplemental to the PE-111578 monitoring requirements and is conducted at the discretion of field staff. As previously discussed, since September 26, a manifold is being implemented that combines effluent from the individual trains into a single discharge line configured with a new SP-W-OUT sampling port.

Water quality was monitored at stations SW-01, SW-02, SW-03, SW-04, SW-07, IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1, WQR2, SP-E-IN, WWTP-E-IN, COMB-WWTP-E-IN, WWTP-E-OUT, SP-W-IN, SP-W-OUT, 2700GPM-IN, and 2700GPM-OUT (at the outlet of Train 1 and Train 4) during the monitoring period (October 5 – 11). Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (October 5 – 11) were met. The initial high frequency monitoring requirements outlined in effluent permit PE-111578 for the sedimentation ponds, WWTP and IDZ stations have been met. On June 25, 2025, BCER approved the implementation of low-frequency (*i.e.*, bi-monthly and monthly) monitoring requirements specified in PE-111578 for all parameters, except for metals, hexavalent chromium, and methylmercury, which continue to be monitored weekly at sedimentation pond and WWTP stations.

Daily field parameters and a weekly analytical sample were not collected at the east catchment effluent compliance station (SP-E-OUT) as there was no discharge to Howe Sound from the East Sedimentation Pond during the monitoring period (October 5 – 11). Daily field parameters were not collected at the west catchment effluent compliance station (SP-W-OUT) from October 5 to 9 and October 11 as there was no discharge to Howe Sound on those days.

Daily field parameters were not collected at the influent and effluent stations of the East WWTP (WWTP-E-IN and WWTP-E-OUT, respectively) from October 6 to 10 as it was not operational at the time of monitoring 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 October 5 – 11.

Table 2:
Summary of PE-111578 Monitoring Samples Collected October 5 – 11.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
October 5, 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
	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, M ₅
	SW-02	Lower Reach of Mill Creek (upstream of the third bridge)		
	SW-03	Mill Creek Estuary		
	SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
	SW-07	Upstream Mill Creek (at the diversion inlet)		
October 6, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
October 7, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
October 8, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
October 9, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Chronic Toxicity.	M, M ₅ , Q
	IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
	WQR1-0.5	Reference site 1; 0.5 m below surface		
	IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	M, M ₅
	IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
	IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
	IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
	WQR1-2m	Reference site 1; 2 m below surface		
	WQR1-SF	Reference site 1; 2 m above the seafloor		
October 10, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box	Field Parameters.	D
	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, M, M ₂ , W
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at the manifold that combines effluent from the individual 2700GPM trains into a single discharge line configured with a new SP-W-OUT sampling port	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, M, M ₂ , W
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	P
	2700GPM-OUT	2700GPM TSS settling system at the outlet of Train 1	Field Parameters.	P
	IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals, Methylmercury and Chronic Toxicity.	Q
	IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
	WQR2-0.5	Reference site 2; 0.5 m below surface		
October 11, 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, M, M ₂ , W
	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, M, M ₂ , W
	WWTP-E-OUT	East WWTP at the effluent meter box		
	COMB-WWTP-E-IN	Combined East WWTP influent from the concrete contact water treatment stream and the East Sedimentation Pond, collected from the heated frac tank	Field and Physical Parameters, Total and Dissolved Metals, and Methylmercury.	P
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field Parameters.	P
	2700GPM-OUT	2700GPM TSS settling system at the outlet of Train 4		

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. Monthly monitoring for General parameters, except ammonia, nitrate and nitrite (*i.e.*, nitrogen species) are monitored weekly during blasting season.
M₂ – bi-monthly monitoring for physical parameters at WWTP and sedimentation pond stations.
M₅ – fall high-frequency (5-in-30) sampling for receiving environment stations.
W – weekly monitoring for metals, chromium speciation and methylmercury at WWTP and sedimentation pond influent and effluent stations, effective June 25, 2025.
P – periodic monitoring for targeted parameters that is supplementary to PE-111578 requirements.
Q – quarterly chronic toxicity testing conducted in the marine water sample collected at 0.5 m below the water surface. Due to delays in the arrival of test organisms to initiate toxicity testing, the laboratory requested additional water samples to be collected to meet the holding time for toxicity testing.

3. Water Quality Results

3.1 Summary of Reported Results

Analytical results and associated field measurements included in this weekly report (Report #85) are listed below in Table 3, with additional field measurements presented in Table B-2 (Appendix B) and Table C-5 (Appendix C). Testing for methylmercury, dioxins, furans and toxicity may require four weeks or longer to complete. Analytical results not reported will be included in future weekly reports. Reporting of results is pending for the following samples and parameters:

- SP-E-IN, WWTP-E-IN and WWTP-E-OUT collected September 20 (hexavalent chromium and methylmercury);
- SP-E-IN, WWTP-E-IN and WWTP-E-OUT collected September 27 (dioxins and furans);
- 2700GPM-IN and 2700GPM-OUT (SP-W-OUT) collected September 27 (dioxins and furans);
- 2700GPM-IN and SP-W-OUT collected September 29 (dioxins and furans);
- OUT-01 and OUT-02 collected September 29 (field and all analytical parameters);
- IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1 and WQR2 collected September 30 at 0.5 m below surface (chronic toxicity);
- OUT-06 collected October 3 (field and all analytical parameters);
- COMB-WWTP-E-IN collected October 4 (all analytical parameters);
- SW-01, SW-02, SW-03, SW-04, and SW-07 collected October 5 (field and all analytical parameters);
- IDZ-E1, IDZ-E2 and WQR1 collected October 9 (field and all analytical parameters, chronic toxicity);
- SP-W-IN, SP-W-OUT and 2700GPM-IN collected October 10 (all analytical parameters);
- IDZ-W1, IDZ-W2 and WQR2 collected October 10 at 0.5 m below surface (field and all analytical parameters, chronic toxicity);
- SP-E-IN, WWTP-E-IN, COMB-WWTP-E-IN and WWTP-E-OUT collected October 11 (all analytical parameters).

Table 3:
Summary of Analytical Results and Associated Field Measurements Included in Weekly Discharge and Compliance Report #85.

Sample	Description	Sampling Date	Parameters Reported
SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	September 29, 2025	Methylmercury.
SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at the manifold that combines effluent from the individual 2700GPM trains into a single discharge line configured with a new SP-W-OUT sampling port		
2700GPM-IN	2700GPM TSS settling system at the influent meter box		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	September 30, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and Methylmercury.
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR2-0.5	Reference site 2; 0.5 m below surface		
SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	October 4, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, and Methylmercury.
WWTP-E-IN	East WWTP at the influent meter box		
WWTP-E-OUT	East WWTP at the effluent meter box		

3.2 Screening and Reporting Overview

Water quality and flow monitoring results are screened against operational minimum discharge objectives (MDOs) for the East WWTP, and PE-111578 discharge limits for sedimentation pond and 2700GPM TSS settling system stations. Monitoring results are also screened against Canadian (Canadian Council of Ministers of the Environment, CCME), Federal (Environment and Climate Change Canada, ECCC) 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.

The values used for screening are listed in the water quality tables provided in the appendices. Results above a screening value are highlighted in the tables. Samples collected from sedimentation pond effluent that is discharged to Howe Sound (monitored at stations SP-E-OUT and SP-W-OUT) are evaluated for non-compliance to PE-111578 discharge limits. Exceedances in contact water that remains on-site and is not discharged (e.g., WWTP influent and effluent, sedimentation pond influent, TSS settling system influent, and TSS settling system effluent that is recirculated) are screened for comparison purposes only, and exceedances in these samples do not represent non-compliance to the PE-111578 conditions.

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 WQG to support the interpretation of methylmercury results.

A summary of reported and pending results is provided in Section 3.1. Results for effluents from East WWTP, 2700GPM TSS settling system, and East and West Sedimentation Ponds are discussed in Section 3.2 and Section 3.4. The water quality monitored at non-contact water diversion ditch outlets and in the receiving environment is described in Section 3.5, Section 3.6 and Section 3.7. Sediment samples are collected annually at stations IDZ-E-SED and IDZ-W-SED, and the sediment results are discussed in Section 3.7 when they are reported.

3.3 East Catchment

The east catchment water quality and flow monitoring results for stations at the East WWTP, East Sedimentation Pond, and the authorized discharge location (SP-E-OUT) are discussed in this section and are tabulated in Appendix B.

Field measurements and analytical results for East WWTP effluent (WWTP-E-OUT) collected October 4 (as discussed in Report #84) met MDOs (Appendix B, Table B-1, Table B-3 and Table B-4).

As discussed previously in Section 1.2, there were no discharges to Howe Sound from the SP-E-OUT authorized discharge location (Appendix B, Table B-5) during the monitoring period (October 5 – 11), therefore, water quality samples and field measurements were not collected at this station.

3.4 West Catchment

The west catchment water quality monitoring results for stations at the West Sedimentation Pond, the 2700GPM TSS settling system, and the authorized discharge location (SP-W-OUT) are discussed in this section and are tabulated 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.

As discussed in Section 1.2, on October 10, a total of 498 m³ of clarified sedimentation pond effluent from the 2700GPM TSS Settling System was intermittently discharged to Howe Sound from SP-W-OUT.

Field measurements of influent and effluent quality for the West Sedimentation Pond and the 2700GPM TSS settling system collected October 5 – 11 and methylmercury samples collected September 29 (stations SP-W-IN, SP-W-OUT and 2700GPM-IN as discussed in Report #84) were available at the time of reporting. The PE- 111578 discharge limits and WQGs were met at stations

SP-W-OUT and 2700GPM-OUT (Table C-1 and Table C-2 of Appendix C). Analytical results were not available at the time of reporting.

3.5 Non-Contact Water Diversion Ditch Outlets

Non-contact water diversion ditch samples are screened against CCME, ECCC and BC WQGs for the protection of freshwater aquatic life; however, there were no analytical results for non-contact diversion ditch outlet stations available at the time of reporting.

3.6 Freshwater and Estuarine Water Receiving Environment

Freshwater and estuarine water receiving environment samples are screened against CCME, ECCC 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.

Analytical results for freshwater and estuarine water receiving environment stations were not available at the time of reporting.

3.7 Marine Water Receiving Environment

Marine water receiving environment samples are screened against CCME, ECCC 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 are 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.

Analytical results and field measurements were available at the time of reporting for marine water samples collected at 0.5 m below the water surface on September 30 (stations IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1 and WQR2) (as discussed in Report #84). The results are summarized in Appendix D.

Parameter concentrations met WQGs except turbidity and total copper in some samples (Appendix D; Tables D-1 and Table D-2).

Field turbidity measured at station IDZ-E2 at 0.5 m below surface (100.25 NTU) and lab turbidity (42.9 NTU, not shown in Report #85 but used for field turbidity QC evaluation) were above the long-term WQG. Intermittent discharge occurred on September 29 through October 3 and the

September 30 samples were collected during a period of active discharge. The effluent turbidity ranged from 0.4 to 5.5 NTU on September 29 and 30, and October 2 and 3, and therefore does not appear to be a source of the elevated turbidity observed on September 30. Water column profiles collected on September 30 at IDZ-E2 showed declining field turbidity values of 52.7, 9.9 and 2.5 NTU at 1, 2, and 3 m below surface, respectively, indicating a thin (< 2 m thick) layer of water at this station. Elevated turbidity was also observed in samples collected at reference station WQR1 and WQR2 at 0.5 m below surface on September 30 (31.6 to 36.4 NTU). Runoff during significant rainfall from September 27 through September 30 (105.2 mm) as well as freshwater inputs from the Squamish River to Howe Sound is most likely to have a predominant influence on turbidity levels in Howe Sound, therefore the turbidity values observed in IDZ stations at 0.5 m below surface are attributed to natural conditions in Howe Sound at the time of monitoring.

In samples collected at 0.5 m below the surface on September 30 (stations IDZ-E1, IDZ-E2, WQR1 and WQR2), total copper ranged from 0.00321 to 0.00422 mg/L and was above the short- and long-term WQGs (0.002 and 0.003 mg/L, respectively). The copper concentrations at stations IDZ-E1, IDZ-E2, WQR1 and WQR2 on September 30 are predominantly associated with the particulate-bound form of the metal. The total copper concentrations observed at the IDZ-E monitoring stations are within background ranges observed at marine reference stations on September 30 (0.00380 to 0.00422 mg/L) and are attributed to background conditions.

Methylmercury analytical results were available at the time of reporting for all marine samples collected September 30 (stations IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1 and WQR2). For all samples, methylmercury concentrations ranged from <0.000020 to 0.000021 µg/L and met the WQG. The corresponding total mercury results also met WQGs. Results are tabulated in Appendix D, Table D-3.

3.8 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 (October 5 – 11, Report #85)		
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 the 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). Since July the SP-W-OUT monitoring station has not been safe to access, and West Sedimentation Pond effluent was monitored at the outlet of the individual 2700GPM TSS settling train that was operating at the time of monitoring. As of September 26, a new SP-W-OUT monitoring station is being implemented to monitor the combined pond effluent in situations when multiple TSS settling trains are operating concurrently. This item remains open.
Report #84: Pending Data	Analytical results not reported.	Field parameters and analytical results for freshwater, estuarine water and marine receiving environment samples collected October 5, 9 and 10 were not included with Report #85. Analytical results for contact water and treated water samples collected October 10 and 11 were not included with Report #85. The pending results will be included in future weekly reports when available. This item remains open.
Ongoing Items from Previous Weekly Reports		
Report #62: WWTP Performance Evaluation	Total copper above the MDO.	The treatment effectiveness for T-Cu has been inconsistent from January to October. Several modifications to the treatment process have been implemented in 2025 to improve T-Cu removal. The HSMT metal removal media was replaced on June 5. A modification to how the treatment reagents are added was implemented late July. BCER has been notified that additional filtration will be implemented to remove fine particles at the outlet of the treatment plant. High-frequency monitoring at multiple treatment stages is on-going to the evaluate the effectiveness of these changes. Total copper concentrations in WWTP-E-OUT samples collected August 8, 14, 20 met the MDO (0.0043 mg/L). Samples collected on August 26 (0.00448 mg/L), September 5 (0.0117 mg/L), September 10 (0.0100 mg/L), and September 20 (0.0169 mg/L) were above the MDO. Samples collected on September 27 and October 4 met the MDO. The WWTP treatment performance for total copper continues to be reviewed. This item remains open.
Report #67: WQG Evaluation	Total mercury and methylmercury above WQG.	There was an increased incidence of total mercury and methylmercury concentrations above the BC WQGs in site contact waters from late April through late September. Methylmercury concentrations are now declining. This production of methylmercury is attributed to microbially mediated methylation of total mercury in the bottom sediments of water management sumps, and transfer from the sump sediments to the water column. Enhanced monitoring for methylmercury will be implemented and other mitigations for source control are being investigated. This item is closed.
Report #82: Pending Data	Analytical results not reported.	Hexavalent chromium and methylmercury results for contact water and treated water samples collected September 20 were not included with Report #85. The pending results will be included in future weekly reports when available. This item remains open.
Report #83: WWTP Performance Evaluation	Total lead and total zinc above the MDO.	The total lead and total zinc concentrations were 0.00429 and 0.0156 mg/L, respectively, in samples collected at WWTP-E-OUT on September 20 and were above the MDOs (0.0035 and 0.0133 mg/L, respectively). The WWTP treatment performance for total lead and zinc continues to be reviewed. This item remains open.
Report #83: Pending Data	Analytical results not reported.	Dioxins and furans results were not included with Report #85. The pending results will be included in future weekly reports when available. This item remains open.
Report #83: Data QC	Fluoride above the WQG and baseline ranges.	A review conducted by the laboratory for the original fluoride result presented in Report #83 for the sample collected at IDZ-W2 at 2 m above the seafloor on September 15 (2.4 mg/L and above the WQG of 1.5 mg/L) determined the original value was incorrect due to a lab error. The revised fluoride concentration for the sample is 1.0 mg/L and below the WQG. The review also concluded that the originally reported results for all anions (sulfate, nitrate, nitrite, chloride, fluoride) for all marine water receiving environment samples collected September 15 and presented in Report #83 were erroneous due to a lab error. Report #83 will be reissued as version vS1 with the revised anion results. This item is closed.
Report #83: Data QC	Poor correlation with field turbidity and TSS.	Field turbidity (0.96 NTU) in the September 15 IDZ-W1 (2 m above seafloor) sample shows poor correlation with the measured TSS value (10.7 mg/L) and with lab turbidity (5.89 NTU, not included in the WDA weekly report and used for field turbidity QC evaluation). The TSS concentration and the lab turbidity values were verified by the laboratory and no errors were found in the originally reported results for this sample. This item is closed.
Report #83: Data QC	Raised detection limits for hexavalent chromium above WQG.	Raised detection limits (<0.00500 and <0.0100 mg/L) were reported by the laboratory for samples collected September 12 (IDZ-E1 and IDZ-E2, at 2 m above the seafloor) and September 13 (WQR1 at 2 m below surface and 2 m above the seafloor) due to sample matrix effects. The raised detection limits reported for hexavalent chromium were above the long- term WQG (0.0015 mg/L). However, hexavalent chromium is a component of the total chromium parameter. The total chromium concentration for these samples is <0.0005 mg/L, therefore the hexavalent chromium WQG is met in these samples. Nonetheless, a reanalysis was requested with the laboratory and determined detection limits were not achieved for these samples due to a lab error. Lower detection limits were achieved and reported for these samples. Report #83 will be reissued as version vS1 with the revised hexavalent chromium results. This item is closed.
Report #84: Pending Data	Analytical results not reported.	Field parameters and analytical results for marine receiving environment samples collected September 30 are discussed in Section 3.7 of Report #85. Analytical results for contact water and treated water samples collected October 4 and methylmercury results for samples collected September 29 are discussed in Sections 3.3 and 3.4, respectively, of Report #85. Field parameters and analytical results for non-contact water diversion ditches and marine receiving environment samples collected September 29 and October 3 were not included with Report #85. Dioxins and furans results for contact water and treated water samples collected September 29 were not included with Report #85. 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.

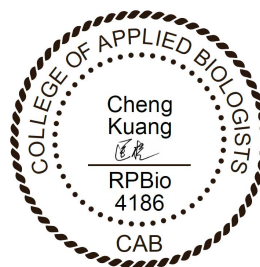
4. Closure

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

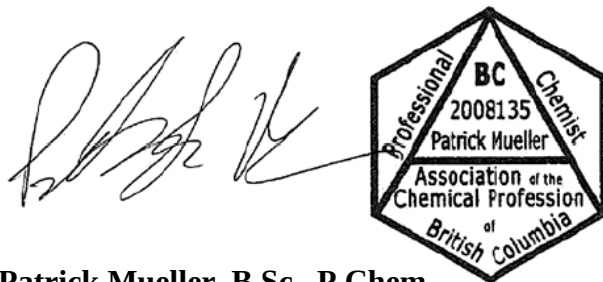
Regards,

LORAX ENVIRONMENTAL SERVICES LTD.

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



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



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

Appendix A: Figures and Site Images



World Imagery: District of Squamish. Additional imagery provided by McDermott International captured September 30st, 2025.

LEGEND

- Freshwater Monitoring Station
- Marine Water Monitoring Station
- Clean Water Discharge Station
- Sedimentation Pond Monitoring Stations (Water Quality)
- Wastewater Treatment Plant (WWTP)
- Certified Project Area
- Watercourse
- East Creek Temporary Diversion
- Non-Contact Ditch
- Culvert / Outfall / Pipeline
- Bathymetry Contour (Major: 50m)
- Bathymetry Contour (Minor: 10m)

DATE SAVED: Oct 16, 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
0 100 200 Metres

CLIENT:



PROJECT:

Woodfibre LNG Project Construction Phase

TITLE:

Site Layout and Water Quality Monitoring Stations for PE-111578 (October 11, 2025)

PROJECT #:

A633-9

FIGURE:

1

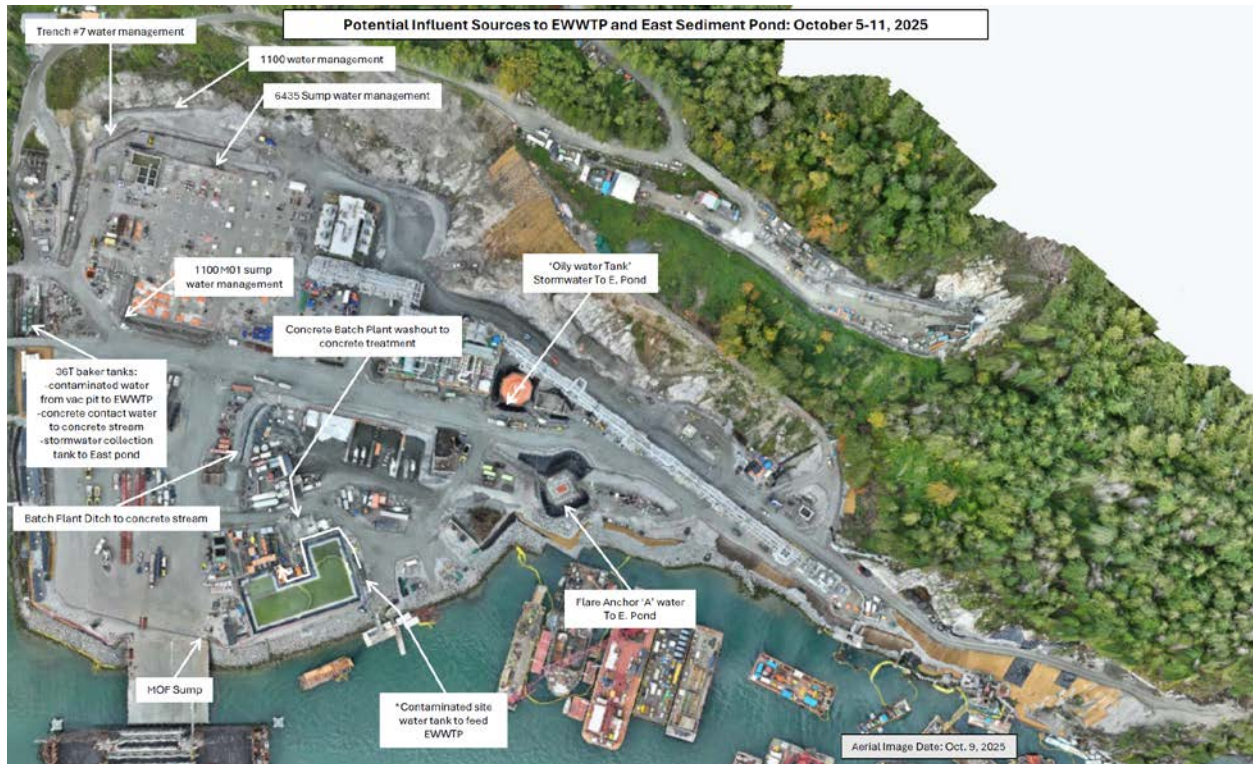


Figure 2: East Catchment contact water management facilities (October 5 – 11).



Figure 3: West Catchment contact water management facilities (October 5 – 11).



Figure 4: Aerial view of the East Sedimentation Pond (October 9, 2025). The East WWTP is located on the left side of the pond.

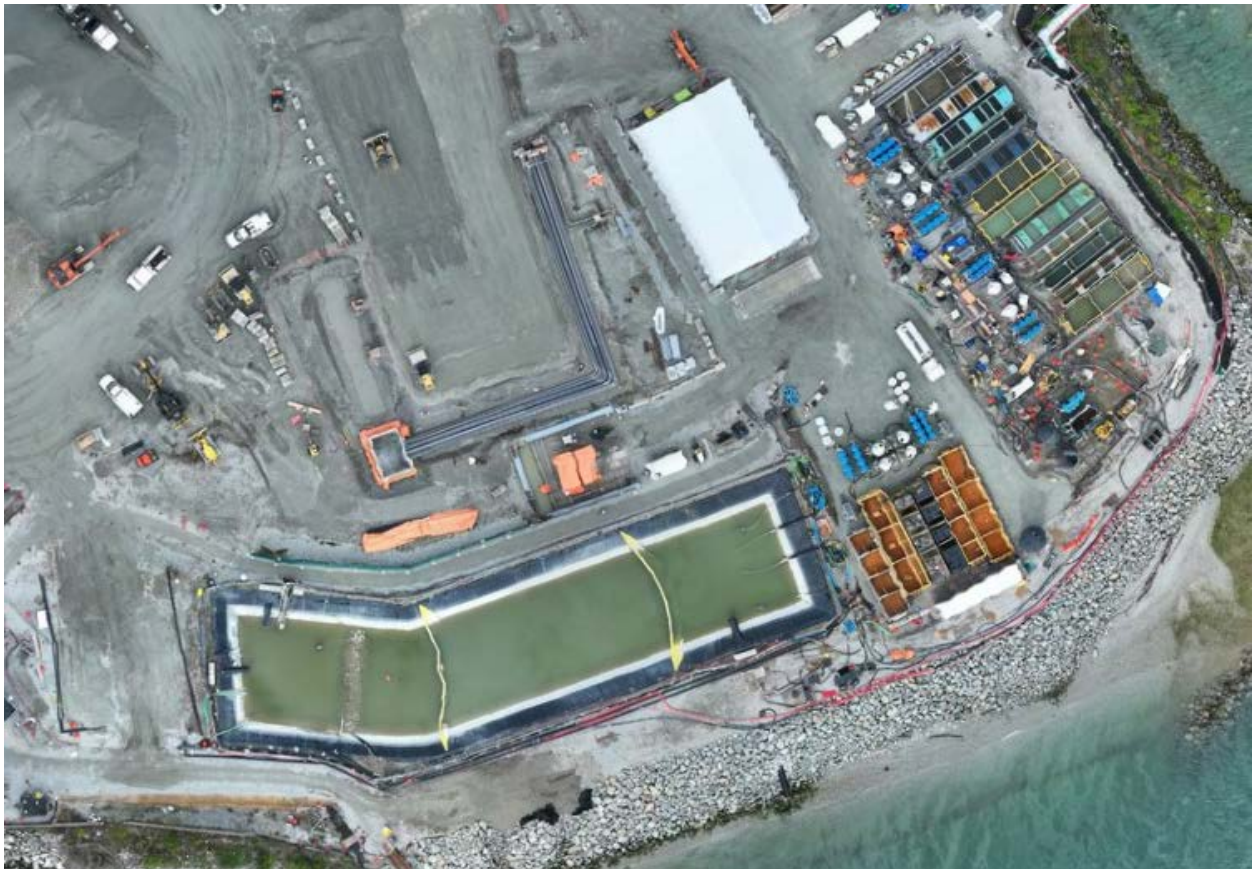


Figure 5: Aerial view of the West Sedimentation Pond (October 9, 2025).

Appendix B:
East Catchment Monitoring Results

Table B-1:
East WWTP Influent and Effluent 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-OUT
					Influent	Effluent
					WWTP-E-IN	WWTP-E-OUT
					VA25C6332-002	VA25C6332-003
		Long Term	Short Term		2025-10-04 9:10	2025-10-04 15:30
General Parameters						
pH - Field	pH units	- ²	-	5.5 - 9.0	8.0	7.4
Specific Conductivity - Field	µS/cm	-	-	-	1028	1174
Temperature - Field	°C	-	-	-	14.2	16.0
Salinity - Field	ppt	-	-	-	0.51	0.59
Turbidity - Field	NTU	-	-	-	27.53	0.44
TSS	mg/L	-	-	25 or 75 ⁶	20.4	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	9.56	8.16
Total Hardness	mg/L	-	-	-	149	60.7
Dissolved Hardness	mg/L	-	-	-	150	63.6
Anions and Nutrients						
Sulphate	mg/L	-	-	-	367	437
Chloride	mg/L	-	-	-	13.8	14.1
Fluoride	mg/L	-	1.5	-	0.108	<0.100
Ammonia (N-NH ₃)	mg/L	2-5.3 ³	13-35 ³	-	<0.0050	0.0569
Nitrite (N-NO ₂)	mg/L	-	-	-	0.0224	0.0197
Nitrate (N-NO ₃)	mg/L	3.7	339	-	2.74	2.48
Total Organic Carbon (TOC)	mg/L	-	-	-	3.47	1.61
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	3.17	1.69
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	1.58	0.0134
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	-	0.00189	0.00194
Arsenic, total (T-As)	mg/L	0.0125	-	-	0.0017	0.00058
Barium, total (T-Ba)	mg/L	-	-	-	0.0302	0.00234
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000027	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.077	0.027
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000350	<0.0000150
Chromium, total (T-Cr)	mg/L	-	-	-	0.00151	0.0005
Cobalt, total (T-Co)	mg/L	-	-	-	0.00055	<0.00010
Copper, total (T-Cu)	mg/L	- ²	- ²	0.0043	0.00322	0.00104
Iron, total (T-Fe)	mg/L	-	-	-	1.18	<0.010
Lead, total (T-Pb)	mg/L	- ²	- ²	0.0035	0.000787	0.000053
Manganese, total (T-Mn)	mg/L	-	-	-	0.089	0.00151
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0456	0.0423
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00102	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000242	0.000227
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	0.000013	<0.000010
Uranium, total (T-U)	mg/L	-	-	-	0.0214	0.0037
Vanadium, total (T-V)	mg/L	- ²	-	0.0081	0.00429	0.00124
Zinc, total (T-Zn)	mg/L	- ²	- ²	0.0133	0.0117	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.0011	<0.00050
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000350	<0.0000200
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00204	0.00128
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.026	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000053	0.000063
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0512	0.00149
Nickel, dissolved (D-Ni)	mg/L	-	-	-	0.00069	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.258	0.162
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00248	0.00125
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0056	0.0071
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	-	-	-
Acridine	mg/L	-	-	-	-	-
Anthracene	mg/L	-	-	-	-	-
Benz(a)anthracene	mg/L	-	-	-	-	-
Benzo(a)pyrene	mg/L	0.00001	-	-	-	-
Chrysene	mg/L	0.0001	-	-	-	-
Fluoranthene	mg/L	-	-	-	-	-
Fluorene	mg/L	0.012	-	-	-	-
1-methylnaphthalene	mg/L	0.001	-	-	-	-
2-methylnaphthalene	mg/L	0.001	-	-	-	-
Naphthalene	mg/L	0.001	-	-	-	-
Phenanthrene	mg/L	-	-	-	-	-
Pyrene	mg/L	-	-	-	-	-
Quinoline	mg/L	-	-	-	-	-
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	-	-
Ethylbenzene	mg/L	0.25	-	-	-	-
Methyl-tert-butyl-ether	mg/L	5	0.44	-	-	-
Styrene	mg/L	-	-	-	-	-
Toluene	mg/L	0.215	-	-	-	-
Total Xylenes	mg/L	-	-	-	-	-
Chlorobenzene	mg/L	0.025	-	-	-	-
1,2-Dichlorobenzene	mg/L	0.042	-	-	-	-

Notes:
East catchment influents and East WWTP effluent were not discharged to Howe Sound. Results above screening values are only highlighted for comparative purposes.
Non-detect results are screened using the detection limit value.
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** exceed the PE-111578 East Sedimentation Pond Discharge Limit.
The East Catchment did not discharge during the monitoring period (October 5 – 11).
¹ The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs for marine waters.
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 B-2:
East Sedimentation Pond Influent and Effluent Analytical Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline ¹		PE-111578 Discharge Limit	Station SP-E-IN
					Effluent
					SP-E-IN
		VA25C6332-001			
					2025-10-04 9:30
General Parameters					
pH - Field	pH units	- ²	-	5.5 - 9.0	6.3
Specific Conductivity - Field	µS/cm	-	-	-	1197
Temperature - Field	°C	-	-	-	14.8
Salinity - Field	ppt	-	-	-	0.6
Turbidity - Field	NTU	-	-	-	1.15
TSS	mg/L	-	-	25 or 75 ⁶	4.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	10.11
Total Hardness	mg/L	-	-	-	50.6
Dissolved Hardness	mg/L	-	-	-	58.8
Anions and Nutrients					
Sulphate	mg/L	-	-	-	465
Chloride	mg/L	-	-	-	12.4
Fluoride	mg/L	-	1.5	-	<0.100
Ammonia (N-NH ₃)	mg/L	20 ³	131 ³	-	0.0298
Nitrite (N-NO ₂)	mg/L	-	-	-	0.0207
Nitrate (N-NO ₃)	mg/L	3.7	339	-	1.98
Total Organic Carbon (TOC)	mg/L	-	-	-	1.15
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	1.5
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.156
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	-	0.00185
Arsenic, total (T-As)	mg/L	0.0125	-	-	0.00053
Barium, total (T-Ba)	mg/L	-	-	-	0.00383
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.037
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000150
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	0.00052
Iron, total (T-Fe)	mg/L	-	-	-	0.041
Lead, total (T-Pb)	mg/L	- ²	- ²	0.0035	0.000068
Manganese, total (T-Mn)	mg/L	-	-	-	0.00558
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.037
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.00016
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	<0.000010
Uranium, total (T-U)	mg/L	-	-	-	0.00626
Vanadium, total (T-V)	mg/L	- ²	-	0.0081	0.00138
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	-	-	-	0.00074
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000061
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00476
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.136
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00153
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0023
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	-
Acridine	mg/L	-	-	-	-
Anthracene	mg/L	-	-	-	-
Benz(a)anthracene	mg/L	-	-	-	-
Benzo(a)pyrene	mg/L	0.00001	-	-	-
Chrysene	mg/L	0.0001	-	-	-
Fluoranthene	mg/L	-	-	-	-
Fluorene	mg/L	0.012	-	-	-
1-methylnaphthalene	mg/L	0.001	-	-	-
2-methylnaphthalene	mg/L	0.001	-	-	-
Naphthalene	mg/L	0.001	-	-	-
Phenanthrene	mg/L	-	-	-	-
Pyrene	mg/L	-	-	-	-
Quinoline	mg/L	-	-	-	-
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.11	-	-	-
Ethylbenzene	mg/L	0.25	-	-	-
Methyl-tert-butyl-ether	mg/L	5	0.44	-	-
Styrene	mg/L	-	-	-	-
Toluene	mg/L	0.215	-	-	-
Total Xylenes	mg/L	-	-	-	-
Chlorobenzene	mg/L	0.025	-	-	-
1,2-Dichlorobenzene	mg/L	0.042	-	-	-

Notes:
East catchment influents and effluents were not discharged to Howe Sound. Results above screening values are only highlighted for comparative purposes.
Non-detect results are screened using the detection limit value.
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 (October 5 – 11).
¹ The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs for marine waters.
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 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	0.0026-0.016 ^{3,4}
Station	Water Type	Sample ID	Lab ID	Sampling Date		
Influent						
SP-E-IN	Influent	SP-E-IN	VA25C6332-001	2025-10-04	0.000043	0.00110
WWTP-E-IN	Influent	WWTP-E-IN	VA25C6332-002	2025-10-04	0.000070	0.00267
Effluent						
WWTP-E-OUT	Effluent	WWTP-E-OUT	VA25C6332-003	2025-10-04	0.000022	0.00108

Notes:
East catchment influents and effluent were not discharged to Howe Sound. Results above screening values are only highlighted for comparative purposes.
Non-detect results are screened using the detection limit value.
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.

Table B-4:
East Catchment Field Measurements Collected During the Monitoring Period (October 5 – 11).

Parameter			Temp.	Dissolved Oxygen (DO)	Salinity	Turbidity	Estimated TSS ³	pH	Specific 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	2025-10-05 7:09	13.9	9.82	0.51	1.20	3.9	6.9	1020	No
SP-E-IN	Influent	2025-10-06 11:46	14.8	10.02	0.38	5.98	7.5	8.0	768	No
SP-E-IN	Influent	2025-10-07 10:52	13.8	10.09	0.36	6.15	7.6	7.6	729	No
SP-E-IN	Influent	2025-10-08 11:47	13.4	11.57	0.39	4.67	6.5	7.8	793	Yes
SP-E-IN	Influent	2025-10-09 11:53	12.8	11.14	0.44	19.64	17.6	8.0	893	No
SP-E-IN	Influent	2025-10-10 11:41	12.6	12.40	0.45	20.36	18.2	8.5	911	No
SP-E-IN	Influent	2025-10-11 11:04	12.0	10.22	0.54	84.28	65.9	7.2	1077	No
WWTP-E-IN	Influent	2025-10-05 7:04	13.8	9.95	0.54	9.35	10.0	6.7	1083	No
WWTP-E-IN	Influent	2025-10-11 11:23	13.0	10.94	0.47	51.71	41.6	7.9	955	No
Effluent ⁵										
WWTP-E-OUT	Effluent	2025-10-05 7:00	14.6	10.16	0.58	0.84	3.6	6.6	1160	No
WWTP-E-OUT ⁵	Effluent	2025-10-10 ⁵	- ⁵	- ⁵	- ⁵	1.1 ⁵	3.8 ⁵	6.0 ⁵	- ⁵	- ⁵
WWTP-E-OUT	Effluent	2025-10-11 12:55	13	9.44	0.86	2.25	4.7	6.6	1680	No

Notes:
The east catchment did not discharge to Howe Sound during the monitoring period (October 5 – 11). Results above screening values are highlighted for comparative purposes.
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 exceed the PE-111578 East Sedimentation Pond Discharge Limit.
¹ The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
² The WQG was not evaluated for parameters with discharge limits.
³ TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.
⁴ Daily field measurements for station SP-E-IN were collected from cell 1 of the East Sedimentation Pond. Daily field measurements for station WWTP-E-IN were not collected on October 6 through 10 as the East WWTP was not operational at the time of monitoring on those days.
⁵ There was no discharge at the authorized discharge location (SP-E-OUT) during the monitoring period (October 5 – 11), therefore daily field measurements for SP-E-OUT were not collected on those days. Daily field measurements for station WWTP-E-OUT were not collected on October 6 through 10 as the East WWTP was not operational at the time of monitoring on those days. Median values for the in-situ field measurements collected at the WWTP-E-OUT meter box when it was operational on October 10 are shown in the table.
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 (October 5 – 11).

	East Sedimentation Pond Effluent	Transfer to West Sedimentation Pond	East WWTP Treated Effluent (Station WWTP-E-OUT) ²	Discharge to Howe Sound (Station SP-E-OUT)
Unit	m ³	m ³	m ³	m ³
PE-111578 Discharge Limit	-	-	1100	- ¹
Date				
2025-10-05	0	0	140	0
2025-10-06	0	0	0	0
2025-10-07	0	0	0	0
2025-10-08	0	0	0	0
2025-10-09	0	0	0	0
2025-10-10	0	266	218	0
2025-10-11	0	0	346	0

Notes:
Results in orange text exceed the PE-111578 East Sedimentation Pond Discharge Limit.
¹ As noted in PE-111578 Condition 2.1.4, the annual average authorized discharge rate from the East Sedimentation Pond to Howe Sound was set to 650 m³/day for the purpose of calculating discharge fees as required by the Permit and Approval Fees and Charges Regulation. Therefore, the annual average authorized discharge rate is not evaluated as a discharge limit.
² East WWTP treated effluent was recirculated to the East Sedimentation Pond.

Appendix C:
West Catchment Monitoring Results

Table C-1:
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	0.0037-0.016 ^{3,4}
Station	Water Type	Sample ID	Lab ID	Sampling Date		
Influent						
SP-W-IN	Influent	SP-W-IN	VA25C5781-001	2025-09-29	<u>0.000307</u>	<u>0.0177</u>
2700GPM-IN	Influent	2700GPM-IN	VA25C5781-002	2025-09-29	<u>0.000104</u>	<u>0.0183</u>
Effluent						
SP-W-OUT	Effluent	SP-W-OUT	VA25C5781-004	2025-09-29	0.000074	0.00274

Notes:
West catchment influents were not discharged to Howe Sound. Results above screening values are only highlighted for comparative purposes.
Non-detect results are screened using the detection limit value.
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.

Table C-2:
West Catchment Field Measurements Collected During the Monitoring Period (October 5 – 11).

Parameter			Temperature	Dissolved Oxygen (DO)	Salinity	Turbidity	Estimated TSS ³	pH	Specific 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	2025-10-05 12:27	14.9	10.12	0.19	18.88	17.1	7.4	385	No
SP-W-IN	Influent	2025-10-06 11:58	15.2	9.79	0.21	19.58	17.6	7.9	425	No
SP-W-IN	Influent	2025-10-07 10:38	14.1	9.77	0.21	17.35	15.9	7.0	437	No
SP-W-IN	Influent	2025-10-08 11:35	13.8	9.83	0.22	13.73	13.2	7.1	458	Yes
SP-W-IN	Influent	2025-10-09 11:36	12.7	10.19	0.24	8.71	9.5	7.2	492	No
SP-W-IN	Influent	2025-10-10 11:00	12.8	10.79	0.26	7.59	8.7	8.1	526	No
SP-W-IN	Influent	2025-10-10 15:24	12.8	10.21	0.44	7.97	8.9	7.9	887	No
SP-W-IN	Influent	2025-10-11 10:33	12.7	10.33	0.33	89.78	70.0	7.6	665	No
2700GPM-IN	Influent	2025-10-10 13:13	13.5	11.2	0.34	13.9	13.4	8.3	689	No
2700GPM-IN	Influent	2025-10-10 16:09	13.0	10.85	0.35	5.08	6.8	8.2	710	No
2700GPM-IN	Influent	2025-10-10 17:40	13.2	10.67	0.32	6.36	7.7	7.3	655	No
2700GPM-IN	Influent	2025-10-11 17:15	13.9	10.57	0.36	9.53	10.1	7.9	739	No
Effluent ⁵										
SP-W-OUT	Effluent	2025-10-10 16:01	13.0	12.09	0.37	2.06	4.5	7.9	758	No
2700GPMT1-OUT	Effluent	2025-10-10 13:17	13.0	10.39	0.34	3.29	5.5	7.9	701	No
2700GPMT4-OUT	Effluent	2025-10-11 17:12	12.6	8.22	0.79	2.55	4.9	7.6	1554	No

Notes:
West catchment influents for October 5 – 11, and effluents from October 11 were not discharged to Howe Sound. Results above screening values are only highlighted for comparative purposes.
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** exceed the PE-111578 West Sedimentation Pond Discharge Limit.
¹ The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
² The WQG was not evaluated for parameters with discharge limits.
³ TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.
⁴ Daily field measurements for station SP-W-IN were collected from cell 1 of the West Sedimentation Pond.
⁵ As described in Section 1.1, when there is surplus water, West Sedimentation Pond clarified effluent from the individual 2700GPM trains is directed to SP-W-OUT for discharge. 2700GPM clarified effluent from Train 1 was intermittently discharged to Howe Sound at the authorized discharge location (SP-W-OUT) on October 10. On October 11, 2700GPM clarified effluent from Train 4 was directed to the West Sedimentation Pond and there was no discharge at the authorized discharge location (SP-W-OUT) October 5 – 9; 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-3:
West Catchment Daily Discharge Volumes for the Monitoring Period (October 5 – 11).

	West Sedimentation Pond Effluent	West TSS Settling System (2700GPM) Clarified Effluent (Station 2700GPM-OUT) ³	Water Reclaimed for Construction Purposes (Station 2700GPM-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
PE-111578 Discharge Limit	-	-	-	120	- ²
Date					
2025-10-05	0	0	0	0	0
2025-10-06	0	0	0	0	0
2025-10-07	0	0	0	0	0
2025-10-08	0	0	0	0	0
2025-10-09	0	0	0	0	0
2025-10-10	0	703	0	0	498
2025-10-11	0	71	0	0	0

Notes:
Results in orange text exceed 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 As noted in PE-111578 Condition 2.2.4, the annual average authorized discharge rate from the West Sedimentation Pond to Howe Sound was set to 310 m³/day for the purpose of calculating discharge fees as required by the Permit and Approval Fees and Charges Regulation. Therefore, the annual average authorized discharge rate is not evaluated as a discharge limit.
³ Clarified effluent from the 2700GPM TSS settling system is recirculated to the West Sedimentation Pond, discharged to Howe Sound or reclaimed for construction purposes based on operational considerations. Daily discharge volumes from station 2700GPM-OUT are a sum of all active treatment trains.

Appendix D: Marine Water Receiving Environment Results

Table D-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	Station IDZ-W1	Station IDZ-W2
				0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface
				IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	IDZ-W2-0.5
		VA25C5869-001	VA25C5869-002	VA25C5869-003	VA25C5869-004		
Long Term	Short Term	2025-09-30 17:14	2025-09-30 20:16	2025-09-30 17:00	2025-09-30 16:20		
General Parameters							
pH - Field	pH units	7.0 - 8.7	-	7.58	7.84	7.27	7.67
Specific Conductivity - Field	µS/cm	-	-	5915	5999	7742	6222
Temperature - Field	°C	-	-	11.7	11.4	11.1	10.9
Salinity - Field	ppt	Narrative ²	-	3.23	3.28	4.30	3.41
Turbidity - Field	NTU	Narrative ²	Narrative ²	28.79	<u>100.25</u>	12.59	20.63
TSS	mg/L	Narrative ²	Narrative ²	14.8	29.6	8.9	9.0
Dissolved Oxygen - Field	mg/L	>=8	-	10.60	9.78	10.61	10.63
Total Hardness	mg/L	-	-	585.00	444	341	493
Dissolved Hardness	mg/L	-	-	543.00	496	373	482
Anions and Nutrients							
Sulphate	mg/L	-	-	238	171	153	191
Chloride	mg/L	-	-	2090	1610	1450	1760
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH ₃)	mg/L	3.1-12 ³	21-83 ³	0.0233	0.0108	0.0125	0.0127
Nitrite (N-NO ₂)	mg/L	-	-	<0.10	<0.10	<0.10	<0.10
Nitrate (N-NO ₃)	mg/L	3.7	339	<0.50	<0.50	<0.50	<0.50
Total Organic Carbon (TOC)	mg/L	-	-	1.99	2.26	2.24	2.3
Dissolved Organic Carbon (DOC)	mg/L	-	-	1.99	1.93	2.3	2.06
Total Metals							
Aluminum, total (T-Al)	mg/L	-	-	1.01	1.37	0.481	0.66
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	0.00048	0.00055	<0.00040	<0.00040
Barium, total (T-Ba)	mg/L	-	-	0.061	0.07	0.0366	0.0446
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.43	0.44	0.34	0.41
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000043	0.000022	<0.000020	0.000024
Chromium, total (T-Cr)	mg/L	-	-	0.00053	0.0012	<0.00050	0.0005
Cobalt, total (T-Co)	mg/L	-	-	0.00058	0.000926	0.000337	0.000416
Copper, total (T-Cu)	mg/L	0.002	0.003	<u>0.00321</u>	<u>0.00406</u>	0.00163	0.00199
Iron, total (T-Fe)	mg/L	-	-	0.85	1.61	0.411	0.556
Lead, total (T-Pb)	mg/L	0.002	0.14	0.0003	0.00034	0.00016	0.00025
Manganese, total (T-Mn)	mg/L	-	-	0.0617	0.0828	0.0342	0.0416
Molybdenum, total (T-Mo)	mg/L	-	-	0.00272	0.0016	0.00108	0.00138
Nickel, total (T-Ni)	mg/L	0.0083	-	0.00086	0.00112	<0.00050	0.00074
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	<0.00050	<0.00050
Silver, total (T-Ag)	mg/L	0.0005	0.0037	<0.00010	<0.00010	<0.00010	<0.00010
Thallium, total (T-Tl)	mg/L	-	-	0.000061	<0.000050	<0.000050	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.000438	0.000331	0.000312	0.000428
Vanadium, total (T-V)	mg/L	0.005	-	0.00265	0.00432	0.00142	0.00188
Zinc, total (T-Zn)	mg/L	0.01	0.055	0.0056	0.0078	<0.0030	0.0076
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals							
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.000021	<0.000020	0.000022	<0.000020
Copper, dissolved (D-Cu)	mg/L	-	-	0.0013	0.00094	0.0006	0.0007
Iron, dissolved (D-Fe)	mg/L	-	-	0.014	0.015	<0.010	0.01
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.0405	0.0394	0.0222	0.0264
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.756	0.626	0.489	0.657
Vanadium, dissolved (D-V)	mg/L	-	-	0.00067	0.0007	<0.00050	0.00053
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0033	0.0048	0.0014	0.0018
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)							
Benzene	mg/L	0.11	-	-	-	-	-
Ethylbenzene	mg/L	0.25	-	-	-	-	-
Methyl-tert-butyl-ether	mg/L	5	0.44	-	-	-	-
Styrene	mg/L	-	-	-	-	-	-
Toluene	mg/L	0.215	-	-	-	-	-
Total Xylenes	mg/L	-	-	-	-	-	-
Chlorobenzene	mg/L	0.025	-	-	-	-	-
1,2-Dichlorobenzene	mg/L	0.042	-	-	-	-	-

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 Induced guidelines for 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 intermittently discharging for > 24 hours, therefore the turbidity and TSS short-term and long-term WQGs were evaluated. Background conditions at 0.5 m depth were established using the maximum values at reference stations WQR1 and WQR2 collected September 30 (Table D-2).

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

Parameter	Unit	Lowest Applicable Guideline ¹		Reference Station	Reference Station
				WQR1	WQR2
				0.5 m Below Surface	0.5 m Below Surface
		WQR1-0.5	WQR2-0.5		
		VA25C5869-005	VA25C5869-006		
		2025-09-30 15:37	2025-09-30 18:19		
General Parameters					
pH - Field	pH units	7.0 - 8.7	-	7.81	7.91
Specific Conductivity - Field	µS/cm	-	-	5650	4932
Temperature - Field	°C	-	-	11.2	11.3
Salinity - Field	ppt	Narrative ²	-	3.07	2.56
Turbidity - Field	NTU	Narrative ²	Narrative ²	31.61	36.4
TSS	mg/L	Narrative ²	Narrative ²	24.7	23.8
Dissolved Oxygen - Field	mg/L	>=8	-	10.37	9.93
Total Hardness	mg/L	-	-	421	444
Dissolved Hardness	mg/L	-	-	433	442
Anions and Nutrients					
Sulphate	mg/L	-	-	132	150
Chloride	mg/L	-	-	1300	1430
Fluoride	mg/L	-	1.5	<1.0	<1.0
Ammonia (N-NH ₃)	mg/L	3.1 ³	21 ³	0.0112	0.014
Nitrite (N-NO ₂)	mg/L	-	-	<0.10	<0.10
Nitrate (N-NO ₃)	mg/L	3.7	339	<0.50	<0.50
Total Organic Carbon (TOC)	mg/L	-	-	2.01	2.12
Dissolved Organic Carbon (DOC)	mg/L	-	-	1.74	1.78
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	1.67	1.68
Antimony, total (T-Sb)	mg/L	-	0.27 ⁴	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	0.0005	0.00046
Barium, total (T-Ba)	mg/L	-	-	0.0741	0.0726
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.34	0.34
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000055	0.000033
Chromium, total (T-Cr)	mg/L	-	-	0.00101	0.00097
Cobalt, total (T-Co)	mg/L	-	-	0.000908	0.000858
Copper, total (T-Cu)	mg/L	0.002	0.003	<u>0.00422</u>	<u>0.0038</u>
Iron, total (T-Fe)	mg/L	-	-	1.46	1.49
Lead, total (T-Pb)	mg/L	0.002	0.14	0.00044	0.00033
Manganese, total (T-Mn)	mg/L	-	-	0.0839	0.0818
Molybdenum, total (T-Mo)	mg/L	-	-	0.00113	0.00114
Nickel, total (T-Ni)	mg/L	0.0083	-	0.0012	0.00096
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050
Silver, total (T-Ag)	mg/L	0.0005	0.0037	<0.00010	<0.00010
Thallium, total (T-Tl)	mg/L	-	-	0.000071	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.000297	0.000307
Vanadium, total (T-V)	mg/L	0.005	-	0.00416	0.00417
Zinc, total (T-Zn)	mg/L	0.01	0.055	0.007	0.0058
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.000027	<0.000020
Copper, dissolved (D-Cu)	mg/L	-	-	0.00089	0.00086
Iron, dissolved (D-Fe)	mg/L	-	-	0.011	0.011
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.0463	0.0427
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.589	0.594
Vanadium, dissolved (D-V)	mg/L	-	-	0.00068	0.00072
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0014	0.0014
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	-	-	-
Ethylbenzene	mg/L	0.25	-	-	-
Methyl-tert-butyl-ether	mg/L	5	0.44	-	-
Styrene	mg/L	-	-	-	-
Toluene	mg/L	0.215	-	-	-
Total Xylenes	mg/L	-	-	-	-
Chlorobenzene	mg/L	0.025	-	-	-
1,2-Dichlorobenzene	mg/L	0.042	-	-	-

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 Induced guidelines for change from background conditions arising from discharges to the aquatic environment. Salinity WQG was not evaluated. The water quality data presented in the table are marine reference stations and represent background conditions, 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 D-3:
Marine Water 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	0.016-0.020 ^{3,4}
Station	Position in Water Column	Sample ID	Lab ID	Sampling Date		
IDZ-E1	0.5 m Below Surface	IDZ-E1-0.5	VA25C5869-001	2025-09-30	<0.000020	<0.0050
IDZ-E2	0.5 m Below Surface	IDZ-E2-0.5	VA25C5869-002	2025-09-30	<0.000020	<0.0050
IDZ-W1	0.5 m Below Surface	IDZ-W1-0.5	VA25C5869-003	2025-09-30	<0.000020	<0.0050
IDZ-W2	0.5 m Below Surface	IDZ-W2-0.5	VA25C5869-004	2025-09-30	<0.000020	<0.0050
Background Station WQR1	0.5 m Below Surface	WQR1-0.5	VA25C5869-005	2025-09-30	0.000021	<0.0050
Background Station WQR2	0.5 m Below Surface	WQR2-0.5	VA25C5869-006	2025-09-30	<0.000020	<0.0050

Notes:

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

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

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

³ CCME guideline for total mercury = 0.016 µg/L.

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