TECHNICAL MEMORANDUM

To:	**Ian McAllister, Ashleigh Crompton, Mike Champion, Jackie Boruch and Ryan Schucroft (Woodfibre LNG)**	**Date:**	**28 Mar 2025**
From:	**Holly Pelletier, Cheng Kuang and Patrick Mueller (Lorax)**	**Project #:**	**A633-9**
Subject:	**PE-111578 Weekly Discharge and Compliance Report #56 for March 16 – March 22**		

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 #56) was prepared by Lorax Environmental and summarizes WDA monitoring conducted for the period of March 16 – March 22. 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 #56 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 E for contact water, treated water and receiving environment samples.

1. Current Conditions

1.1 Water Management Infrastructure

The Construction Phase of the Woodfibre LNG Export Facility commenced in October 2023. Early-stage civil works are ongoing, and these include site grading, levelling, overburden and bedrock excavation, pouring of concrete foundations and construction of contact water management facilities. Shoring works along the foreshore areas were initiated in December 2023, and in early 2024 construction of water management infrastructure commenced and has continued through the March 16 – March 22, 2025 monitoring period. Land-based construction occurs within two 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) or the East and West Sedimentation Ponds for treatment or settling of suspended particulate.

The West WWTP has been constructed, and pilot testing was conducted August and September 2024. Operation of the West WWTP was suspended September 25, 2024. The suspension was implemented for the temporary reconfiguration of the plant to conduct pilot-scale evaluation of alternative treatment processes for improving treatment outcomes. Any process modifications that may result from the pilot-scale evaluation will be submitted to BCER for approval prior to full-scale implementation. Site waters that require treatment will continue to be directed to the East WWTP while the operation of the West WWTP is suspended.

Non-contact water diversion ditches west of Mill Creek have been fully or partially upgraded and discharge to Mill Creek at station OUT-06, or to Howe Sound at station OUT-02 (Appendix A, Figure 1). During heavy precipitation non-contact water from the diversion ditches is also conveyed to Howe Sound via station OUT-01. East of Mill Creek, non-contact water is diverted around the East Catchment along pre-existing road ditches that flow to East Creek or Mill Creek. To facilitate the replacement of the East Creek discharge culvert at OUT-12, the lower reach of East Creek was temporarily diverted to an adjacent culvert, OUT-11, on September 17, 2024.

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

Flocculant-based TSS settling systems are used at the East and West Sedimentation Ponds to remove TSS from non-contaminated contact water at the time of discharge. Some of the clarified water may be recirculated back to the ponds. The first West Sedimentation Pond TSS settling system (ESC) was commissioned for use on September 25, 2024, with an 820 m^3/day installed capacity. A second TSS settling system (W500GPM) was added and commissioned for use on November 28 and provides an additional 2,725 m^3/day installed capacity for clarifying water. A TSS settling system (E500GPM) for the East Sedimentation Pond was commissioned on December 4, 2024, also with 2,725 m^3/day installed capacity.

Contaminated contact water from within the East and West Catchments, and non-contaminated contact water stored in the East Sedimentation Pond are directed to the East WWTP for treatment prior to discharge to Howe Sound. Direct discharge of East WWTP treated contact water to Howe Sound was implemented from October 28, 2024, until January 23, 2025, after which WWTP effluent was redirected to the East Sedimentation Pond and only clarified pond water was discharged to Howe Sound.

The east and west catchment permanent outfall structures have not been completed. Temporary discharge systems (*i.e.*, pumps, hosing and diffusors) are used to convey clarified or treated effluent to the discharge locations authorized for the east and west catchments. In the east catchment, treated WWTP effluent is either directed to the pond or discharge tank. Clarified E500GPM effluent is directed to the discharge tank prior to discharge at location SP-E-OUT since December 2, 2024. The west catchment discharge location, SP-W-OUT, receives the combined clarified effluents from the ESC and W500GPM TSS settling systems since November 28, 2024. Each of the authorized discharge locations has an initial dilution zone (IDZ) where discharged water mixes with Howe Sound surface waters. The IDZ is defined in PE-111578 and extends 150 m from each point of discharge into Howe Sound.

The construction phase water management layout and monitoring stations are shown in Appendix A, Figure 1. Contact water collection and dewatering locations and photographs of the sedimentation ponds are shown in Appendix A, Figure 2 through Figure 5.

1.2 Weather and Water Management

Variable weather was observed during the monitoring period (March 16 – March 22), with precipitation recorded on each day except on March 18. The total precipitation amount during the monitoring period was 83.6 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
03-16-2025	14.0	7.6	2.9	Rain
03-17-2025	0.2	8.7	2.2	Overcast
03-18-2025	0	9.1	0	Overcast
03-19-2025	17.2	6.0	3.9	Rain
03-20-2025	26.0	9.9	3.7	Rain
03-21-2025	21.6	9.4	4.0	Rain
03-22-2025	4.6	9.7	2.7	Overcast with Showers

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

From March 16 – March 22, the East Sedimentation Pond received non-contaminated contact water from sumps and tanks in the 1100 and 1200 Areas and the 1300 Collection Ditch (Appendix A, Figure 2). Non-contaminated contact waters from Area 4100 Sump, Area 4200 Sump, and the Surge Pond were directed to the West Sedimentation Pond (Appendix A, Figure 3).

Routine operation of the East WWTP continued during the monitoring period. Concrete contact waters were periodically directed to the East WWTP for treatment, as well as water stored in the East Sedimentation Pond (Appendix A, Figure 2 and Figure 3). East WWTP treated effluent was discharged to the East Sedimentation Pond each day during the monitoring period. Pond water clarified through the E500GPM TSS settling system was recirculated to the East Sedimentation Pond on March 16 and March 19 and a portion of the pond water clarified through the E500GPM system was recirculated to the East Sedimentation Pond on March 17, 18, 20, 21, and 22. A total of 3,612 m^3 of East Sedimentation Pond effluent clarified through the TSS settling system (E500GPM) was directed to the authorized discharge location SP-E-OUT on March 17, 18, 20, 21, and 22. Daily water volumes processed by the East WWTP and the East TSS settling system (E500GPM), and volumes discharged to Howe Sound from the East Catchment authorized discharge location (SP-E-OUT) are provided in Appendix B (Table B-5).

West Sedimentation Pond water was clarified through the W500GPM and ESC TSS settling systems prior to discharge. However, the ESC system was not operational during the monitoring period. A portion of the pond water clarified through the W500GPM settling system was recirculated to the West Sedimentation Pond each day during the monitoring period. A total of 7,032 m^3 of effluent was clarified through the W500GPM system and directed to the SP-W-OUT discharge location during the monitoring period. Daily clarified effluent volumes from the TSS settling systems, and volumes discharged to Howe Sound from the West Catchment authorized discharge location (SP-W-OUT) are provided in Appendix C (Table C-4).

2. Monitoring Summary

The locations of the 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.

Compliance and supplementary monitoring stations have been established:

- Non-contact diversion ditch outlet monitoring stations (OUT-01, OUT-02, OUT-06, and OUT-11). East Creek water was temporarily diverted to OUT-11 on September 17 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, SP-E-NE, SP-E-NW, E500GPM-IN, E500GPM-OUT, WWTP-E-IN, WWTP-E-OUT, SP-W-IN, SP-W-W, SP-W-E, ESC-W-IN, ESC-W-OUT, W500GPM-IN and W500GPM-OUT).
- Effluent compliance stations (SP-E-OUT and SP-W-OUT).
- Howe Sound reference and IDZ monitoring stations (WQR1, WQR2, IDZ-E1, IDZ-E2, IDZ-W1, and IDZ-W2).

The influent culverts for East and West Sedimentation Ponds are not yet operational and the associated influent stations defined in PE-111578 (SP-E-IN-1, SP-E-IN-2, SP-W-IN-1 and SP-W-IN-2) have been replaced with temporary influent monitoring stations SP-E-IN and SP-W-IN (East and West Sedimentation Pond, respectively).

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

Water quality was monitored at stations SW-01, SW-02, SW-03, SW-04, SW-07, IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WWTP-E-IN, WWTP-E-OUT, SP-E-IN, SP-E-OUT, E500GPM-IN, E500GPM-OUT, SP-W-IN, SP-W-OUT, W500GPM-IN, and W500GPM-OUT during the monitoring period (March 16 – March 22). Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (March 16 – March 22) were met.

Daily field parameters were not collected at effluent station SP-E-OUT on March 16 and 19 since there was no effluent discharged from the authorized discharge location 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 the West WWTP was not operational during the monitoring period.

Table 2: Summary of PE-111578 Monitoring Samples Collected March 16 – March 22.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
March 16, 2025	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
March 17, 2025	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	SP-E-OUT	East Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	WWTP-E-IN	East WWTP at the influent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	WWTP-E-OUT	East WWTP at the effluent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
March 18, 2025	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-E-OUT	East Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, W_1, W_2
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SW-02	Upper Reach of Mill Creek (upstream of third bridge)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	M
	SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
	SW-07	Upstream Mill Creek (at the diversion inlet)		
	IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	Field and Physical Parameters.	W_3
	IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface		
	IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
	IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
	IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
	IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
	IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface		
	IDZ-W1-2m	Howe Sound IDZ station W1; 2 m below surface		
	IDZ-W1-SF	Howe Sound IDZ station W1; 2 m above the seafloor		
	IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
	IDZ-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
	IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
March 19, 2025	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	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 entering the pond and collected at cell 1	Field Parameters.	D
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SW-01	Lower Reach of Woodfibre Creek (near the mouth)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	M
	SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		

Table 2 (continued): Summary of PE-111578 Monitoring Samples Collected March 16 – March 22.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
March 20, 2025	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-E-OUT	East Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
March 21, 2025	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-E-OUT	East Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
March 22, 2025	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-E-OUT	East Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	E500GPM-IN	East Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port	Field Parameters.	D
	W500GPM-IN	West Sedimentation Pond 500 GPM TSS settling system at the influent meter box	Field Parameters.	P
	W500GPM-OUT	West Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		

Notes:
Monitoring frequency requirements under PE-111578 are indicated as follows:
D – daily monitoring of field parameters at WWTP and sedimentation pond influent and effluent stations.
M – monthly monitoring for all parameters at WWTP, sedimentation pond and receiving environment stations.
W_1 – initial high frequency monitoring for physical parameters at WWTP and sedimentation pond influent and effluent stations.
W_2 – initial high frequency monitoring for all parameters at WWTP and sedimentation pond influent and effluent stations.
W_3 – initial high frequency monitoring for physical parameters at IDZ stations.
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 available at the time of reporting for samples collected during the monitoring period (March 16 – March 22) and for other samples that have not been previously reported are listed below in Table 3. Testing for methylmercury, dioxins and furans typically requires up to four weeks to complete. Analytical results not available at the time of reporting will be included in future weekly reports when testing is completed. Reporting of results is pending for the following samples and parameters:

- SP-W-IN and SP-W-OUT collected February 18 (dioxins and furans)
- IDZ-W1, IDZ-W2, and WQR2 collected February 18 (dioxins and furans)
- SW-02, SW-03, and SW-07 collected February 19 (dioxins and furans)
- SP-E-IN, SP-E-OUT, WWTP-E-IN, and WWTP-E-OUT collected February 20 (dioxins and furans)
- SW-01 and SW-04 collected February 21 (dioxins and furans)
- SP-E-IN, SP-E-OUT, WWTP-E-IN, WWTP-E-OUT, SP-W-IN, and SP-W-OUT collected February 24 (dioxins and furans)
- SP-W-IN and SP-W-OUT collected March 5 (dioxins and furans)
- SP-E-IN and SP-E-OUT collected March 7 (dioxins and furans)
- WWTP-E-IN and WWTP-E-OUT collected March 8 (dioxins and furans)
- SP-E-IN, SP-E-OUT, WWTP-E-IN, WWTP-E-OUT, SP-W-IN, and SP-W-OUT collected March 11 (methylmercury, dioxins and furans)
- IDZ-W1, IDZ-W2, and WQR2 collected March 12 (dioxins and furans)
- IDZ-E1, IDZ-E2, and WQR1 collected March 13 (dioxins and furans)
- SP-E-IN, SP-E-OUT, WWTP-E-IN, and WWTP-E-OUT collected March 17 (dioxins and furans)
- SP-W-IN and SP-W-OUT collected March 18 (methylmercury, dioxins and furans)
- SW-02, SW-03, and SW-07 collected March 18 (field and all analytical parameters)
- IDZ-E1, IDZ-E2, IDZ-W1, and IDZ-W2 collected March 18 (field and all analytical parameters)
- SW-01 and SW-04 collected March 19 (field and all analytical parameters)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #56.

Sample	Description	Sampling Date	Parameters Reported
WWTP-E-IN	East WWTP at the influent meter box	March 8, 2025	Methylmercury.
WWTP-E-OUT	East WWTP at the effluent meter box		
OUT-01	Non-contact water diversion ditch outlet	March 9, 2025	Methylmercury.
OUT-02	Non-contact water diversion ditch outlet		
OUT-06	Non-contact water diversion ditch outlet		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	March 12, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, and Methylmercury.
IDZ-W1-2m	Howe Sound IDZ station W1; 2 m below surface		
IDZ-W1-SF	Howe Sound IDZ station W1; 2 m above the seafloor		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
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		
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	March 13, 2025	Methylmercury.
IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface		
IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR1-2m	Reference site 1; 2 m below surface		
WQR1-SF	Reference site 1; 2 m above the seafloor		
SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	March 17, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, and Methylmercury.
SP-E-OUT	East Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port		
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 entering the pond and collected at cell 1	March 18, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port		

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 are summarized below.

During the monitoring period (March 16 – March 22), clarified water from the East Sedimentation Pond TSS settling system (E500GPM) discharged to Howe Sound at the authorized discharge location (station SP-E-OUT) each day except on March 16 and March 19. Daily clarified effluent volumes, East WWTP treated effluent volumes, and discharge volumes from the East Catchment are summarized in Appendix B, Table B-5.

Field measurements were collected March 16 – March 22 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix B, Table B-4. Analytical samples collected on March 17 (stations SP-E-IN, WWTP-E-IN, WWTP-E-OUT, and SP-E-OUT) were available at the time of reporting. Screening results for East Catchment contact water quality are tabulated in Table B-1 and Table B-2 of Appendix B. During the monitoring period (March 16 – March 22), field measurements and analytical results for effluent samples at station SP-E-OUT on March 17 met PE-111578 discharge limits and WQGs.

Total copper was above the MDO in East WWTP effluent (WWTP-E-OUT) collected March 17. East WWTP treated effluent has been directed to the East Sedimentation Pond since January 24. This item is tracked in Table 4.

Methylmercury analytical results were available at the time of reporting for East WWTP influent and effluent (WWTP-E-IN and WWTP-E-OUT, respectively) collected March 8 (as discussed in Report # 53) and March 17. Methylmercury results were also available for East Sedimentation Pond influent (SP-E-IN) and effluent discharged at SP-E-OUT on March 17. The methylmercury concentration in the effluent discharged at SP-E-OUT on March 17 was 0.0000418 µg/L (Appendix B, Table B-3). Methylmercury results and the corresponding total mercury results met the respective WQGs (see Section 3.1) in the SP-E-OUT sample.

3.4 West Catchment

The West Catchment water quality monitoring results for stations at the West Sedimentation Pond, the TSS settling systems (ESC and W500GPM) and West WWTP monitoring stations, and the authorized discharge location are discussed in this section. Results for sedimentation pond and TSS settling system influent and effluent stations are screened against PE-111578 discharge limits. Parameters without a discharge limit are screened against Canadian, Federal and BC WQGs for the protection of marine water aquatic life. The screened water quality results for analytical samples and field parameters are presented in Appendix C. Operation of the West WWTP is currently suspended (refer to Section 1.1) and monitoring results are therefore not available. Exceedances of PE-111578 discharge limits and WQGs in samples of effluent discharged to Howe Sound are summarized below.

During the monitoring period (March 16 – March 22), the TSS settling system (W500GPM) treated water stored in the West Sedimentation Pond each day and produced clarified effluent that was discharged to Howe Sound on each day at the authorized discharge location, SP-W-OUT. The smaller TSS settling system (ESC) was not operational during the monitoring period. Daily clarified effluent and discharge volumes from the West Catchment are summarized in Appendix C, Table C-4.

Field measurements were collected March 16 – March 22 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix C, Table C-3. Analytical samples collected on March 18 (SP-W-IN and SP-W-OUT) were available at the time of reporting. Screening results for West Catchment contact water quality are tabulated in Table C-1 and Table C-2 of Appendix C.

During the monitoring period (March 16 – March 22), field measurements and analytical results for the effluent sample collected at station SP-W-OUT on March 18 met PE-111578 discharge limits and WQGs.

3.5 Non-Contact Water Diversion Ditch Outlets

Non-contact water diversion ditch samples are screened against Canadian, Federal and BC WQGs for the protection of freshwater aquatic life. The analytical results and WQGs are summarized in Appendix D.

East Creek was temporarily diverted to OUT-11 on September 17 to facilitate replacement of the OUT-12 culvert through which East Creek previously discharged. Only East Creek water is flowing through the OUT-11 culvert. East Creek is monitored at freshwater receiving environment station SW-04 and station OUT-11 is not monitored while diversion is in place.

Methylmercury analytical results were available at the time of reporting for the March 9 non-contact water diversion ditch outlet samples collected at stations OUT-01, OUT-02, and OUT-06 (as discussed in Report #55). The methylmercury concentrations were 0.000031, 0.000041, and 0.000050 µg/L in samples collected from OUT-01, OUT-02, and OUT-06, respectively. Methylmercury and corresponding total mercury results met the WQGs. Results are tabulated in Appendix D, Table D-1.

3.6 Freshwater and Estuarine Water Receiving Environment

Freshwater and estuarine water receiving environment samples are screened against Canadian, Federal and BC WQGs for the protection of freshwater and estuarine aquatic life. Parameter concentrations above a WQG value, but within the range of values observed in the baseline monitoring program are considered to represent the natural condition of the water and are not flagged as a possible indicator of project influence.

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

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 E.

Analytical results and field measurements were available at the time of reporting for marine water samples collected at 0.5 and 2 m below the water surface and 2 m above the seafloor on March 12 at IDZ-W1, IDZ-W2, and marine reference station WQR2 (as discussed in Report #55). Parameter concentrations met WQGs except total boron in some samples (Appendix E; Tables E-1 and Table E-2).

In some of the marine samples collected on March 12 at IDZ-W1, IDZ-W2, and marine reference station WQR2, total boron was above the WQG (1.2 mg/L) and ranged from 1.27 to 4.52 mg/L. Elevated concentrations of total boron are indicative of influence from the deeper saline waters in the northern basin of Howe Sound and are a natural condition of the marine water at the WDA

monitoring stations. The total boron concentrations observed at the IDZ monitoring stations are within concentrations that have been observed in the pre-construction baseline monitoring program or within background ranges observed at marine reference stations and are therefore not attributed to project influence.

Methylmercury analytical results were available at the time of reporting for marine water samples collected at 0.5 and 2 m below the water surface and 2 m above the seafloor on March 12 at IDZ-W1, IDZ-W2, and marine reference station WQR2 and on March 13 at IDZ-E1, IDZ-E2, and marine reference station WQR1 (as discussed in Report #55). For all stations, methylmercury concentrations ranged from <0.000020 to 0.0000682 µg/L. Methylmercury results met the WQG. The corresponding total mercury results also met WQGs. Results are tabulated in Appendix E, Table E-3.

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 (March 16 – March 22, Report #56)		
Authorized Works and Monitoring Program Evaluation	The authorized works and monitoring stations have not been established as described in PE-111578.	The PE-111578 authorized works were under construction during the reporting period. The East and West Sedimentation Ponds and WWTPs have been constructed. The sedimentation pond conveyance ditches have not been constructed, and influent culverts have not been activated, and the associated influent monitoring stations have not been established. A temporary outfall is used for the East authorized discharge locations until the permanent structure is completed. West Sediment Pond clarified water has been pumped through temporary hoses to the permanent outfall structure since December 2024. Operation of the West WWTP has been suspended since September 25, 2024, and the plant has been repurposed to evaluate alternative treatment processes. The lower reach of East Creek has been temporarily diverted through OUT-11 outfall since September 17, 2024, to facilitate replacement of the East Creek outfall culvert (OUT-12). East Creek is monitored at SW-04 therefore monitoring at OUT-11 has been suspended. As communicated to BCER, the East Catchment discharge pathway for authorized discharge location SP-E-OUT was reconfigured from October 28, 2024, through January 24, 2025, to direct sedimentation pond water to the East WWTP and to discharge East WWTP treated effluent. From January 24, 2025, onwards the East WWTP discharge is directed to the East Sedimentation Pond. On November 28 and December 4, 2024, TSS settling systems were commissioned for use at the West and East Sedimentation Ponds, respectively, and are configured to discharge the clarified sediment pond water to Howe Sound. This item remains open.
WWTP Performance Evaluation	Field pH, T-Cu, T-Hg, T-Zn, and hexavalent Cr above the MDO	This item was first noted in Report #46 (January 8 sample) and has been updated with January 14 results (Report #47), January 24 and January 28 results (Report #49), February 5 and 6 results (Report #50), February 10 results (Report #51), February 15 and 20 results (Report #52), February 24 results (Report #53), March 8 results (Report #55), and March 17 results (this report). The total copper concentrations were 0.00809, 0.00595, 0.00895, 0.00518, 0.00542, 0.00525, and 0.00450 mg/L in samples collected at WWTP-E-OUT on January 8, 14, 24, 28, February 24, March 8, and 17 respectively, and ranged from 0.00613 to 0.0108 mg/L in four replicate samples collected on February 15. The total mercury concentrations were 0.0000355, 0.000185, 0.000223, and 0.0000882 mg/L in samples collected on January 24, 30, February 20 and 24, respectively, and were 0.0000615 and 0.0000644 mg/L in two replicate samples collected February 15. The total zinc concentrations were 0.0137, 0.0152, and 0.0156 mg/L in the samples collected on January 24, February 20 and 24, and were 0.0223 and 0.0234 mg/L in two of four replicate samples collected February 15. Hexavalent chromium concentrations were 0.00197 and 0.00166 mg/L in samples collected January 24 and 28 at WWTP-E-OUT. Field pH was 9.1, 9.2, and 9.6 in samples collected at WWTP-E-OUT on February 5, 6 and 10, respectively. Review of possible causes is ongoing. The effluent discharged to Howe Sound at SP-E-OUT met the discharge limits on January 8. East WWTP effluent was routed to the pre-discharge holding tank and did not discharge to Howe Sound on January 14. East WWTP effluent has been directed to the East Sedimentation Pond since January 24. This item remains open.
Pending Data	Analytical results not reported.	Analytical results for receiving environment samples collected March 18 and 19 were not complete at the time of Report #56 preparation. Dioxins and furans results for contact water samples collected March 17 and methylmercury, dioxins and furans results for contact water samples collected March 18 were not complete at the time of Report #56 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Ongoing Items from Previous Weekly Reports		
Report #52: Data QC	D-Cu and D-Zn greater than T-Cu and T-Zn	This item was first noted in Report #49 (January 31 samples) and has been updated with February 15 and February 18 results (Report #53). The dissolved copper and zinc concentrations were 2.2 to 2.5 times greater than the total copper concentration and 1.5 to 1.8 times the total zinc concentrations in two of four replicate samples collected at SP-E-OUT on January 31. The dissolved zinc concentrations were 3.6 and 5.5 times greater than the total zinc concentrations in the samples collected from WWTP-E-IN on February 15 and from SP-W-OUT on February 18, respectively. It is suspected that the dissolved metal sample bottles were contaminated during sample processing. Enhanced sampling and testing for copper and zinc is ongoing to identify specific sources of contamination. Enhanced monitoring results received at the time of reporting are inconclusive and a root cause has not yet been identified. This item remains open.
Report #52: Pending Data	Analytical results not reported.	Dioxins and furans results for contact water and receiving environment samples collected February 18, 19, 20, and 21 were not complete at the time of Report #56 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #53: Pending Data	Analytical results not reported.	Dioxins and furans results for contact water samples collected February 24 were not complete at the time of Report #56 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #54: Non-Compliant Effluent	East Sedimentation Pond effluent pH above upper discharge limit.	Field pH measured at station SP-E-OUT on March 8 was above the upper PE-111578 discharge limit. BCER was notified on March 11. Outcomes have been communicated to BCER. This item is closed.
Report #54: Pending Data	Analytical results not reported.	Methylmercury results for contact water samples collected March 8 are discussed in Section 3.3 of Report #56. Dioxins and furans results for contact water samples collected March 5, 7, and 8 were not complete at the time of Report #56 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #55: Non-Compliant Effluent	West Sedimentation Pond effluent pH above upper discharge limit.	Field pH measured at station SP-W-OUT on March 10 was above the upper PE-111578 discharge limit. BCER has been notified. Outcomes have been communicated to BCER. This item is closed.
Report #55: Potential Project Influence	Total aluminum and total iron at Mill Creek were above concentration ranges observed in the pre-construction baseline program.	Total aluminum and total iron concentrations observed at the Mill Creek station (SW-02) on February 19 were 2.7 and 1.2 times greater than the maximum concentrations observed in the pre-construction baseline monitoring program at Mill Creek, respectively. Moderate levels of turbidity (6.60 NTU) and TSS (4.7 mg/L) were observed in the Mill Creek sample collected February 19 and the total metal exceedances are attributed to particulate-bound forms of the metals. Potential influences to Mill Creek water quality at station SW-02 are being reviewed. This item remains open.
Report #55: Pending Data	Analytical results not reported.	Analytical results for receiving environment samples collected March 12 are discussed in Section 3.7 of Report #56. Methylmercury results for receiving environment samples collected March 9 and 13 are discussed in Sections 3.5 and 3.7 of Report #56. Methylmercury, dioxins and furans results for contact water samples collected March 11 and dioxins and furans results for receiving environment samples collected March 12 and 13 were not complete at the time of Report #56 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #55: Data QC	TSS showed poor correlation with turbidity.	The TSS concentration (13.4 mg/L) shows poor correlation with field and lab turbidity (1.48 and 1.64 NTU, respectively) in the marine receiving environment sample collected 2 m below the water surface at IDZ-W2 on March 6. A reanalysis has been initiated with the laboratory. This item remains open.

Notes:

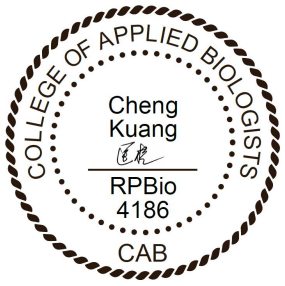
Result QA/QC screening includes the evaluation of field and lab QC results, comparison of total and dissolved metal results and review for modified detection limits.
Pending data are outstanding results from monitoring samples reported in the current or previous weekly reports.
Authorized works and monitoring program evaluation is an assessment of the completeness of the authorized works and monitoring program compared to PE-111578 specified or implied requirements.
WWTP performance evaluation is an assessment of WWTP effluent quality compared to operational MDOs.
Data QC indicates an evaluation of data trends or inter-parameter relationships that suggest a test result may not be representative of water quality at the time of monitoring.
Non-compliant discharge indicates exceedance of a discharge limit or a discharge that bypasses the sedimentation pond discharge location.
Potential project influence is an assessment that water quality at creek and Howe Sound baseline stations are above the baseline concentration range and may indicate project influence at these stations.

5. Closure

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

Regards,

LORAX ENVIRONMENTAL SERVICES LTD.



Holly Pelletier, B.Sc., GIT.
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Appendix A: Figures and Site Images

LEGEND

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

DATE SAVED:	Mar 26, 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 50 100 150 Metres

CLIENT: Woodfibre LNG

LORAX ENVIRONMENTAL

PROJECT:

Woodfibre LNG Project Construction Phase

TITLE: Completed or Under Construction Water Management Facilities and Established PE-111578 Monitoring Stations (March 22, 2025)

PROJECT #: A633-7 FIGURE: 1

P:\@Drafting\Woodfibre\Drafting Figures\APRX\WLNG Construction Phase 2024\WLNG Construction Phase 2024 - Weekly Reporting.aprx Figure 1 Monitoring and Compliance Locations

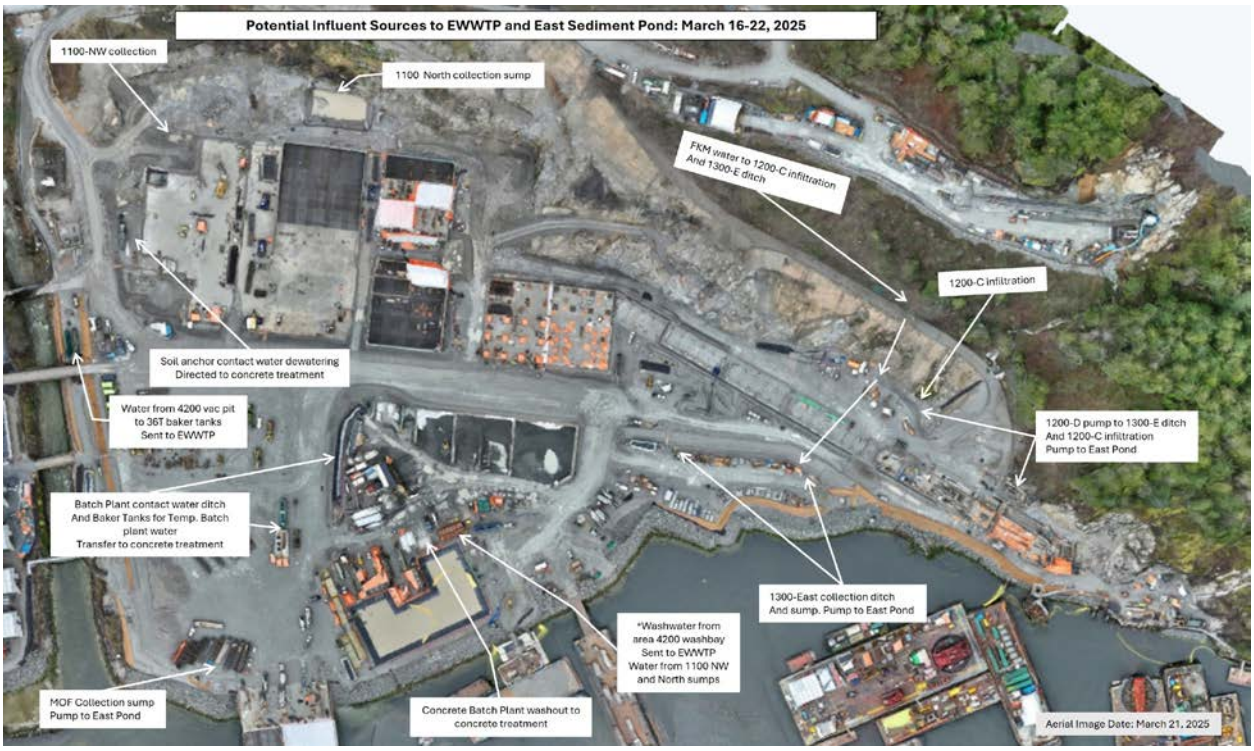

Figure 2: East Catchment contact water management facilities (March 16 – March 22).

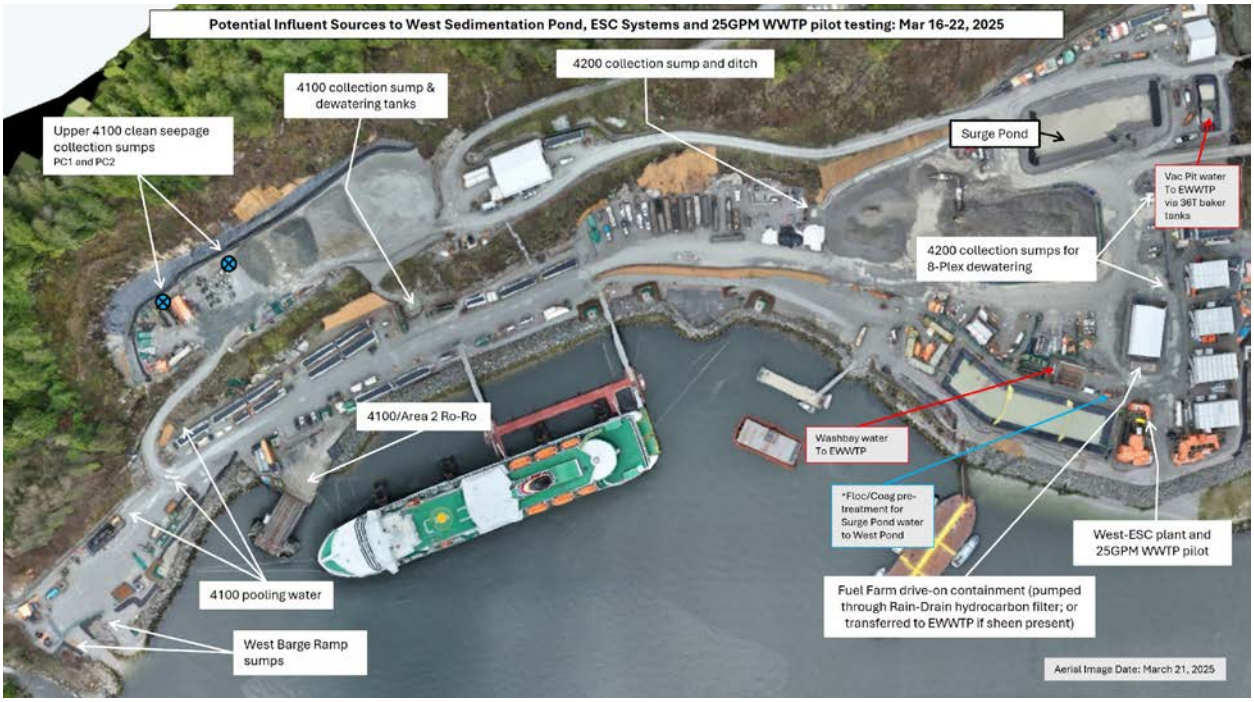

Figure 3: West Catchment contact water management facilities (March 16 – March 22).

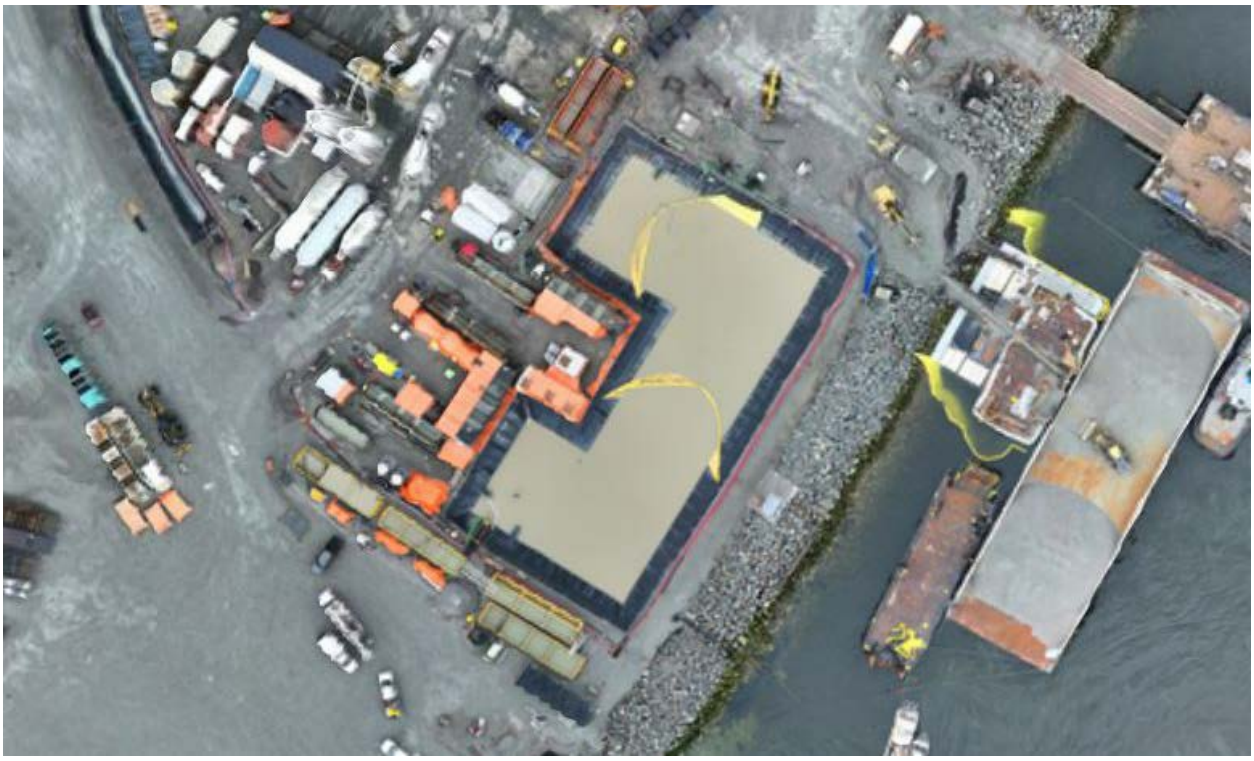

Figure 4: Aerial view of the East Sedimentation Pond (March 21, 2025). The East WWTP is located on the left side and the E500GPM TSS settling system is situated along the bottom edge of the pond.

Figure 5: Aerial view of the West Sedimentation Pond (March 21, 2025). The TSS settling systems are located to the left (W500GPM) and right (ESC) of the pond.

Appendix B: East Catchment Monitoring Results

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

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station WWTP-E-IN	Station SP-E-IN
					Influent	Influent
					WWTP-E-IN	SP-E-IN
					VA25A5791-001	VA25A5791-004
		Long Term	Short Term		2025-03-17 9:40	2025-03-17 10:40
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	6.9	6.5
Conductivity - Field	µS/cm	-	-	-	474	547
Temperature - Field	°C	-	-	-	7.7	8.3
Salinity - Field	ppt	-	-	-	0.35	0.40
Turbidity - Field	NTU	-	-	-	74.25	19.03
TSS	mg/L	-	-	25 [6]	70.4	35.8
Dissolved Oxygen - Field	mg/L	≥8	-	-	11.6	11.76
Anions and Nutrients						
Sulphate	mg/L	-	-	-	137	185
Chloride	mg/L	-	-	-	14.6	13.1
Fluoride	mg/L	-	1.5	-	0.251	0.224
Ammonia (N-NH_3)	mg/L	29 [3]	191 [3]	-	0.0354	0.0523
Nitrite (N-NO_2)	mg/L	-	-	-	0.0266	0.0276
Nitrate (N-NO_3)	mg/L	3.7	339	-	0.511	0.478
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	4.58	1.36
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00149	0.00134
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00467	0.00329
Barium, total (T-Ba)	mg/L	-	-	-	0.0469	0.0163
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000109	0.000046
Boron, total (T-B)	mg/L	1.2	-	-	0.073	0.038
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	0.000198	<0.0000700
Chromium, total (T-Cr)	mg/L	-	-	-	0.00393	0.003
Cobalt, total (T-Co)	mg/L	-	-	-	0.0014	0.00047
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0101	0.00442
Iron, total (T-Fe)	mg/L	-	-	-	3.6	1.14
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.00978	0.00274
Manganese, total (T-Mn)	mg/L	-	-	-	0.154	0.0719
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.0000196***	***0.000063***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0735	0.0759
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00167	0.00071
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000347	0.000293
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	0.000043	0.000013
Thallium, total (T-Tl)	mg/L	-	-	-	0.000061	0.000046
Uranium, total (T-U)	mg/L	-	-	-	0.0172	0.0113
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.0101	0.00505
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.0367	0.0092
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00114	0.00066
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000650	<0.0000350
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.0026	0.00171
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.015	0.038
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000050	0.000168
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0668	0.0466
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.145	0.153
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00370	0.00302
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0234	0.0026
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	-	-	-	0.000013	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	0.0000104	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000014	<0.000010
Fluoranthene	mg/L	-	-	-	0.000023	<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	-	-	-	0.000023	<0.000010
Quinoline	mg/L	-	-	-	0.000081	0.000098
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	<0.00050

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged each day during the monitoring period (March 16 – March 22) except on March 16 and 19.
[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. The discharge limit for Wet Conditions applied on March 20, 21, and 22.

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

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station WWTP-E-OUT	Station SP-E-OUT
					Effluent	Effluent
					WWTP-E-Out	SP-E-Out
					VA25A5791-002	VA25A5791-003
		Long Term	Short Term		2025-03-17 10:00	2025-03-17 10:20
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	6.2	7.3
Conductivity - Field	µS/cm	-	-	-	616	463
Temperature - Field	°C	-	-	-	8.4	8.2
Salinity - Field	ppt	-	-	-	0.45	0.33
Turbidity - Field	NTU	-	-	-	4.58	1.57
TSS	mg/L	-	-	25 [6]	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	11.56	11.42
Anions and Nutrients						
Sulphate	mg/L	-	-	-	247	130
Chloride	mg/L	-	-	-	14	14.6
Fluoride	mg/L	-	1.5	-	0.237	0.211
Ammonia ($N\text{-}NH_3$)	mg/L	18-29 [3]	121-191 [3]	-	0.084	<0.0050
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.0259	0.024
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	0.455	0.513
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	0.170	0.0576
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00148	0.00147
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00308	0.00292
Barium, total (T-Ba)	mg/L	-	-	-	0.00374	0.00574
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000048	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.016	0.085
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000200	<0.0000350
Chromium, total (T-Cr)	mg/L	-	-	-	0.00293	0.00124
Cobalt, total (T-Co)	mg/L	-	-	-	0.00012	0.00016
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00450 [7]	0.00247
Iron, total (T-Fe)	mg/L	-	-	-	0.093	0.028
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000432	0.000124
Manganese, total (T-Mn)	mg/L	-	-	-	0.0483	0.0506
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000635	0.0000029
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0855	0.0731
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.00025	0.000251
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	0.000052	0.000013
Uranium, total (T-U)	mg/L	-	-	-	0.00513	0.0148
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00301	0.00327
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.003	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00068	0.00090
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000200	<0.0000300
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00232	0.00197
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.05	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000286	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0423	0.0504
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.153	0.146
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00292	0.0032
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0035	0.0026
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	-	-	-	0.000071	<0.000050
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	<0.00050

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged each day during the monitoring period (March 16 – March 22) except on March 16 and 19.
[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. The discharge limit for Wet Conditions applied on March 20, 21, and 22.
[7] East WWTP treated effluent was directed to the East Sedimentation Pond on March 17.

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]	0.0069 – 0.020 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-E-IN	Influent	SP-E-IN	VA25A5791-004	2025-03-17	0.0000752	***0.0630***
WWTP-E-IN	Influent	WWTP-E-IN	VA25A5185-001	2025-03-08	***0.000153***	***0.0314***
WWTP-E-IN	Influent	WWTP-E-IN	VA25A5791-001	2025-03-17	0.0000706	0.0196
Effluent						
SP-E-OUT	Effluent	SP-E-OUT	VA25A5791-003	2025-03-17	0.0000418	0.00290
WWTP-E-OUT	Effluent	WWTP-E-OUT	VA25A5185-002	2025-03-08	0.0000360	0.00910
WWTP-E-OUT	Effluent	WWTP-E-OUT	VA25A5791-002	2025-03-17	0.0000343	0.00635

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

Table B-4: East Catchment Field Measurements Collected During the Monitoring Period (March 16 – March 22).

Parameter			Temp.	Dissolved Oxygen (DO)	Salinity	Turbidity	Estimated TSS [3]	pH	Conductivity	Visibility of Sheen
Unit			**°C**	**mg/L**	**ppt**	**NTU**	**mg/L**	**s.u.**	**µS/cm**	
PE-111578 Discharge Limit			-	-	-	-	25 or 75 [6]	5.5 - 9.0	-	-
Lowest Applicable Guideline [1]			-	≥8	-	-	- [2]	- [2]	-	-
Station ID	**Water Type**	**Date**								
Influent [4]										
SP-E-IN	Influent	2025-03-16 14:10	8.3	11.55	0.34	21.36	18.9	6.6	468	No
SP-E-IN	Influent	2025-03-17 10:40	8.3	11.76	0.40	19.03	17.2	6.5	547	No
SP-E-IN	Influent	2025-03-18 11:13	8.1	12.55	0.41	3.69	5.8	6.5	562	No
SP-E-IN	Influent	2025-03-19 14:52	8.6	11.67	0.48	3.19	5.4	6.3	669	No
SP-E-IN	Influent	2025-03-20 12:26	7.9	11.09	0.32	52.32	42.0	7.5	444	No
SP-E-IN	Influent	2025-03-21 9:00	7.4	11.66	0.32	142.48	109.3	6.5	434	No
SP-E-IN	Influent	2025-03-22 9:39	7.7	12.94	0.34	17.01	15.7	6.6	465	No
WWTP-E-IN	Influent	2025-03-16 13:59	8.4	11.64	0.29	58.11	46.3	6.9	407	No
WWTP-E-IN	Influent	2025-03-17 9:40	7.7	11.60	0.35	74.25	58.4	6.9	474	No
WWTP-E-IN	Influent	2025-03-18 10:46	7.0	12.03	0.37	14.44	13.8	6.6	495	No
WWTP-E-IN	Influent	2025-03-19 15:09	8.3	11.70	0.44	6.10	7.5	6.4	610	No
WWTP-E-IN	Influent	2025-03-20 12:46	8.9	11.67	0.40	78.33	61.4	7.3	558	No
WWTP-E-IN	Influent	2025-03-21 8:50	7.4	11.90	0.13	101.28	78.5	7.2	186	No
WWTP-E-IN	Influent	2025-03-22 9:59	7.6	11.80	0.30	73.89	58.1	6.6	407	No
E500GPM-IN	Influent	2025-03-16 14:06	8.3	12.51	0.29	57.57	45.9	7.1	403	No
E500GPM-IN	Influent	2025-03-17 10:42	7.9	12.78	0.35	66.32	52.5	7.1	479	No
E500GPM-IN	Influent	2025-03-18 11:18	6.8	13.51	0.38	15.79	14.8	6.9	511	No
E500GPM-IN	Influent	2025-03-20 12:30	8.8	12.56	0.42	59.62	47.5	7.4	595	No
E500GPM-IN	Influent	2025-03-21 8:44	7.3	11.75	0.27	94.78	73.7	7.3	372	No
E500GPM-IN	Influent	2025-03-22 9:29	7.3	12.94	0.29	82.11	64.2	7.0	400	No
Effluent [5]										
SP-E-OUT	Effluent	2025-03-17 10:20	8.2	11.42	0.33	1.57	4.2	7.3	463	No
SP-E-OUT	Effluent	2025-03-18 11:44	8.2	11.09	0.38	0.87	3.6	7.3	518	No
SP-E-OUT	Effluent	2025-03-20 12:56	9.8	9.85	0.44	1.39	4.0	7.0	629	No
SP-E-OUT	Effluent	2025-03-21 8:36	7.2	12.43	0.28	1.40	4.0	7.3	382	No
SP-E-OUT	Effluent	2025-03-22 9:51	8.1	12.58	0.29	1.26	3.9	7.1	410	No
WWTP-E-OUT	Effluent	2025-03-16 14:02	8.2	11.79	0.44	2.09	4.6	5.9	605	No
WWTP-E-OUT	Effluent	2025-03-17 10:00	8.4	11.56	0.45	4.58	6.4	6.2	616	No
WWTP-E-OUT	Effluent	2025-03-18 10:50	7.7	12.30	0.41	4.25	6.2	6.5	560	No
WWTP-E-OUT	Effluent	2025-03-19 14:58	8.7	11.09	0.51	0.88	3.7	6.1	705	No
WWTP-E-OUT	Effluent	2025-03-20 12:48	8.4	10.07	0.60	1.60	4.2	6.3	815	No
WWTP-E-OUT	Effluent	2025-03-21 8:54	8.4	12.02	0.59	1.63	4.2	6.0	803	No
WWTP-E-OUT	Effluent	2025-03-22 10:04	8.1	12.07	0.44	4.72	6.5	6.2	607	No
E500GPM-OUT	Effluent	2025-03-16 14:16	8.4	11.20	0.14	4.62	6.4	7.6	196	No
E500GPM-OUT	Effluent	2025-03-17 10:39	8.1	11.63	0.33	0.99	3.7	7.2	462	No
E500GPM-OUT	Effluent	2025-03-18 11:21	7.8	9.68	0.37	1.62	4.2	7.1	512	No
E500GPM-OUT	Effluent	2025-03-20 12:38	8.7	11.62	0.44	1.54	4.1	7.3	610	No
E500GPM-OUT	Effluent	2025-03-21 8:26	7.1	10.55	0.28	1.20	3.9	7.4	377	No
E500GPM-OUT	Effluent	2025-03-22 9:34	7.4	13.32	0.29	1.18	3.9	7.2	400	No
E500GPM-OUT	Effluent	2025-03-22 10:08	7.6	14.29	0.29	1.40	4.0	7.1	403	No

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 East Sedimentation Pond Discharge Limit.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.
[4] 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) on March 16 and March 19, 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 Wet Conditions. The discharge limit for Wet Conditions applied on March 20, 21, and 22.

Table B-5: East Catchment Daily Discharge Volumes for the Monitoring Period (March 16 – March 22).

	East Sedimentation Pond Effluent	East TSS Settling System (E500GPM) Clarified Effluent (Station E500GPM-OUT)	East WWTP Treated Effluent (Station WWTP-E-OUT)	Discharge to Howe Sound (Station SP-E-OUT)
Unit	**m^3**	**m^3**	**m^3**	**m^3**
PE-111578 Discharge Limit	- [1]	- [1]	1100	- [1]
Date				
2025-03-16	0	1,292 [2]	615 [3]	0
2025-03-17	0	1,559 [2]	595 [3]	598
2025-03-18	0	370 [2]	796 [3]	333
2025-03-19	0	366 [2]	814 [3]	0
2025-03-20	0	1,624 [2]	687 [3]	1,043
2025-03-21	0	1,323 [2]	676 [3]	583
2025-03-22	0	1,504 [2]	606 [3]	1,055

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 East Sedimentation Pond Discharge Limit.
[1] The annual average authorized discharge rate from the East Sedimentation Pond is 650 m^3/day. As noted in PE-111578 Condition 2.1.4, the actual discharge rate may deviate from the annual average rate due to annual variations in precipitation amounts within the catchment area. Therefore, the annual average authorized discharge rate is not evaluated as a discharge limit.
[2] All of the clarified effluent volumes from the E500GPM TSS Settling System were recirculated to the East Sedimentation Pond on March 16 and March 19. A total of 598 m^3 of clarified effluent from the E500GPM TSS Settling System were discharged to Howe Sound at SP-E-OUT and a total of 961 m^3 were recirculated to the East Sedimentation Pond on March 17. A total of 333 m^3 of clarified effluent from the E500GPM system were discharged to Howe Sound at SP-E-OUT and a total of 37 m^3 were recirculated to the East Sedimentation Pond on March 18. A total of 1,043 m^3 of clarified effluent from the E500GPM system were discharged to Howe Sound at SP-E-OUT and a total of 581 m^3 were recirculated to the East Sedimentation Pond on March 20. A total of 583 m^3 of clarified effluent from the E500GPM system were discharged to Howe Sound at SP-E-OUT and a total of 740 m^3 were recirculated to the East Sedimentation Pond on March 21. A total of 1,055 m^3 of clarified effluent from the E500GPM system were discharged to Howe Sound at SP-E-OUT and a total of 449 m^3 were recirculated to the East Sedimentation Pond on March 22.
[3] East WWTP treated effluent was recirculated to the East Sedimentation Pond.

Appendix C: West Catchment Monitoring Results

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

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station SP-W-IN Influent SP-W-IN VA25A5937-003 2025-03-18 10:00
		Long Term	Short Term		
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.1
Conductivity - Field	µS/cm	-	-	-	90
Temperature - Field	°C	-	-	-	6.3
Salinity - Field	ppt	-	-	-	0.07
Turbidity - Field	NTU	-	-	-	3.71
TSS	mg/L	-	-	25 [6]	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	15.28
Anions and Nutrients					
Sulphate	mg/L	-	-	-	16.1
Chloride	mg/L	-	-	-	3.45
Fluoride	mg/L	-	1.5	-	0.0574
Ammonia (N-NH_3)	mg/L	2.9 [3]	19 [3]	-	0.00606
Nitrite (N-NO_2)	mg/L	-	-	-	0.00507
Nitrate (N-NO_3)	mg/L	3.7	339	-	0.78
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.317
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00105
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00146
Barium, total (T-Ba)	mg/L	-	-	-	0.00515
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.0163
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.000015
Chromium, total (T-Cr)	mg/L	-	-	-	0.000745
Cobalt, total (T-Co)	mg/L	-	-	-	0.00011
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00163
Iron, total (T-Fe)	mg/L	-	-	-	0.166
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.00057
Manganese, total (T-Mn)	mg/L	-	-	-	0.00594
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000169
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0207
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000159
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	-	-	-	0.00535
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00209
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.000668
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.000010
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00126
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.0115
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0034
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0588
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00168
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.00142
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	<0.000010
Acridine	mg/L	-	-	-	<0.000010
Anthracene	mg/L	-	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020
Pyrene	mg/L	-	-	-	<0.000010
Quinoline	mg/L	-	-	-	<0.000050
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.11	-	-	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050
Styrene	mg/L	-	-	-	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged each day during the monitoring period (March 16 – March 22).
[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. The discharge limit for Wet Conditions applied on March 20, 21, and 22.

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 SP-W-OUT
					Influent
					SP-W-OUT
					VA25A5937-001
		Long Term	Short Term		2025-03-18 9:00
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.0
Conductivity - Field	µS/cm	-	-	-	107
Temperature - Field	°C	-	-	-	6.5
Salinity - Field	ppt	-	-	-	0.08
Turbidity - Field	NTU	-	-	-	2.35
TSS	mg/L	-	-	25 [6]	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	14.65
Anions and Nutrients					
Sulphate	mg/L	-	-	-	16.2
Chloride	mg/L	-	-	-	3.42
Fluoride	mg/L	-	1.5	-	0.0554
Ammonia (N-NH_3)	mg/L	2.9 [3]	19 [3]	-	0.00642
Nitrite (N-NO_2)	mg/L	-	-	-	0.00487
Nitrate (N-NO_3)	mg/L	3.7	339	-	0.777
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.112
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00113
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00147
Barium, total (T-Ba)	mg/L	-	-	-	0.00278
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.015
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.000010
Chromium, total (T-Cr)	mg/L	-	-	-	0.000704
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00010
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00153
Iron, total (T-Fe)	mg/L	-	-	-	0.038
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000104
Manganese, total (T-Mn)	mg/L	-	-	-	0.00128
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000088
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0219
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000191
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	-	-	-	0.00509
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00182
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.000751
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.000015
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.0011
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.000913
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0568
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00168
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.00107
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	<0.000010
Acridine	mg/L	-	-	-	<0.000010
Anthracene	mg/L	-	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020
Pyrene	mg/L	-	-	-	<0.000010
Quinoline	mg/L	-	-	-	<0.000050
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.11	-	-	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050
Styrene	mg/L	-	-	-	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged each day during the monitoring period (March 16 – March 22).
[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. The discharge limit for Wet Conditions applied on March 20, 21, and 22.

Table C-3: West Catchment Field Measurements Collected During the Monitoring Period (March 16 – March 22).

Parameter			**Temperature**	**Dissolved Oxygen (DO)**	**Salinity**	**Turbidity**	**Estimated TSS [3]**	**pH**	**Conductivity**	**Visibility of Sheen**
Unit			**°C**	**mg/L**	**ppt**	**NTU**	**mg/L**	**s.u.**	**µS/cm**	
PE-111578 Discharge Limit			-	-	-	-	25 or 75 [6]	5.5 - 9.0	-	-
Lowest Applicable Guideline [1]			-	≥8	-	-	- [2]	- [2]	-	-
Station ID	**Water Type**	**Date**								
Influent [4]										
SP-W-IN	Influent	2025-03-16 13:45	7.6	14.51	0.07	37.36	30.9	8.5	96	No
SP-W-IN	Influent	2025-03-17 11:08	7.6	12.92	0.07	3.27	5.4	7.8	97	No
SP-W-IN	Influent	2025-03-18 10:00	6.3	15.28	0.07	3.71	5.8	8.1	90	No
SP-W-IN	Influent	2025-03-19 14:33	8.8	12.94	0.06	10.45	10.8	7.1	87	No
SP-W-IN	Influent	2025-03-20 12:11	7.2	13.15	0.06	80.53	63.1	8.8	86	No
SP-W-IN	Influent	2025-03-21 9:14	6.0	12.71	0.07	106.15	82.2	8.8	88	No
SP-W-IN	Influent	2025-03-22 9:06	6.1	13.29	0.07	38.87	32.0	8.8	94	No
W500GPM-IN	Influent	2025-03-16 13:36	7.9	13.95	0.07	18.1	16.5	8.0	93	No
W500GPM-IN	Influent	2025-03-17 9:18	7.1	12.82	0.07	21.7	19.2	7.3	94	No
W500GPM-IN	Influent	2025-03-18 9:51	6.2	13.38	0.07	11.47	11.6	8.2	94	No
W500GPM-IN	Influent	2025-03-19 17:30	8.5	13.65	0.07	4.29	6.2	7.3	95	No
W500GPM-IN	Influent	2025-03-20 11:56	7.3	13.36	0.09	18.45	16.8	8.3	131	No
W500GPM-IN	Influent	2025-03-21 7:50	7.9	11.99	0.06	61.51	48.9	8.1	84	No
W500GPM-IN	Influent	2025-03-22 9:04	6.7	13.12	0.07	41.7	34.1	8.5	97	No
Effluent [5]										
SP-W-OUT	Effluent	2025-03-16 20:46	7.2	12.68	0.07	2.94	5.2	6.9	95	No
SP-W-OUT	Effluent	2025-03-17 9:08	7.5	13.05	0.07	1.34	4.0	7.4	96	No
SP-W-OUT	Effluent	2025-03-18 9:00	6.5	14.65	0.08	2.35	4.8	8.0	107	No
SP-W-OUT	Effluent	2025-03-19 17:35	8.0	13.76	0.07	2.13	4.6	7.6	94	No
SP-W-OUT	Effluent	2025-03-20 12:01	7.7	14.56	0.07	2.90	5.2	8.3	106	No
SP-W-OUT	Effluent	2025-03-21 8:09	6.3	16.02	0.06	5.08	6.8	8.2	82	No
SP-W-OUT	Effluent	2025-03-22 9:17	6.7	13.09	0.07	3.40	5.5	8.2	95	No
W500GPM-OUT	Effluent	2025-03-16 13:41	8.0	15.48	0.07	4.66	6.5	7.8	94	No
W500GPM-OUT	Effluent	2025-03-16 20:39	8.8	12.57	0.07	2.48	4.8	6.9	99	No
W500GPM-OUT	Effluent	2025-03-17 9:14	13.3	10.22	0.00	1.11	3.8	7.3	- [7]	No
W500GPM-OUT	Effluent	2025-03-18 9:48	6.5	13.62	0.07	1.65	4.2	8.1	95	No
W500GPM-OUT	Effluent	2025-03-19 17:28	8.3	13.57	0.07	1.02	3.8	7.4	95	No
W500GPM-OUT	Effluent	2025-03-20 11:52	7.4	15.91	0.06	1.51	4.1	8.4	87	No
W500GPM-OUT	Effluent	2025-03-21 7:54	7.1	15.22	0.06	6.45	7.8	8.2	84	No
W500GPM-OUT	Effluent	2025-03-22 9:01	7.3	13.12	0.07	4.65	6.5	7.9	98	No

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 West Sedimentation Pond Discharge Limit.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.
[4] Daily field measurements for station SP-W-IN were collected from cell 1 of the West Sedimentation Pond.
[5] There was discharge at the authorized discharge location (SP-W-OUT) each day during the monitoring period and daily field measurements for SP-W-OUT were collected.
[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. The discharge limit for Wet Conditions applied on March 20, 21, and 22.
[7] Field conductivity measured on March 17 at W500GPM-OUT (0.1 µS/cm) was suspected to be erroneous and was not reported.

Table C-4: West Catchment Daily Discharge Volumes for the Monitoring Period (March 16 – March 22).

	West Sedimentation Pond Effluent	**West TSS Settling System (W500GPM) Clarified Effluent (Station W500GPM-OUT)**	**West TSS Settling System (ESC) Clarified Effluent (Station ESC-W-OUT)**	**West WWTP Treated Effluent [1] (Station WWTP-W-OUT)**	**Discharge to Howe Sound (Station SP-W-OUT)**
Unit	**m^3**	**m^3**	**m^3**	**m^3**	**m^3**
PE-111578 Discharge Limit	- [2]	- [2]	- [2]	120	- [2]
Date					
2025-03-16	0	1,860 [3]	0	0	353
2025-03-17	0	1,712 [3]	0	0	443
2025-03-18	0	1,472 [3]	0	0	870
2025-03-19	0	1,400 [3]	0	0	462
2025-03-20	0	1,914 [3]	0	0	1,449
2025-03-21	0	2,398 [3]	0	0	2,074
2025-03-22	0	1,564 [3]	0	0	1,381

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 West Sedimentation Pond Discharge Limit.
[1] The West WWTP is not being operated, therefore discharges are not expected from this facility.
[2] The annual average authorized discharge rate from the West Sedimentation Pond is 310 m^3/day. As noted in PE-111578 Condition 2.1.4, the actual discharge rate may deviate from the annual average rate due to annual variations in precipitation amounts within the catchment area. Therefore, the annual average authorized discharge rate is not evaluated as a discharge limit.
[3] A total of 353 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 1,507 m^3 were recirculated to the West Sedimentation Pond on March 16. A total of 443 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 1,269 m^3 were recirculated to the West Sedimentation Pond on March 17. A total of 870 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 602 m^3 were recirculated to the West Sedimentation Pond on March 18. A total of 462 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 938 m^3 were recirculated to the West Sedimentation Pond on March 19. A total of 1,449 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 465 m^3 were recirculated to the West Sedimentation Pond on March 20. A total of 2,074 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 323 m^3 were recirculated to the West Sedimentation Pond on March 21. A total of 1,381 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 183 m^3 were recirculated to the West Sedimentation Pond on March 22.

Appendix D: Non-Contact Water Diversion Ditch Outlets Results

Table D-1: Non-contact Water Diversion Ditch Outlet Methylmercury and Corresponding Total Mercury Results Received at the Time of Reporting.

Parameter					**Total Methylmercury**	**Total Mercury**
Unit					**µg/L**	**µg/L**
Lowest Applicable Guideline[1]					0.0001 [2]	0.0044 – 0.0086 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
OUT-01	Non-Contact Water Diversion Ditch Outlet	OUT-01	VA25A5181-001	2025-03-09	0.000031	0.00138 [5]
OUT-02	Non-Contact Water Diversion Ditch Outlet	OUT-02	VA25A5181-002	2025-03-09	0.000041	0.00354 [5]
OUT-06	Non-Contact Water Diversion Ditch Outlet	OUT-06	VA25A5181-003	2025-03-09	0.000050	0.00307 [5]

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of freshwater aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.026 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
[5] Total mercury samples were collected on March 11.
Non-detect results are screened using the detection limit value.

Appendix E: Marine Water Receiving Environment Results

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

Parameter	Unit	Lowest Applicable Guideline [1]		Station IDZ-W1			Station IDZ-W2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				IDZ-W1-0.5	IDZ-W1-2m	IDZ-W1-SF	IDZ-W2-0.5	IDZ-W2-2m	IDZ-W2-SF
				VA25A5429-001	VA25A5429-002	VA25A5429-003	VA25A5429-004	VA25A5429-005	VA25A5429-006
		Long Term	Short Term	2025-03-12 11:30	2025-03-12 11:20	2025-03-12 11:00	2025-03-12 9:20	2025-03-12 9:40	2025-03-12 10:10
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.86	8.00	7.67	8.26	8.17	7.69
Specific Conductivity - Field	µS/cm	-	-	5906	22251	29413	24384	26473	29455
Temperature - Field	℃	-	-	5.2	6.9	7.4	7.3	7.7	7.4
Salinity - Field	ppt	Narrative [2]	-	5.29	21.1	28.3	23.08	25.0	28.34
Turbidity - Field	NTU	2.65-3.23 [2]	8.65-9.23 [2]	0.89	1.12	0.85	1.39	1.07	0.60
TSS	mg/L	7.0-12.4 [2]	27.0-32.4 [2]	<2.0	3.3	2.1	<2.0	7.3	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	12.55	11.68	9.82	11.72	12.14	9.52
Anions and Nutrients									
Sulphate	mg/L	-	-	297	1260	2320	576	2020	2270
Chloride	mg/L	-	-	2180	9000	16200	4190	14200	16100
Fluoride	mg/L	-	1.5	<1.0	<1.0	1.0	<1.0	1.0	1.2
Ammonia (N-NH_3)	mg/L	1.8-8.1 [3]	12-54 [3]	0.0091	0.0073	0.0368	0.0096	0.0055	0.0384
Nitrite (N-NO_2)	mg/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate (N-NO_3)	mg/L	3.7	339	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Metals									
Aluminum, total (T-Al)	mg/L	-	-	0.0750	0.0385	0.0187	0.0788	0.0199	0.013
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	<0.00040	0.00086	0.00159	0.00051	0.00137	0.00163
Barium, total (T-Ba)	mg/L	-	-	0.006	0.007	0.0104	0.0076	0.0072	0.0108
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.64	***2.48***	***4.29***	***1.27***	***3.73***	***4.52***
Cadmium, total (T-Cd)	mg/L	0.00012	-	<0.000020	0.000042	0.000068	0.000024	0.000072	0.000075
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000093	0.000081	0.000088	0.000096	0.00008	0.000072
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00059	0.00059	<0.00050	0.00093	0.00055	<0.00050
Iron, total (T-Fe)	mg/L	-	-	0.095	0.062	0.03	0.117	0.033	0.021
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010	<0.00010	0.00013	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.00612	0.00454	0.00258	0.0078	0.0029	0.00245
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00192	0.00536	0.0098	0.00344	0.00858	0.0104
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silver, total (T-Ag)	mg/L	0.0005	0.0037	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Thallium, total (T-Tl)	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.000509	0.00152	0.00248	0.000819	0.00219	0.00248
Vanadium, total (T-V)	mg/L	0.005	-	0.00057	0.00097	0.0016	0.00083	0.00133	0.00164
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000020	0.000036	0.00007	0.000036	0.000038	0.000066
Copper, dissolved (D-Cu)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.036	0.021	<0.010	0.02	0.023	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00464	0.00336	0.00067	0.00364	0.00351	0.00068
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.869	2.86	5.64	3.13	2.97	5.83
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	0.00076	0.00136	0.00081	0.00084	0.00139
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0012	0.0016	<0.0010	0.0018	0.0013	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] Narrative guideline for the evaluation of change from background conditions arising from discharges to the aquatic environment. Salinity WQG was not evaluated. The water quality data presented in the table were collected when the site was discharging, therefore the turbidity and TSS WQGs were evaluated. Background values used to evaluate the March 12 IDZ-W1 and IDZ-W2 samples are the maximum values measured in the March 12 and 13 WQR2 and WQR1 reference station samples, respectively, at 0.5 and 2 m below the surface and 2 m above the seafloor (Report #56 and #55, respectively).
[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 E-2: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Reference Station WQR2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				WQR2-0.5	WQR2-2m	WQR2-SF
				VA25A5429-007	VA25A5429-008	VA25A5429-009
		Long Term	Short Term	2025-03-12 13:10	2025-03-12 12:35	2025-03-12 12:35
General Parameters						
pH - Field	pH units	7.0 - 8.7	-	7.38	7.78	7.59
Specific Conductivity - Field	µS/cm	-	-	8006	25334	29076
Temperature - Field	°C	-	-	5.7	7.4	7.6
Salinity - Field	ppt	Narrative [2]	-	7.23	23.98	28
Turbidity - Field	NTU	Narrative [2]	Narrative [2]	0.97	1.15	0.65
TSS	mg/L	Narrative [2]	Narrative [2]	<2.0	7.4	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	12.28	11.74	10.27
Anions and Nutrients						
Sulphate	mg/L	-	-	385	1910	2290
Chloride	mg/L	-	-	2840	13500	16200
Fluoride	mg/L	-	1.5	<1.0	1.1	1.2
Ammonia ($N\text{-}NH_3$)	mg/L	7.5-18 [3]	50-121 [3]	0.0159	<0.0050	0.0386
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	<0.10	<0.10	<0.10
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	<0.50	<0.50	0.57
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	0.0685	0.0238	0.0086
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	<0.0010	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	<0.00040	0.00132	0.00152
Barium, total (T-Ba)	mg/L	-	-	0.0077	0.007	0.0102
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.79	***3.75***	***4.4***
Cadmium, total (T-Cd)	mg/L	0.00012	-	<0.000020	0.000052	0.000076
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.00009	0.000086	0.000062
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00073	0.00054	<0.00050
Iron, total (T-Fe)	mg/L	-	-	0.145	0.041	0.014
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.00966	0.00307	0.00168
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00201	0.00809	0.00942
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	<0.00050
Silver, total (T-Ag)	mg/L	0.0005	0.0037	<0.00010	<0.00010	<0.00010
Thallium, total (T-Tl)	mg/L	-	-	<0.000050	<0.000050	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.00049	0.00212	0.00244
Vanadium, total (T-V)	mg/L	0.005	-	0.00073	0.00137	0.00152
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000020	0.000038	0.000071
Copper, dissolved (D-Cu)	mg/L	-	-	0.00058	0.00050	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.065	0.045	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00741	0.00369	0.00048
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.964	3.68	5.63
Vanadium, dissolved (D-V)	mg/L	-	-	0.00051	0.00098	0.00138
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0012	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] Narrative guideline for the evaluation of change from background conditions arising from discharges to the aquatic environment. Salinity WQG was not evaluated. The water quality data presented in the table were collected from marine reference stations, 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 $\leqslant$ 0.5% of total Hg, BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.

Table E-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]	0.0073 – 0.02 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Station IDZ-E1						
IDZ-E1	0.5 m Below Surface	IDZ-E1-0.5	VA25A5556-001	2025-03-13	<0.000020	<0.0050
IDZ-E1	2 m Below Surface	IDZ-E1-2m	VA25A5556-002	2025-03-13	<0.000020	<0.0050
IDZ-E1	2 m Above Seafloor	IDZ-E1-SF	VA25A5556-003	2025-03-13	<0.000020	<0.0050
Station IDZ-E2						
IDZ-E2	0.5 m Below Surface	IDZ-E2-0.5	VA25A5556-004	2025-03-13	0.0000682	<0.0050
IDZ-E2	2 m Below Surface	IDZ-E2-2m	VA25A5556-005	2025-03-13	<0.000020	<0.0050
IDZ-E2	2 m Above Seafloor	IDZ-E2-SF	VA25A5556-006	2025-03-13	<0.000020	<0.0050
Station IDZ-W1						
IDZ-W1	0.5 m Below Surface	IDZ-W1-0.5	VA25A5429-001	2025-03-12	0.0000210	<0.0050
IDZ-W1	2 m Below Surface	IDZ-W1-2m	VA25A5429-002	2025-03-12	<0.000020	<0.0050
IDZ-W1	2 m Above Seafloor	IDZ-W1-SF	VA25A5429-003	2025-03-12	<0.000020	<0.0050
Station IDZ-W2						
IDZ-W2	0.5 m Below Surface	IDZ-W2-0.5	VA25A5429-004	2025-03-12	<0.000020	<0.0050
IDZ-W2	2 m Below Surface	IDZ-W2-2m	VA25A5429-005	2025-03-12	<0.000020	<0.0050
IDZ-W2	2 m Above Seafloor	IDZ-W2-SF	VA25A5429-006	2025-03-12	<0.000020	<0.0050
Reference Station WQR1						
WQR1	0.5 m Below Surface	WQR1-0.5	VA25A5556-007	2025-03-13	<0.000020	<0.0050
WQR1	2 m Below Surface	WQR1-2m	VA25A5556-008	2025-03-13	<0.000020	<0.0050
WQR1	2 m Above Seafloor	WQR1-SF	VA25A5556-009	2025-03-13	<0.000020	<0.0050
Reference Station WQR2						
WQR2	0.5 m Below Surface	WQR2-0.5	VA25A5429-007	2025-03-12	<0.000020	<0.0050
WQR2	2 m Below Surface	WQR2-2m	VA25A5429-008	2025-03-12	<0.000020	<0.0050
WQR2	2 m Above Seafloor	WQR2-SF	VA25A5429-009	2025-03-12	<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.