TECHNICAL MEMORANDUM

To:	**Ian McAllister, Ashleigh Crompton, Mike Champion, Mark Zan and Ryan Schucroft (Woodfibre LNG)**	**Date: 30 Sep 2025**
From:	**Cheng Kuang and Patrick Mueller (Lorax)**	**Project #: A633-9**
Subject:	**PE-111578 Weekly Discharge and Compliance Report #80 for August 31 – September 6 (Version S1)**	

Version S1 of this report (Report #80) replaces version S, issued on September 12, 2025. Refer to Table 4 for a description of the revisions.

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 #80) was prepared by Lorax Environmental and summarizes WDA monitoring conducted for the period of August 31 – September 6. 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 #80 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 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. 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 implementation during the week of June 22 – 28, 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) is being implemented at West Sedimentation Pond to clarify all non-contaminated construction contact water prior to re-use at site or discharge at SP-W-OUT. The fully built 2700GPM TSS settling system will have the installed capacity to clarify 14,700 m^3/day of contact water and will consist of six parallel treatment trains, each with an installed capacity of 2,450 m^3/day. Only one train will be operated during dry conditions or when contact water flows are below approximately 2450 m^3/day, whereas at higher flows additional trains will be activated as needed to match the influent volumes. The individual treatment trains are being commissioned in stages. Train 1, Train 2, Train 3 and Train 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

Generally warm and sunny weather conditions were observed during the August 31 – September 6 monitoring period, with minor precipitation recorded on August 31 (0.2 mm) and September 6 (0.2 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
2025-08-31	0.2	26.6	15.3	Mix of Sun and Cloud
2025-09-01	0	23.2	15.8	Mix of Sun and Cloud
2025-09-02	0	22	15.1	Mix of Sun and Cloud
2025-09-03	0	24	15.6	Mix of Sun and Cloud
2025-09-04	0	22.9	15	Mix of Sun and Cloud
2025-09-05	0	22.6	14.5	Mix of Sun and Cloud
2025-09-06	0.2	23.7	15	Mix of Sun and Cloud

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

From August 31 – September 6, the East Sedimentation Pond received water from the Area 1100 Sump as well as 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. No water from the East Sedimentation Pond was transferred to the West Sedimentation Pond from August 31 – September 6 (Appendix B, Table B-5).

Routine operation of the East WWTP continued during the monitoring period (August 31 – September 6). Concrete contact water 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 each day during the monitoring period (August 31 – September 6) except on September 1 and 2 as the WWTP was not operational. Daily water volumes processed by the East WWTP are provided in Appendix B (Table B-5).

From August 31 – September 6, the West Sedimentation Pond received recirculated effluent from the 2700GPM TSS settling system (Appendix A, Figure 3). Implementation of the 2700GPM TSS settling system continued with pilot testing of Train 2, and West Sedimentation Pond effluent was clarified through the system on September 1 and recirculated back to the pond. There was no discharge to Howe Sound from station SP-W-OUT during the monitoring period. Clarified effluent was not reclaimed for construction use from August 31 – September 6. Daily clarified effluent volumes from the TSS settling system and volumes of reclaimed water 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 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, WWTP-E-OUT, SP-W-IN, 2700GPM-IN, and 2700GPM-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.

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 at the same location as the SP-W-OUT station. At times when only one 2700GPM treatment train is operated the 2700GPM-OUT sample is collected at the outlet of that train. Monitoring of the 2700GPM settling system is supplemental to the PE-111578 monitoring requirements and is conducted at the discretion of field staff.

Water quality was monitored at stations SP-E-IN, WWTP-E-IN, WWTP-E-OUT, SP-W-IN, 2700GPM-IN, and 2700GPM-OUT (at the outlet of Train 2), SW-02, SW-03, and SW-07 during the monitoring period (August 31 – September 6). Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (August 31 – September 6) were met. The initial high frequency monitoring requirements outlined in effluent permit PE-111578 for the sedimentation pond, 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 were not collected at the influent and effluent stations of the East WWTP (WWTP-E-IN and WWTP-E-OUT, respectively) on September 1 and 2 as it was not operational on those days. Daily field measurements were not collected at stations SP-E-IN, WWTP-E-IN, WWTP-E-OUT, and SP-W-IN on September 3 since environmental sampling was suspended that day due to health and safety concerns over wildlife smoke on site.

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, respectively) as there was no discharge to Howe Sound from the East and West Sedimentation Ponds during the monitoring period (August 31 – September 6). 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.

Table 2: Summary of PE-111578 Monitoring Samples Collected August 31 – September 6.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
August 31, 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
September 1, 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, Physical & General Parameters, Total, Dissolved and Speciated Metals, and Methylmercury.	D, M_2, W
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field, Physical & General Parameters, Total, Dissolved and Speciated Metals, and Methylmercury.	P
	2700GPM-OUT	2700GPM TSS settling system at the effluent meter box		
September 2, 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
September 4, 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		
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
September 5, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field, Physical & General Parameters, Total, Dissolved and Speciated Metals, and Methylmercury.	D, M_2, W
	WWTP-E-IN	East WWTP at the influent meter box	Field, Physical & General Parameters, Total, Dissolved and Speciated Metals, and Methylmercury.	D, M_2, W
	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
September 6, 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-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		
	SW-07	Upstream Mill Creek (at the diversion inlet)		

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.
M_2 – bi-monthly monitoring for physical parameters at WWTP and sedimentation pond stations.
W – high frequency 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.

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 #80) are listed below in Table 3. 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:

- Marine IDZ sediment samples collected July 11 and 12, 2025 (all analytical parameters)
- 2700GPM-IN and 2700GPM-OUT collected August 25 (dioxins and furans)
- SP-W-IN, 2700GPM-IN and 2700GPM-OUT collected September 1 (methylmercury)
- SP-E-IN, WWTP-E-IN and WWTP-E-OUT collected September 5 (all analytical parameters)
- SW-02, SW-03 and SW-07 collected September 6 (field and all analytical parameters)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #80.

Sample	Description	Sampling Date	Parameters Reported
SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	August 14, 2025	Dioxins and Furans.
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	August 15, 2025	Dioxins and Furans.
SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port		
2700GPM-IN	2700 GPM TSS settling system at the influent meter box		
2700GPM-OUT	2700 GPM TSS settling system at the effluent meter box	August 16, 2025	Dioxins and Furans.
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	August 16, 2025	Dioxins and Furans.
IDZ-W1-2m	Howe Sound IDZ station W1; 2 m below surface		
IDZ-W1-SF	Howe Sound IDZ station W1; 2 m above the seafloor		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
IDZ-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
WQR2-0.5	Reference site 2; 0.5 m below surface	August 17, 2025	Dioxins and Furans.
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
WWTP-E-OUT	East WWTP at the effluent meter box	August 26, 2025	Methylmercury.
SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	September 1, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium.
2700GPM-IN	2700 GPM TSS settling system at the influent meter box	September 1, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium.
2700GPM-OUT	2700 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.

There were no discharges from the SP-E-OUT authorized discharge location during the monitoring period (August 31 – September 6). East WWTP treated effluent volumes and discharge volumes from SP-E-OUT are listed in Appendix B, Table B-4.

Field measurements were collected August 31 – September 6 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix B, Table B-3. Analytical samples collected September 5 (stations SP-E-IN, WWTP-E-IN, and WWTP-E-OUT) were not available at the time of reporting.

Dissolved oxygen (5.51 – 7.56 mg/L) was below the lower limit of the MDO (≥8 mg/L) in East WWTP effluent (WWTP-E-OUT) collected on August 31, September 4, and September 5 during the monitoring period (Appendix B, Table B-3). The depletion of dissolved oxygen was also observed in contact water during dry conditions in 2024 and is speculated to be induced by warm temperatures and limited freshwater inputs (*i.e.,* from rain) to the contact water management system during dry conditions. East WWTP treated effluent was directed to the East Sedimentation Pond and there was no discharge to Howe Sound from the authorized discharge location (SP-E-OUT) during the August 31 – September 6 monitoring period.

Methylmercury result was available for East WWTP effluent (WWTP-E-OUT) collected August 26 (as discussed in Report #79). The methylmercury concentration was 0.000742 µg/L in the WWTP-E-OUT sample (Appendix B, Table B-1), which is above the WQG (0.0001 µg/L). East WWTP effluent was directed to the East Sedimentation Pond and there was no discharge from the pond to Howe Sound on August 26. The total mercury concentration is also listed in Appendix B, Table B-3 and is above the MDO (as discussed in Report #79). Mercury parameters are tracked in Table 4.

Dioxin and furans results were reported for East Sedimentation Pond influent (SP-E-IN) and East WWTP influent and effluent (WWTP-E-IN and WWTP-E-OUT, respectively) collected August 14 (as discussed in Report #77). The lower and upper bound PCDD/F TEQ concentrations in the effluent discharged from the East WWTP (WWTP-E-OUT) on August 14 were 0.00146 pg/L and 1.42 pg/L, respectively. Results are tabulated in Appendix B, Table B-2.

3.4 West Catchment

The west catchment water quality monitoring results for stations at the West Sedimentation Pond, the 2700GPM TSS settling system, the 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 (August 31 – September 6), implementation of the 2700GPM TSS settling system continued (Section 1.1 and Section 1.2). West Sedimentation Pond effluent was directed to the 2700GPM TSS settling system on September 1, and clarified effluent was recirculated to the pond (refer to Section 1.2). There were no discharges to Howe Sound from the west catchment discharge location (SP-W-OUT) during the monitoring period. Daily clarified effluent and discharge volumes from SP-W-OUT are summarized in Appendix C, Table C-5.

Field measurements were collected August 31 – September 6 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix C, Table C-4. Analytical samples collected September 1 (stations SP-W-IN, 2700GPM-IN, and 2700GPM-OUT) were available at the time of reporting. The 2700GPM-OUT sample was collected at the outlet of Train 2, as noted in Section 2. Screening results for west catchment contact water quality are tabulated in Table C-1 and Table C-2 of Appendix C.

During the monitoring period (August 31 – September 6), field measurements and analytical results collected at station 2700GPM-OUT on September 1 met PE-111578 discharge limits and WQGs except for dissolved oxygen (6.88 – 6.90 mg/L), which was below the lower limit of the WQG (≥8 mg/L). Clarified effluent from the 2700GPM system was recirculated to the West Sedimentation Pond on September 1.

Dioxin and furans results were reported for West Sedimentation Pond influent (SP-W-IN) and clarified effluent discharge to Howe Sound (SP-W-OUT) collected August 15, as well as for

2700GPM TSS settling system influent (2700GPM-IN) and effluent (2700GPM-OUT) collected August 15 and August 16, respectively (as discussed in Report #77). The lower and upper bound PCDD/F TEQ concentrations in the SP-W-OUT and 2700GPM-OUT effluent samples ranged from 0.0000928 to 0.0348 pg/L and from 0.856 to 1.02 pg/L, respectively. Results are tabulated in Appendix C, Table C-3.

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, 2024, 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 the diversion is in place.

There were no analytical results for non-contact diversion ditch outlet stations at the time of reporting.

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.

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

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 D.

Dioxins and furans results were available at the time of reporting for marine samples collected from 0.5 and 2 m below the water surface and 2 m above the seafloor at stations IDZ-W1, IDZ-W2 on August 16 (as discussed in Report #77) and reference station WQR2 on August 17 (as discussed in Report #78). For all samples, the lower bound PCDD/F TEQ concentrations ranged from 0 to 0.0053 pg/L and the upper bound PCDD/F TEQ concentrations ranged from 0.62 to 1.13 pg/L. The lower and upper bound PCDD/F TEQ concentrations were within the concentration ranges observed in the baseline monitoring program or within background ranges observed at marine reference stations. Results are tabulated in Appendix D, Table D-1.

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 (August 31 – September 6, Report #80)		
Report #80 Revision to Version S1	Total mercury result revised by the laboratory	A review conducted by the laboratory for the August 26 East WWTP effluent (WWTP-E-OUT) original total mercury result presented in Report #80 (1.65 µg/L, Table B-1) determined the original value was incorrect due to a lab error. Report #80 has been reissued as version S1 (*i.e.*, this report), and Table B-1 of this report has been updated to show the revised total mercury concentration (0.0513 µg/L). This item is closed.
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.
Report #72: Pending Data	Analytical results not reported.	Analytical results for marine sediment samples collected July 11 and 12, 2025 have been received but were not included with Report #80. The pending results will be included in future weekly reports when data analysis is complete. This item remains open.
Report #80: Pending Data	Analytical results not reported.	Methylmercury results (September 1) and all analytical results (September 5) for contact water and treated water samples were not included with Report #80. Field parameters and analytical results for freshwater and estuarine water receiving environment samples collected September 6 were not included with Report #80. 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.	This item was first noted in Report #46 (January 8 sample). From January 8 onwards the WWTP-E-OUT total copper concentrations were 0.00809, 0.00595, 0.00895, 0.00518, 0.00542, 0.00525, 0.00450, 0.00734, 0.00464, 0.00462, and 0.00573 mg/L in samples collected at WWTP-E-OUT on January 8, 14, 24, 28, February 24, March 8, 17, April 24, May 10, June 3, and June 9, respectively, and ranged from 0.00613 to 0.0108 mg/L in four replicate samples collected on February 15 which are above the MDO (0.0043 mg./L). The HSMT metal removal media was replaced on June 5 and the fresh media was expected to improve copper removal; however, the total copper result for WWTP-E-OUT collected June 9 (0.00573 mg/L) following the media replacement was above the MDO. Follow-up samples collected June 19, 23, July 2, 10, 13 and 21 returned total copper concentrations of 0.00264, 0.00263, 0.00181, 0.00185, 0.00215 and 0.00174 mg/L, respectively, and met the MDO. A detailed process evaluation was conducted on July 13 and a modification to how the treatment reagents are added was developed to improve copper removal. BCER was notified of the planned modification on July 21, and it was subsequently implemented. A sample collected July 28 returned a total copper concentration of 0.00797 mg/L and was above the MDO (0.0043 mg/L). Evaluation of the concrete contact water treatment circuit is ongoing to identify additional measures to improve the consistency of copper removal. Total copper concentrations in WWTP-E-OUT samples collected August 8, 14, 20 and 26 ranged from 0.00206 to 0.00448 mg/L and met the MDO (0.0043 mg/L), except in the August 26 sample (0.00448 mg/L). 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.	In general, there has been an increased incidence of total mercury and methylmercury concentrations above the WQGs in site contact waters since late April. Since late April, site conditions have been drier and warmer than through the winter months. Total methylmercury results in contact water from SP-E-OUT, SP-W-OUT, WWTP-E-OUT and 2700GPM-OUT from May 3 to August 26 have been generally above the WQG (0.0001 µg/L) ranging from 0.000089 to 0.00194 µg/L with the highest value observed at WWTP-E-OUT on July 13 (0.00194 µg/L). Possible project related sources have been evaluated, and upstream contact water monitoring data indicate methylmercury is elevated in the hydrovac sump. Excess water from this sump is directed to the East WWTP. Literature review suggests microbially mediated mercury methylation processes can occur in the bottom sediments and water column sumps and ponds and that these processes are significantly accelerated during warmer temperatures. Further data evaluation will be conducted after additional data are collected. This item remains open.
Report #77: Pending Data	Analytical results not reported.	Dioxins and furans results for contact water and treated water samples collected August 14, 15, and 16 and for marine receiving environment samples collected August 16 are discussed in Sections 3.3, 3.4, and 3.7 of Report #80. This item is closed.
Report #78: Pending Data	Analytical results not reported.	Dioxins and furans results for marine receiving environment samples collected August 17 are discussed in Section 3.7 of Report #80. This item is closed.
Report #79: Modified Detection Limit	Methylmercury detection limit was above the WQG	Methylmercury was reported as <0.00016 µg/L for August 11 marine sample collected at 2 m above the seafloor at station IDZ-E1. The detection limit (<0.00016 µg/L) for the reported value is above the WQG for methylmercury (0.0001 µg/L). The lab reported there were analytical interferences during testing that resulted in a raised detection limit for this sample. Reanalysis of the sample yielded a lower detection limit of <0.0001 µg/L which meets the WQG. This item is closed.
Report #79: Pending Data	Analytical results not reported.	Methylmercury result for the WWTP-E-OUT sample collected August 26 is discussed in Section 3.3 of Report #80. This item is closed.

Notes:

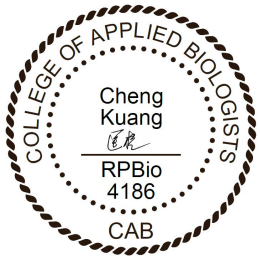
Result QA/QC screening includes the evaluation of field and lab QC results, comparison of total and dissolved metal results and review for modified detection limits.
Pending data are outstanding results from monitoring samples reported in the current or previous weekly reports.
Authorized works and monitoring 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

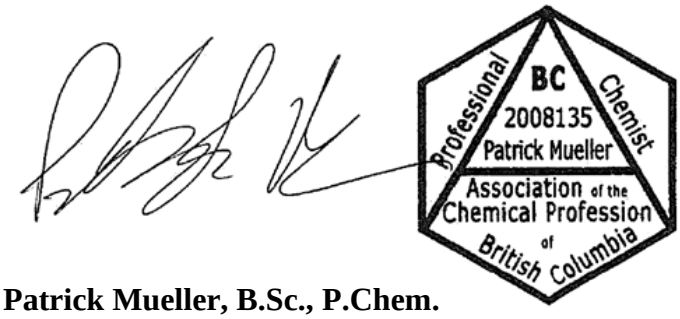
This weekly report is a desktop review by Lorax of the PE-111578 discharge and compliance monitoring program records, reports and results provided by Woodfibre LNG and prime contractor McDermott International and their sub-contractors. The records reviewed and analyzed by Lorax include ALS Environmental 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.

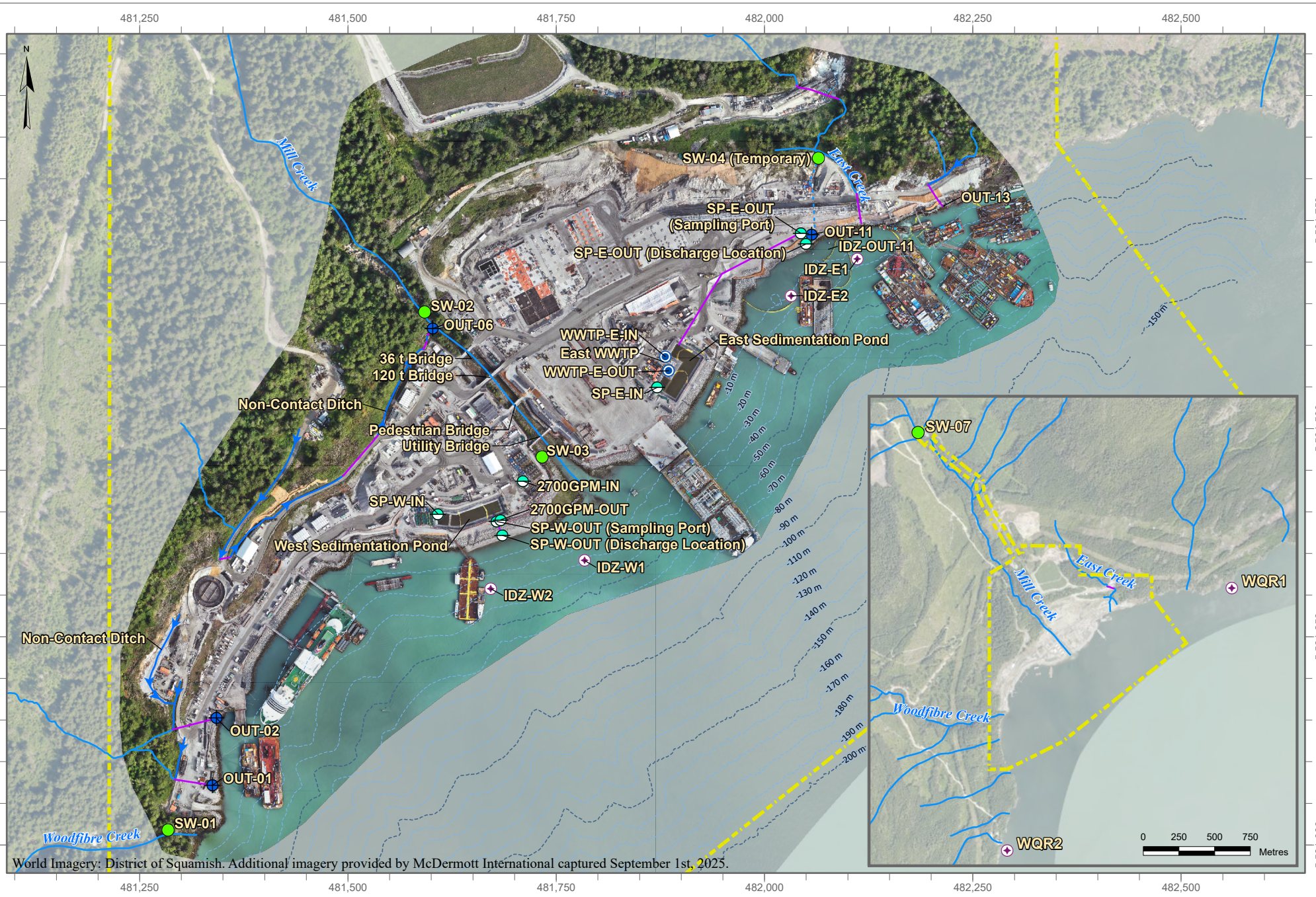


Cheng Kuang, M.Sc., RPBio.
Environmental Scientist



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 1st, 2025.

LEGEND

- Freshwater Monitoring Station
- Marine Water Monitoring Station
- Clean Water Diversion 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:	Sep 11, 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: Woodfibre LNG

LORAX ENVIRONMENTAL

PROJECT: **Woodfibre LNG Project Construction Phase**

TITLE: Site Layout and Water Quality Monitoring Stations for PE-111578 (September 6, 2025)

PROJECT #: A633-9

FIGURE: 1

P:\@202506\Woodfibre\Drafting Figures\APRX\WLNG Weekly Report Figure\WLNG Weekly Report.aprx Figure 1 - Monitoring and Compliance Locations

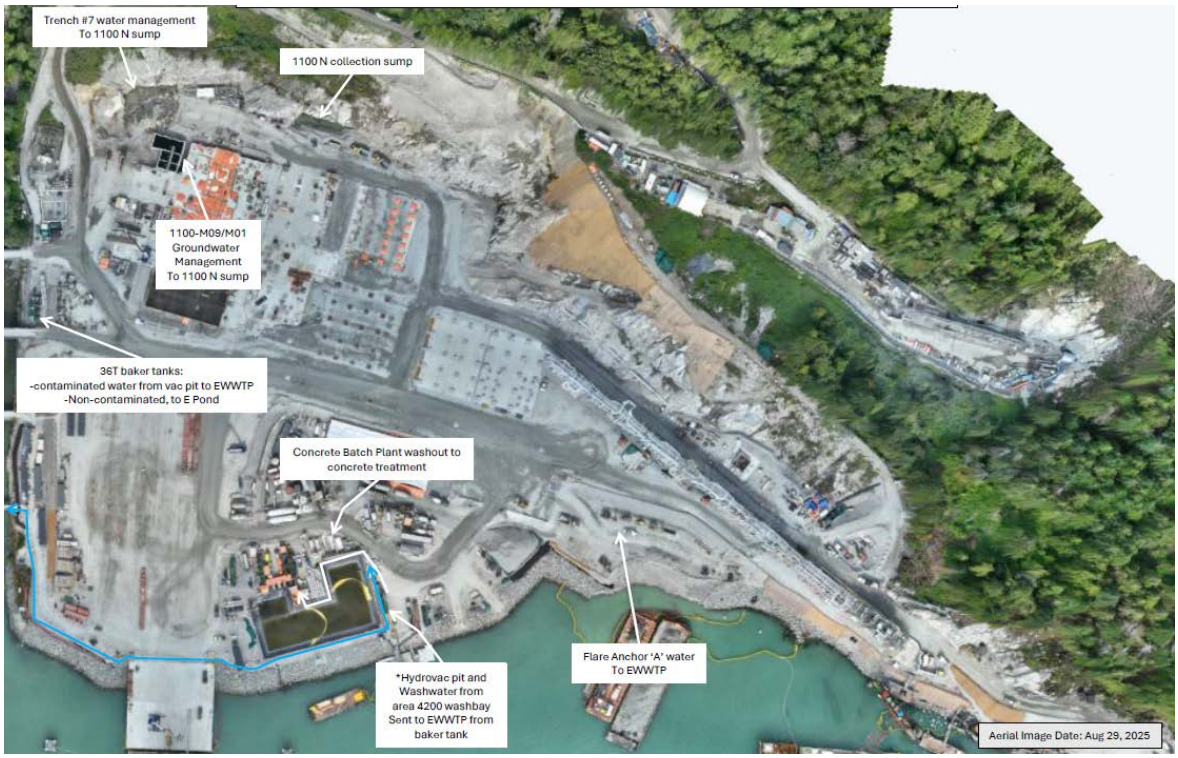


Figure 2: East Catchment contact water management facilities (August 31 – September 6).

Figure 3: West Catchment contact water management facilities (August 31 – September 6).

Figure 4: Aerial view of the East Sedimentation Pond (September 5, 2025). The East WWTP is located on the left side of the pond.

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

Appendix B: East Catchment Monitoring Results

Table B-1: 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]	0.016 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Effluent						
WWTP-E-OUT	Effluent	WWTP-E-OUT	VA25C1737-006	2025-08-26	***0.000742*** [5]	***0.0513*** [5]

Notes:
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.
[5] East WWTP effluent was directed to the East Sedimentation Pond and there was no discharge from the pond to Howe Sound on August 26.

Table B-2: East Catchment Dioxin and Furan Toxicity Equivalency Quantity (TEQ) Results Received at the Time of Reporting.

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-E-IN	Influent	SP-E-IN	VA25C0437-001	2025-08-14	0	1.24
WWTP-E-IN	Influent	WWTP-E-IN	VA25C0437-002	2025-08-14	0.00822	1.31
Effluent						
WWTP-E-OUT	Effluent	WWTP-E-OUT	VA25C0437-006	2025-08-14	0.00146	1.42

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

Table B-3: East Catchment Field Measurements Collected During the Monitoring Period (August 31 – September 6).

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	2025-08-31 13:17	24.8	8.38	1.33	2.85	5.1	6.9	2581	No
SP-E-IN	Influent	2025-09-01 12:24	24.1	10.18	1.36	2.63	5.0	7.1	2628	No
SP-E-IN	Influent	2025-09-02 11:37	22.5	10.88	1.35	3.71	5.8	7.4	2609	No
SP-E-IN	Influent	2025-09-04 12:02	22.1	8.59	1.38	3.33	5.5	6.9	2661	No
SP-E-IN	Influent	2025-09-05 12:52	22.3	8.52	1.49	5.82	7.3	7.1	2868	No
SP-E-IN	Influent	2025-09-06 09:38	21.7	8.67	1.55	8.13	9.1	7.3	2978	No
WWTP-E-IN	Influent	2025-08-31 13:10	24.7	9.95	1.22	3.13	5.3	7.1	2387	No
WWTP-E-IN	Influent	2025-09-04 12:07	22.8	11.23	1.29	3.46	5.6	7.5	2502	No
WWTP-E-IN	Influent	2025-09-05 11:26	21.7	9.8	1.36	2.99	5.2	7.3	2628	No
WWTP-E-IN	Influent	2025-09-06 09:27	21.5	9.49	1.45	5.01	6.7	7.3	2793	No
Effluent [5]										
WWTP-E-OUT	Effluent	2025-08-31 12:55	23.8	***6.6*** [7]	1.34	2.53	4.9	6.6	2594	No
WWTP-E-OUT	Effluent	2025-09-04 12:10	22.4	***6.50*** [7]	1.45	3.77	5.8	6.5	2791	No
WWTP-E-OUT	Effluent	2025-09-05 12:37	22.3	***7.56*** [7]	1.51	3.32	5.5	6.8	2896	No
WWTP-E-OUT	Effluent	2025-09-05 17:09	22.2	***5.51*** [7]	1.56	5.35	7.0	6.8	3000	No
WWTP-E-OUT	Effluent	2025-09-06 09:45	21.6	8.48	1.66	2.55	4.9	7.2	3176	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 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.
[5] There was no discharge at the authorized discharge location (SP-E-OUT) during the monitoring period (August 31 – September 6), 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.
[7] East WWTP treated effluent is directed to the East Sedimentation Pond and there was no discharge from the pond to Howe Sound during the monitoring period (August 31 – September 6).

Table B-4: East Catchment Daily Discharge Volumes for the Monitoring Period (August 31 – September 6).

	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				
2025-08-31	0	0	387	0
2025-09-01	0	0	0	0
2025-09-02	0	0	0	0
2025-09-03	0	0	143	0
2025-09-04	0	0	495	0
2025-09-05	0	0	639	0
2025-09-06	0	0	497	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 m^3/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. The East WWTP was not operational on September 1 and 2.

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 VA25C2498-001 2025-09-01 11:05	Station 2700GPM-IN Influent 2700GPM-IN VA25C2498-002 2025-09-01 10:55
		Long Term	Short Term			
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.3	8.3
Specific Conductivity - Field	µS/cm	-	-	-	1860	1866
Temperature - Field	°C	-	-	-	23.8	23.8
Salinity - Field	ppt	-	-	-	0.94	0.95
Turbidity - Field	NTU	-	-	-	4.01	6.07
TSS	mg/L	-	-	25 or 75 [6]	5.1	7.1
Dissolved Oxygen - Field	mg/L	≥8	-	-	***6.63***	***7.38***
Anions and Nutrients						
Sulphate	mg/L	-	-	-	468	456
Chloride	mg/L	-	-	-	19.2	17.9
Fluoride	mg/L	-	1.5	-	0.224	<0.200
Ammonia (N-NH_3)	mg/L	0.27 [3]	1.8 [3]	-	0.16	0.0406
Nitrite (N-NO_2)	mg/L	-	-	-	<0.0100	<0.0100
Nitrate (N-NO_3)	mg/L	3.7	339	-	<0.0500	<0.0500
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	0.137	0.229
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00109	0.00105
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00411	0.0039
Barium, total (T-Ba)	mg/L	-	-	-	0.00571	0.0105
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000040	<0.000040
Boron, total (T-B)	mg/L	1.2	-	-	<0.020	0.04
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000250	<0.0000300
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00100	<0.00100
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00020	<0.00020
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00121	0.0022
Iron, total (T-Fe)	mg/L	-	-	-	0.229	0.371
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000296	0.000415
Manganese, total (T-Mn)	mg/L	-	-	-	0.0342	0.0251
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000567	0.00000814
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.073	0.0719
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000361	0.000372
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000020	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000095	0.00006
Uranium, total (T-U)	mg/L	-	-	-	0.0128	0.0128
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00384	0.00347
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	-	-	-	<0.0000200	<0.0000250
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00096	0.00266
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.071	0.111
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000146	0.000156
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0276	0.0152
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.156	0.131
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00388	0.00336
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0020	<0.0020
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:
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 West Sedimentation Pond Discharge Limit.
The West Catchment did not discharge during the monitoring period (August 31 – September 6).
[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 2700GPM-OUT Effluent W2700T2-OUT[7] VA25C2498-003
		Long Term	Short Term		2025-09-01 10:30
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.4
Specific Conductivity - Field	µS/cm	-	-	-	1864
Temperature - Field	°C	-	-	-	23.3
Salinity - Field	ppt	-	-	-	0.95
Turbidity - Field	NTU	-	-	-	2.87
TSS	mg/L	-	-	25 or 75 [6]	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	***6.88***
Anions and Nutrients					
Sulphate	mg/L	-	-	-	457
Chloride	mg/L	-	-	-	17.7
Fluoride	mg/L	-	1.5	-	<0.200
Ammonia (N-NH_3)	mg/L	0.27 [3]	1.8 [3]	-	0.15
Nitrite (N-NO_2)	mg/L	-	-	-	<0.0100
Nitrate (N-NO_3)	mg/L	3.7	339	-	<0.0500
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.0963
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.0011
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00381
Barium, total (T-Ba)	mg/L	-	-	-	0.00403
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000040
Boron, total (T-B)	mg/L	1.2	-	-	<0.020
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000200
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00100
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00020
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00105
Iron, total (T-Fe)	mg/L	-	-	-	0.106
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000261
Manganese, total (T-Mn)	mg/L	-	-	-	0.0298
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000598
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0721
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.00032
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000104
Uranium, total (T-U)	mg/L	-	-	-	0.0132
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00388
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0060
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000150
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00088
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.057
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000172
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0258
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.151
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00397
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0020
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:
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 West Sedimentation Pond Discharge Limit.
The West Catchment did not discharge during the monitoring period (August 31 – September 6).
[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] 2700GPM clarified effluent was collected at the outlet of Train 2 (W2700-T2-OUT).

Table C-3: West Catchment Dioxin and Furan Toxicity Equivalency Quantity (TEQ) Results Received at the Time of Reporting.

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-W-IN	Influent	SP-W-IN	VA25C0647-001	2025-08-15	0.399	1.49
2700GPM-IN	Influent	2700GPM-IN	VA25C0647-002	2025-08-15	0.277	1.25
Effluent						
SP-W-OUT	Effluent	SP-W-OUT	VA25C0647-003	2025-08-15	0.0071	1.02
SP-W-OUT	Effluent	SP-W-OUT-Dup	VA25C0647-004	2025-08-15	0.03480	0.856
2700GPM-OUT	Effluent	2700GPM-OUT	VA25C0647-007	2025-08-16	0.0000928	0.882

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

Table C-4: West Catchment Field Measurements Collected During the Monitoring Period (August 31 – September 6).

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	2025-08-31 14:19	25	9.42	0.91	3.72	5.8	8.4	1806	No
SP-W-IN	Influent	2025-09-01 11:05	23.8	***6.63***	0.94	4.01	6.0	8.3	1860	No
SP-W-IN	Influent	2025-09-02 12:41	23	9	0.93	3.93	5.9	8.6	1842	No
SP-W-IN	Influent	2025-09-04 15:59	23.1	9.7	0.47	16.12	15.0	8.6	949	No
SP-W-IN	Influent	2025-09-05 14:14	23.3	9.56	0.54	10.76	11.0	8.6	1084	No
SP-W-IN	Influent	2025-09-06 10:02	20.5	9.19	0.61	6.95	8.2	8.6	1224	No
2700GPM-IN	Influent	2025-09-01 10:55	23.8	***7.38***	0.95	6.07	7.5	8.3	1866	No
Effluent [5]										
2700GPM-OUT	Effluent	2025-09-01 10:45	23.3	***6.88*** [7]	0.95	2.87	5.1	8.4	1864	No
2700GPM-OUT	Effluent	2025-09-01 10:49	23.5	***6.9*** [7]	0.94	3.12	5.3	8.4	1859	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 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] 2700GPM clarified effluent was directed to the West Sedimentation Pond and there was no discharge at the authorized discharge location (SP-W-OUT) during the monitoring period (August 24 – 30), 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.
[7] 2700GPM clarified effluent was collected at the outlet of Train 2 (W2700-T2-OUT) and directed to the West Sedimentation Pond; and there was no discharge from the pond to Howe Sound on September 1.

Table C-5: West Catchment Daily Discharge Volumes for the Monitoring Period (August 31 – September 6).

	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**
PE-111578 Discharge Limit	-		-	120	- [2]
Date					
2025-08-31	0	0	0	0	0
2025-09-01	0	438	0	0	0
2025-09-02	0	0	0	0	0
2025-09-03	0	0	0	0	0
2025-09-04	0	0	0	0	0
2025-09-05	0	0	0	0	0
2025-09-06	0	0	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 m^3/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] Commissioning and pilot testing of a larger TSS settling system (2700GPM) continued during the monitoring period (August 31 – September 6). 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.

Appendix D: Marine Water Receiving Environment Results

Table D-1: Marine Water Dioxin and Furan Toxicity Equivalency Quantity (TEQ) Results Received at the Time of Reporting.

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Position in Water Column**	**Sample ID**	**Lab ID**	**Sampling Date**		
Station IDZ-W1						
IDZ-W1	0.5 m Below Surface	IDZ-W1-0.5	VA25C0684-001	2025-08-16	0.0239	0.66
IDZ-W1	2 m Below Surface	IDZ-W1-2m	VA25C0684-002	2025-08-16	0.0259	0.733
IDZ-W1	2 m Below Surface	IDZ-W1-2m-Dup	VA25C0684-003	2025-08-16	0.000489	0.778
IDZ-W1	2 m Above Seafloor	IDZ-W1-SF	VA25C0684-006	2025-08-16	0.000471	0.846
Station IDZ-W2						
IDZ-W2	0.5 m Below Surface	IDZ-W2-0.5	VA25C0684-007	2025-08-16	0	0.62
IDZ-W2	2 m Below Surface	IDZ-W2-2m	VA25C0684-008	2025-08-16	0.00578	0.958
IDZ-W2	2 m Above Seafloor	IDZ-W2-SF	VA25C0684-009	2025-08-16	0	0.644
Reference Station WQR2						
WQR2	0.5 m Below Surface	WQR2-0.5	VA25C0684-010	2025-08-17	0	0.906
WQR2	2 m Below Surface	WQR2-2m	VA25C0684-011	2025-08-17	0.000587	0.682
WQR2	2 m Above Seafloor	WQR2-SF	VA25C0684-012	2025-08-17	0.0530	1.13

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