TECHNICAL MEMORANDUM

To:	**Ian McAllister, Ashleigh Crompton, Mike Champion, Jackie Boruch and Ryan Schucroft (Woodfibre LNG)**	**Date:**	**23 Mar 2025**
From:	**Holly Pelletier, Cheng Kuang and Patrick Mueller (Lorax)**	**Project #:**	**A633-9**
Subject:	**PE-111578 Weekly Discharge and Compliance Report #55 for March 9 – March 15**		

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 #55) was prepared by Lorax Environmental and summarizes WDA monitoring conducted for the period of March 9 – March 15. 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 #55 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 G 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 9 – March 15, 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 9 – March 15), with precipitation recorded on each day. Heavy rains on March 9 and March 12 account for most (70.6 mm) of the total precipitation (94 mm) during the week of March 9 – March 15. 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
03-09-2025	45.2	11.6	3.5	Heavy Rain
03-10-2025	2.0	7.4	1.0	Mix of sun and cloud
03-11-2025	8.4	7.0	3.2	Rain
03-12-2025	25.4	5.3	3.9	Heavy Rain
03-13-2025	3.6	8.6	3.1	Mix of sun and cloud
03-14-2025	1.2	10	2.6	Mix of sun and cloud
03-15-2025	8.2	4.9	2.6	Rain

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

From March 9 – March 15, 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 except on March 15 as the East WWTP was not operational. A portion of the pond water clarified through the E500GPM TSS settling system was recirculated to the East Sedimentation Pond each day of the monitoring period except on March 10 and 11. A total of 8,742 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 9 through March 14. 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-6).

West Sedimentation Pond water was clarified through the W500GPM and ESC TSS settling systems prior to discharge. However, the ESC system was not operational for several days (March 11 through March 15) during the monitoring period. A portion of the pond water clarified through the W500GPM settling system was recirculated to the West Sedimentation Pond on March 10 through March 15 and a portion of the pond water clarified through the ESC system was recirculated to the West Sedimentation Pond on March 9 and 10. A total of 12,987 m^3 of effluent was clarified through the W500GPM system and directed to the SP-W-OUT discharge location on March 9 through March 15, and a total of 981 m^3 of effluent was clarified through the ESC system and directed to SP-W-OUT on March 9 and 10. 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-6).

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 OUT-01, OUT-02, OUT-06, IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1, WQR2, 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 9 – March 15). Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (March 9 – March 15) were met.

Daily field parameters were not collected at effluent stations SP-E-OUT and SP-W-OUT on March 12 since there was no effluent discharged from the authorized discharge location at the time of monitoring. Daily field parameters were not collected on March 14 and 15 at the influent and effluent stations of the East WWTP (WWTP-E-IN and WWTP-E-OUT, respectively) since the East WWTP was off-line and undergoing maintenance at the time of monitoring on March 14 and was not operational on March 15. 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 9 – March 15.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
March 9, 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		
	OUT-01	Non-contact water diversion ditch outlet	Field, Physical & General Parameters, Total and Dissolved Metals, and Methylmercury.	M
	OUT-02	Non-contact water diversion ditch outlet		
	OUT-06	Non-contact water diversion ditch outlet		
March 10, 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 11, 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, 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		
	OUT-01	Non-contact water diversion ditch outlet	Total and Dissolved Mercury.	M
	OUT-02	Non-contact water diversion ditch outlet		
	OUT-06	Non-contact water diversion ditch outlet		
March 12, 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
	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		
	IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	W_3, M
	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 Station 2; 0.5 m below surface		
	WQR2-2m	Reference Station 2; 2 m below surface		
	WQR2-SF	Reference Station 2; 2 m above the seafloor		

Table 2 (continued): Summary of PE-111578 Monitoring Samples Collected March 9 – March 15.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
March 13, 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		
	IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	W_3, M
	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 Station 1; 0.5 m below surface		
	WQR1-2m	Reference Station 1; 2 m below surface		
	WQR1-SF	Reference Station 1; 2 m above the seafloor		
March 14, 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
	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 15, 2025	SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	Field Parameters.	D
	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 9 – March 15) 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 (methylmercury, dioxins and furans)
- OUT-01, OUT-02, and OUT-06 collected March 9 (methylmercury)
- 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 (field and all analytical parameters)
- IDZ-E1, IDZ-E2, and WQR1 collected March 13 (methylmercury, dioxins and furans)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #55.

Sample	Description	Sampling Date	Parameters Reported
WWTP-E-IN	East WWTP at the influent meter box	February 5, 2025	Dioxins and Furans.
WWTP-E-OUT	East WWTP at the effluent meter box		
SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	February 15, 2025	Dioxins and Furans.
WWTP-E-IN	East WWTP at the influent meter box		
WWTP-E-OUT	East WWTP at the effluent meter box		
SP-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1		
SW-02	Upper Reach of Mill Creek (upstream of third bridge)	February 19, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, and Methylmercury.
SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
SW-07	Upstream Mill Creek (at the diversion inlet)		
OUT-06	Non-contact water diversion ditch outlet (additional sampling for PAHs)	February 20, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, Methylmercury, Dioxins and Furans.
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		Dioxins and Furans.
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-W-IN	West Sedimentation Pond influent entering the pond and collected at cell 1	March 5, 2025	Methylmercury.
SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	March 6, 2025	Field and Physical Parameters.
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		
SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	March 7, 2025	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	March 8, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
WWTP-E-OUT	East WWTP at the effluent meter box		
OUT-01	Non-contact water diversion ditch outlet	March 9, 2025	Field, Physical and General Parameters, Total and Dissolved Metals.
OUT-02	Non-contact water diversion ditch outlet		
OUT-06	Non-contact water diversion ditch outlet		
SP-E-IN	East Sedimentation Pond influent entering the pond and collected at cell 1	March 11, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
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		
SP-W-OUT	West Sedimentation Pond clarified effluent discharge to Howe Sound, collected at sampling port		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	March 13, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface		
IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR1-2m	Reference site 1; 2 m below surface		
WQR1-SF	Reference site 1; 2 m above the seafloor		

3.3 East Catchment

The East Catchment water quality monitoring results for stations at the East Sedimentation Pond, East WWTP and the authorized discharge location are discussed in this section. Results for the sedimentation pond and authorized discharge location are screened against PE-111578 discharge limits. Parameters without a discharge limit are screened against Canadian, Federal and BC WQGs for the protection of marine water aquatic life. East WWTP monitoring results are screened against operational MDOs which are equivalent to the PE-111578 discharge limits and the lowest applicable WQGs for parameters without discharge limits. The screened water quality results for analytical samples available at the time of reporting and for field parameters collected during the monitoring period are presented in Appendix B. Exceedances of PE-111578 discharge limits and WQGs in samples of effluent discharged to Howe Sound and results received for methylmercury, dioxins and furans are summarized below.

During the monitoring period (March 9 – March 15), 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 15. Daily discharge volumes from the East Catchment are summarized in Appendix B, Table B-6.

Field measurements were collected March 9 – March 15 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix B, Table B-5. Analytical samples collected on March 8 (stations WWTP-E-IN and WWTP-E-OUT) on March 11 (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 9 – March 15) field measurements and analytical results for effluent samples at station SP-E-OUT on March 11 met PE-111578 discharge limits and WQGs.

Total copper was above the MDO in East WWTP effluent (WWTP-E-OUT) collected March 8. East WWTP treated effluent has been directed to the East Sedimentation Pond since January 24. This item is tracked in Table 8.

Methylmercury analytical results were available at the time of reporting for East Sedimentation Pond influent (SP-E-IN) and effluent discharged at SP-E-OUT on March 7 (as discussed in Report #54). The methylmercury concentrations in the monitoring and duplicate samples of effluent discharged at SP-E-OUT on March 7 were 0.000112 and 0.000088 µg/L, respectively, (Appendix B, Table B-3). Methylmercury results and the corresponding total mercury results were above the respective WQGs (see Section 3.1) in one of the two replicate SP-E-OUT samples (Table 4).

Table 4:
Summary of Parameters Exceeding WQGs in Effluent Discharged from SP-E-OUT for Field and Analytical Results Available at the Time of Reporting

Parameter	Units	WQG[1]	N	N >WQG	Commentary
T-Hg	µg/L	0.0070	2	1	Total mercury measured in one of two replicate samples at station SP-E-OUT on March 7 (0.00787 µg/L) was 1.1 times greater than the calculated WQG.
Methylmercury	µg/L	0.0001	2	1	Methylmercury measured in one of two replicate samples at station SP-E-OUT on March 7 (0.000112 µg/L) was 1.1 times greater than the WQG.

N = number of samples.
Non-detect results are screened using the detection limit value.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.

Dioxin and furan results were reported for East WWTP influent and effluent collected on February 5 and 15 (as discussed in Report #50 and #51, respectively) and East Sedimentation Pond influent (station SP-E-IN) collected on February 15 (as discussed in Report #51). Results are tabulated in Appendix B, Table B-4.

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 and results received for methylmercury, dioxins and furans are summarized below.

During the monitoring period (March 9 – March 15), 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 operated March 9 and 10 and produced clarified effluent that was discharged to Howe Sound on these days. Daily clarified effluent and discharge volumes from the West Catchment are summarized in Appendix C, Table C-6.

Field measurements were collected March 9 – March 15 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix C, Table C- 5. Analytical samples collected on March 11 (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.

Field measurements and analytical results monitored at station SP-W-OUT met PE-111578 discharge limits and WQGs except field pH which exceeded the upper PE-111578 discharge limit on March 10 (Table 5).

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

Parameter	Units	Discharge Limit	N	N >Limit	Commentary
Field pH	s.u.	6.5-9.0	6	1	Field pH measured at station SP-W-OUT on March 10 was above the upper limit of the PE-111578 discharge limit. BCER has been notified.

N = number of samples.

Methylmercury analytical results were available at the time of reporting for West Sedimentation Pond influent (SP-W-IN) and effluent discharged at SP-W-OUT on March 5 (as discussed in Report #54). The methylmercury concentrations in the effluent discharged at SP-W-OUT on March 5 was 0.000043 µg/L, and met the WQG for methylmercury (Appendix C, Table C-3).

Dioxin and furan results were reported for West Sedimentation Pond influent (station SP-W-IN) on February 15 (as discussed in Report #51). Results are tabulated in Appendix C, Table C-4.

3.5 Non-Contact Water Diversion Ditch Outlets

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

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

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. Parameter concentrations met WQGs except total aluminum (Table 6).

A water quality sample was collected at OUT-06 on February 20 by Keystone Environmental and was tested for an expanded list of parameters, including PAHs and dioxins and furans. Parameter concentrations met WQGs except total aluminum, dissolved copper, total mercury, and methylmercury (Table 6). The lower and upper bound PCDD/F TEQ concentrations in the February 20 OUT-06 sample were 0.00181 and 1.70 pg/L, respectively.

PAHs were below detectable limits in the February 20 OUT-06 sample (and in the February 2 sample discussed in Report #51). Based on these results, the PAHs detected in the OUT-06 sample collected on October 20 (as discussed in Report #37) are attributed to TSS that is speculated to have been mobilized during heavy rain within the upslope non-contact water catchment intercepted by the ditch leading to OUT-06.

Table 6:
Summary of Parameters Exceeding WQGs at Non-Contact Water Diversion Ditch Outlets

Parameter	Units	WQG[1]	N	N >WQG	Commentary
Total Aluminum	mg/L	0.10 (OUT-06) 0.23 (OUT-01) 0.27 (OUT-02) 0.18 (OUT-06)	4	4	The total aluminum concentrations measured at OUT-06 (0.174 mg/L) on February 20 and at OUT-01 (0.283 mg/L), OUT-02 (0.460 mg/L), and OUT-06 (0.491 mg/L) on March 9 were 1.7, 1.2, 1.7, and 2.7 times greater than the calculated long-term WQGs, respectively.
Dissolved Copper	mg/L	0.00051 (OUT-06)	4	1	The dissolved copper concentration measured at OUT-06 (0.00073 mg/L) on February 20 was 1.4 times greater than the calculated long-term WQG.
Total Mercury	µg/L	0.0037 (OUT-06)	4	1	The total mercury concentration measured at OUT-06 (<0.0050 µg/L) on February 20 was 1.4 times greater than the calculated long-term WQG.
Methylmercury	µg/L	0.0001	4	1	The methylmercury concentration measured at OUT-06 (0.000136 µg/L) on February 20 was 1.4 times greater than the long-term WQG.

N = number of samples.
Non-detect results are screened using the detection limit value.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.

3.6 Freshwater and Estuarine Water Receiving Environment

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

Analytical results were available at the time of reporting for freshwater and estuarine water samples collected near the mouth of Mill Creek and upstream on Mill Creek (stations SW-02 and SW-07, respectively) and the Mill Creek Estuary (station SW-03) on February 19 (as discussed in Report #52).

Parameter concentrations met WQGs except field pH, total aluminum, total iron, and dissolved copper in one or more samples. Field pH was below the lower limit of the WQG in the Mill Creek estuary sample (station SW-03) on February 19 (pH 6.65). Total aluminum was above the long-term WQG in samples collected from Mill Creek at SW-02 (0.668 mg/L) and SW-07 (0.337 mg/L)

and total iron was above the long-term WQG at SW-02 (0.523 mg/L). Dissolved copper was above the long-term WQG at SW-07 (0.00032 mg/L).

The observed field pH in the Mill Creek estuary was within ranges observed in the pre-construction baseline monitoring program for the estuarine water receiving environment station. The February 19 sample collected from upstream Mill Creek (station SW-07) represents background concentrations in Mill Creek; therefore, the total aluminum and dissolved copper concentrations measured at SW-07 are not flagged as exceedances.

The observed concentrations of total aluminum and total iron at SW-02 on February 19 were above the upper ranges observed in the pre-construction baseline monitoring program for the freshwater water receiving environment station near the mouth of Mill Creek (Table 7). 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. This item is tracked in Table 8.

Table 7:
Summary of Parameters Exceeding WQGs at Freshwater and Estuarine Water Receiving Environment Stations

Parameter	Units	WQG[1]	N	N >WQG	Commentary
Total Aluminum	mg/L	0.16 (SW-02)	3	1	The total aluminum concentration measured in Mill Creek (SW-02) on February 19 (0.668 mg/L) was 4.2 times greater than the calculated long-term WQG. The total aluminum concentration at SW-02 was 2.7 times greater than the maximum concentration observed in the pre-construction baseline monitoring program (0.245 mg/L).
Total Iron	mg/L	0.3	3	1	The total iron concentration measured in Mill Creek (SW-02) on February 19 (0.523 mg/L) was 1.7 times greater than the long-term WQG. The total iron concentration at SW-02 was 1.2 times greater than the maximum concentration observed in the pre-construction baseline monitoring program (0.429 mg/L).

N = number of samples.
Non-detect results are screened using the detection limit value.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.

Methylmercury results were available at the time of reporting for freshwater and estuarine water samples collected February 19 (as discussed in Report #52). For all freshwater and estuarine water stations, the methylmercury concentrations ranged from <0.000020 to 0.000029 µg/L in all samples. Methylmercury results met the WQG. The corresponding total mercury results also met WQGs. Results are tabulated in Appendix E, Table E-2 (freshwater) and Appendix F, Table F-2 (estuarine).

3.7 Marine Water Receiving Environment

Marine water receiving environment samples are screened against Canadian, Federal and BC WQGs for the protection of marine water aquatic life. Parameter concentrations above a WQG value, but within the range of values observed in the baseline monitoring program or reference stations are considered to represent the natural condition of the water and not flagged as a possible indicator of project influence. Similarly, WQG exceedances at marine reference stations are considered to represent background conditions that are not influenced by the project. It is expected that samples collected within the IDZ (*i.e.,* mixing zone) defined in PE-111578 for the authorized discharge locations may have parameter concentrations above baseline or background (*i.e.,* reference station) concentrations due to project influence. The analytical results, field parameters and WQGs are summarized in Appendix G.

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 6 at IDZ-W1 and IDZ-W2 (as discussed in Report #54) and on March 13 at IDZ-E1, IDZ-E2, and marine reference station WQR1. Only field and physical parameters were collected on March 6. Parameter concentrations met WQGs except TSS and total boron in some samples (Appendix G; Tables G-1 through G-3).

In all of the marine samples collected on March 13 at IDZ-E1, IDZ-E2, and marine reference station WQR1, total boron was above the WQG (1.2 mg/L) and ranged from 1.78 to 4.06 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.

In the marine sample collected 2 m below the water surface at IDZ-W2 on March 6, TSS (13.4 mg/L) was above the calculated long-term WQG (10.7 mg/L). The TSS concentration in the sample shows poor correlation with field and lab turbidity (1.48 and 1.64 NTU, respectively) and a reanalysis has been initiated with the laboratory. This item is tracked in Table 8. The TSS 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.

Dioxins and furans analytical results were available at the time of reporting for marine samples collected from 0.5 and 2 m below the water surface and 2 m above the seafloor at stations IDZ-E1, IDZ-E2, and marine reference station WQR1 on February 20 (as discussed in Weekly Report #50).

For all samples, the lower and upper bound PCDD/F TEQ concentrations ranged from 0 to 0.0664 pg/L, and 1.24 to 3.26 pg/L, respectively. The lower and upper bound PCDD/F TEQ concentrations were within the concentration ranges observed in the baseline monitoring program or within background ranges observed at marine reference stations. Results are tabulated in Appendix G, Table G-4.

4. Quality Control

This section presents the results of the quality control (QC) evaluation for the PE-111578 weekly report (Table 8). 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 8. Any items flagged for follow-up are carried forward to future reports until they are closed.

Table 8: Weekly Report QC Evaluations and Ongoing Items

QC Procedure	Observation	Investigation/Resolution
Reporting Period (March 9 – March 15, Report #55)		
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.
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. Review of the non-compliance is underway, and outcomes will be communicated to BCER. This item remains open.
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.
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), and March 8 results (this report). The total copper concentrations were 0.00809, 0.00595, 0.00895, 0.00518, 0.00542, and 0.00525 mg/L in samples collected at WWTP-E-OUT on January 8, 14, 24, 28, February 24, and March 8, 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 12 were not complete at the time of Report #55 preparation. Methylmercury, dioxins and furans results for receiving environment samples collected March 9 and 13 and contact water samples collected March 11 were not complete at the time of Report #55 preparation. The pending results will be included in future weekly reports when available. This item remains open.
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.
Ongoing Items from Previous Weekly Reports		
Report #50: Pending Data	Analytical results not reported.	Dioxin and furans results for samples collected February 5 are discussed in Section 3.3 of Report #55. This item is closed.
Report #51: Pending Data	Analytical results not reported.	Dioxins and furans results for contact water samples collected February 15 are discussed in Sections 3.3 and 3.4 of Report #55. This item is closed.
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.	Analytical results for receiving environment samples collected February 19 are discussed in Section 3.6 of Report #55. Dioxins and furans results for marine receiving environment samples collected February 20 are discussed in Section 3.7 of Report #55. 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 #55 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #53: Potential Project Influence	Total aluminum, total chromium, total iron, and dissolved copper at East Creek were above concentration ranges observed in the pre-construction baseline program.	Total aluminum, total chromium, total iron, and dissolved copper concentrations observed at the East Creek station (SW-04) on February 21 were 6.4, 4.5, 5.6, and 1.5 times greater than the maximum concentrations observed in the pre-construction baseline monitoring program at East Creek, respectively. Elevated turbidity (26.05 NTU) and TSS (32.5 mg/L) were observed in the East Creek sample collected February 21 and total metal exceedances are attributable to particulate-bound forms of the metals. It is likely East Creek was influenced by road runoff from outside the contact water catchment. The water management system has been modified to collect this runoff and divert it to the East Sedimentation Pond. This item is closed.
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 #55 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. Review of the non-compliance is underway, and outcomes will be communicated to BCER. This item remains open.
Report #54: Pending Data	Analytical results not reported.	Analytical results for receiving environment samples collected March 6 and contact water samples collected March 8 are discussed in Sections 3.7 and 3.3 of Report #55, respectively. Methylmercury results for contact water samples collected March 5 and 7 are discussed in Sections 3.3 and 3.4 of Report #55. Methylmercury results for contact water samples collected March 8 and dioxins and furans results for contact water samples collected March 5, 7, and 8 were not complete at the time of Report #55 preparation. The pending results will be included in future weekly reports when available. This item remains open.

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

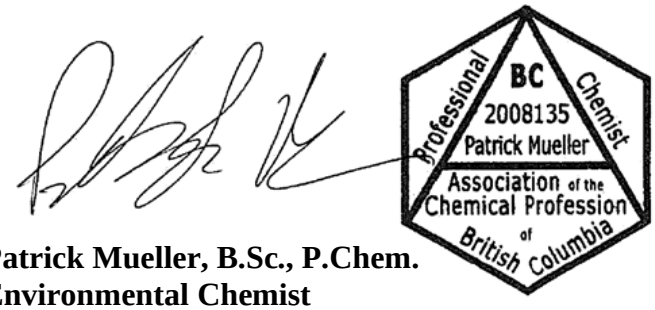
5. Closure

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

Regards,

LORAX ENVIRONMENTAL SERVICES LTD.

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



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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 20, 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 15, 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 9 – March 15).

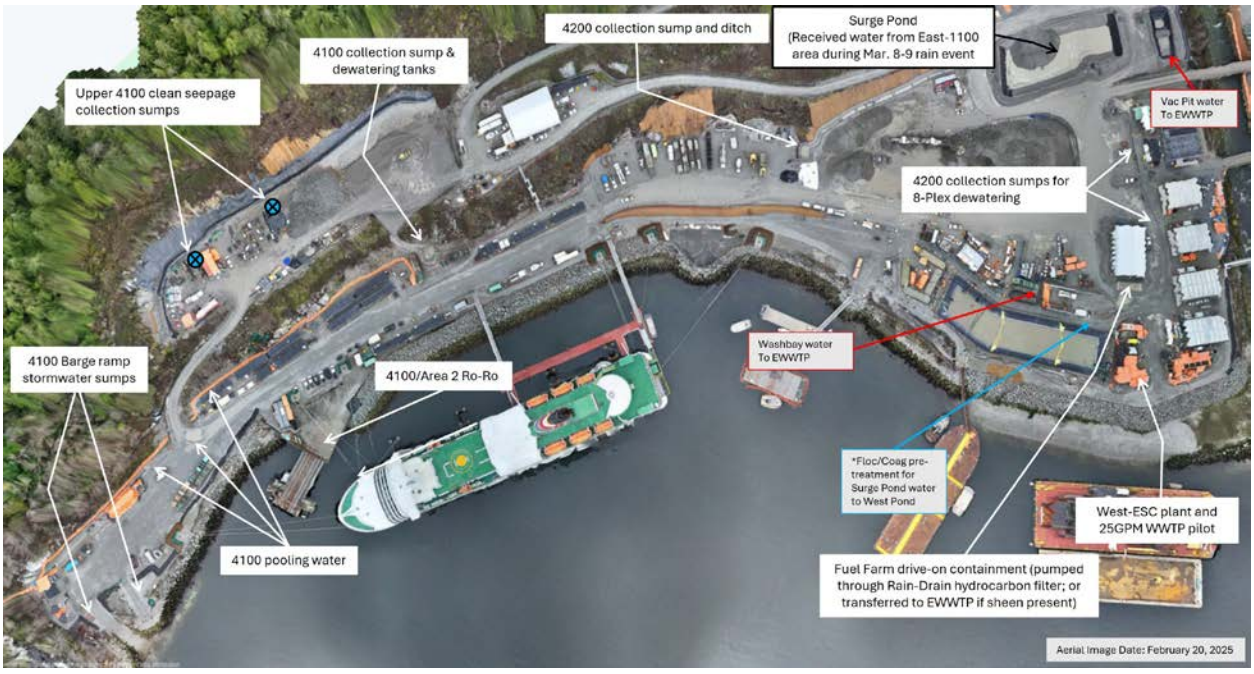

Figure 3: West Catchment contact water management facilities (March 9 – March 15).

Figure 4: Aerial view of the East Sedimentation Pond (March 14, 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 14, 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 SP-E-IN
					Influent
					SP-E-IN
					VA25A5325-005
		Long Term	Short Term		2025-03-11 12:25
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.8
Conductivity - Field	µS/cm	-	-	-	663
Temperature - Field	°C	-	-	-	7.8
Salinity - Field	ppt	-	-	-	0.49
Turbidity - Field	NTU	-	-	-	120.1
TSS	mg/L	-	-	25 [6]	18.1
Dissolved Oxygen - Field	mg/L	≥8	-	-	12.58
Anions and Nutrients					
Sulphate	mg/L	-	-	-	340
Chloride	mg/L	-	-	-	8.15
Fluoride	mg/L	-	1.5	-	0.114
Ammonia ($N\text{-}NH_3$)	mg/L	0.5 [3]	3.3 [3]	-	0.0116
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.0191
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	2.41
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	1.71
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00135
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00233
Barium, total (T-Ba)	mg/L	-	-	-	0.0167
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.048
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000350
Chromium, total (T-Cr)	mg/L	-	-	-	0.00182
Cobalt, total (T-Co)	mg/L	-	-	-	0.00043
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00447
Iron, total (T-Fe)	mg/L	-	-	-	0.929
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000936
Manganese, total (T-Mn)	mg/L	-	-	-	0.0337
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.0000287***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0555
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00061
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000318
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	0.000013
Uranium, total (T-U)	mg/L	-	-	-	0.00856
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00696
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.0058
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00088
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000150
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00283
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00676
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.221
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00501
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	<0.000010
Acridine	mg/L	-	-	-	<0.000010
Anthracene	mg/L	-	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020
Pyrene	mg/L	-	-	-	<0.000010
Quinoline	mg/L	-	-	-	0.000114
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 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged each day during the monitoring period (March 9 – March 15) except on March 15.
[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 9, 10, 12, and 13.

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 SP-E-OUT	Station SP-E-OUT
					Effluent	Effluent
					SP-E-Out	SP-E-Out-Dup
					VA25A5325-006	VA25A5325-007
		Long Term	Short Term		2025-03-11 13:20	2025-03-11 13:20
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.2	8.2
Conductivity - Field	µS/cm	-	-	-	481	481
Temperature - Field	°C	-	-	-	7.7	7.7
Salinity - Field	ppt	-	-	-	0.35	0.35
Turbidity - Field	NTU	-	-	-	0.53	0.53
TSS	mg/L	-	-	25 [6]	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	11.54	11.54
Anions and Nutrients						
Sulphate	mg/L	-	-	-	230	224
Chloride	mg/L	-	-	-	7.66	7.54
Fluoride	mg/L	-	1.5	-	0.117	0.116
Ammonia ($N\text{-}NH_3$)	mg/L	1.8 [3]	12 [3]	-	<0.0050	<0.0050
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.0217	0.0201
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	2.56	2.50
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	0.226	0.223
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00139	0.00138
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00216	0.0022
Barium, total (T-Ba)	mg/L	-	-	-	0.0044	0.00458
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000020	<0.000020
Boron, total (T-B)	mg/L	1.2	-	-	0.042	0.041
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000200	<0.0000150
Chromium, total (T-Cr)	mg/L	-	-	-	0.00144	0.0014
Cobalt, total (T-Co)	mg/L	-	-	-	0.00013	0.00013
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00199	0.00192
Iron, total (T-Fe)	mg/L	-	-	-	0.020	0.018
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000056	0.000053
Manganese, total (T-Mn)	mg/L	-	-	-	0.015	0.0147
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.0000031	0.00000328
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0441	0.0432
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000247	0.000213
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	-	-	-	0.0122	0.0119
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00453	0.00455
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00122	0.00127
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000150	<0.0000150
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00169	0.00166
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.010	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000050	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0145	0.0146
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.139	0.14
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00441	0.00433
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	-	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	<0.000010
Quinoline	mg/L	-	-	-	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	<0.00050

Notes: Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged each day during the monitoring period (March 9 – March 15) except on March 15.
[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 9, 10, 12, and 13.

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]	0.020 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-E-IN	Influent	SP-E-IN	VA25A5111-004	2025-03-07	***0.000141***	***0.0434***
Effluent						
SP-E-OUT	Effluent	SP-E-OUT	VA25A5111-001	2025-03-07	***0.000112***	***0.00787***
SP-E-OUT	Effluent	SP-E-OUT-DUP	VA25A5111-002	2025-03-07	0.000088	0.00771

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 Dioxin and Furan Toxicity Equivalency Quantity (TEQ) Results Received at the Time of Reporting.

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-E-IN	Influent	SP-E-IN	L2758975-1	2025-02-15	0.0184	1.24
WWTP-E-IN	Influent	WWTP-E-IN	L2758867-1	2025-02-05	0	0.801
WWTP-E-IN	Influent	WWTP-E-IN	L2758977-1	2025-02-15	0	1.12
Effluent						
WWTP-E-OUT	Effluent	WWTP-E-OUT	L2758867-2	2025-02-05	0	0.962
WWTP-E-OUT	Effluent	WWTP-E-OUT	L2758977-2	2025-02-15	0.472	1.26

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

Table B-5: East Catchment Field Measurements Collected During the Monitoring Period (March 9 – March 15).

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	2025-03-09 8:58	7.6	12.12	0.27	103.42	80.1	8.0	70	No
SP-E-IN	Influent	2025-03-10 10:22	7.0	12.33	0.29	64.16	50.9	8.8	377	No
SP-E-IN	Influent	2025-03-11 12:25	7.8	12.58	0.49	120.10	92.6	8.8	663	No
SP-E-IN	Influent	2025-03-12 13:33	7.4	12.34	0.37	203.49	154.8	7.8	502	No
SP-E-IN	Influent	2025-03-13 8:36	7.1	11.57	0.23	99.89	77.5	8.4	315	Yes [8]
SP-E-IN	Influent	2025-03-14 16:30	10.8	11.18	0.27	2.77	5.1	7.5	398	No
SP-E-IN	Influent	2025-03-15 14:50	10.8	11.41	0.23	356.84	269.1	8.1	317	Yes [8]
WWTP-E-IN	Influent	2025-03-09 8:36	8.3	11.94	0.33	155.38	118.9	7.7	164.7	No
WWTP-E-IN	Influent	2025-03-09 10:05	7.1	12.26	0.15	220.03	167.1	9.4	205	No
WWTP-E-IN	Influent	2025-03-10 10:26	7.1	12.22	0.29	41.96	34.3	8.8	393	No
WWTP-E-IN	Influent	2025-03-11 11:40	7.4	12.00	0.17	156.85	120.0	8.8	241	No
WWTP-E-IN	Influent	2025-03-12 13:24	7.4	11.86	0.29	10.64	10.9	6.6	401	No
WWTP-E-IN	Influent	2025-03-13 8:17	7.3	11.51	0.23	110.19	85.2	7.4	314	No
E500GPM-IN	Influent	2025-03-09 9:03	7.7	12.79	0.30	144.51	110.8	8.0	417	No
E500GPM-IN	Influent	2025-03-10 10:39	7.0	13.34	0.29	43.24	35.2	8.4	396	No
E500GPM-IN	Influent	2025-03-11 12:19	7.6	12.76	0.36	26.02	22.4	8.6	490	No
E500GPM-IN	Influent	2025-03-12 13:30	7.5	10.10	0.42	7.40	8.5	8.0	566	No
E500GPM-IN	Influent	2025-03-13 8:30	7.0	13.03	0.23	113.81	87.9	7.7	316	No
E500GPM-IN	Influent	2025-03-14 16:39	11	11.91	0.27	22.88	20.1	7.5	400	No
E500GPM-IN	Influent	2025-03-15 14:59	7.9	12.71	0.25	23.96	20.9	7.9	343	No
Effluent [5]										
SP-E-OUT	Effluent	2025-03-09 8:50	7.8	11.80	0.32	4.13	6.1	7.0	446	No
SP-E-OUT	Effluent	2025-03-10 10:44	7.2	11.90	0.29	1.44	4.1	8.2	399	No
SP-E-OUT	Effluent	2025-03-10 14:16	8.9	11.70	0.29	1.26	3.9	7.3	416	No
SP-E-OUT	Effluent	2025-03-11 13:20	7.7	11.54	0.35	0.53	3.4	8.2	481	No
SP-E-OUT [5]	Effluent	2025-3-12 [5]	9.1 [5]	- [5]	- [5]	- [5]	- [5]	7.8 [5]	- [5]	- [5]
SP-E-OUT	Effluent	2025-03-13 8:46	7.1	12.45	0.25	0.59	3.4	7.8	340	No
SP-E-OUT	Effluent	2025-03-14 16:28	10.5	10.47	0.26	1.32	4.0	7.4	385	No
WWTP-E-OUT	Effluent	2025-03-09 8:29	8.8	- [7]	0.86	0.47	3.4	6.4	1172	No
WWTP-E-OUT	Effluent	2025-03-10 10:30	7.4	12.04	0.57	5.77	7.3	6.7	764	No
WWTP-E-OUT	Effluent	2025-03-11 12:00	7.8	11.96	0.64	4.13	6.1	7.1	863	No
WWTP-E-OUT	Effluent	2025-03-12 13:11	8.0	12.61	0.48	9.24	9.9	6.5	658	No
WWTP-E-OUT	Effluent	2025-03-13 8:20	8.1	11.42	0.51	1.01	3.8	7.0	695	No
E500GPM-OUT	Effluent	2025-03-09 8:45	7.4	12.97	0.32	4.19	6.1	8.2	439	No
E500GPM-OUT	Effluent	2025-03-10 10:36	7.2	13.40	0.30	1.57	4.2	8.2	403	No
E500GPM-OUT	Effluent	2025-03-11 12:16	7.6	12.45	0.34	0.76	3.6	8.1	467	No
E500GPM-OUT	Effluent	2025-03-12 13:28	7.5	12.33	0.42	2.90	5.2	8.2	566	No
E500GPM-OUT	Effluent	2025-03-13 8:27	7.3	12.35	0.24	0.51	3.4	7.6	333	No
E500GPM-OUT	Effluent	2025-03-14 16:37	10.7	11.16	0.26	0.31	3.2	7.4	395	No
E500GPM-OUT	Effluent	2025-03-15 14:56	8.0	11.16	0.25	0.87	3.6	7.7	349	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. There was no influent to the East WWTP at the time of monitoring on March 14 and 15, therefore daily field measurements for WWTP-E-IN were not collected on those days.
[5] There was no discharge at the authorized discharge location (SP-E-OUT) at the time of monitoring on March 12, therefore daily field measurements for SP-E-OUT were not collected that day. Average temperature and pH measurements logged at the E500GPM-OUT meter box during the discharge period are reported for March 12; turbidity measurements were not available. There was no discharge on March 15, therefore daily measurements for SP-E-OUT were not collected that day. There was no effluent discharged from the East WWTP at the time of monitoring on March 14 and 15, therefore daily field measurements for WWTP-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 9, 10, 12, and 13.
[7] The field DO measurement for WWTP-E-IN collected on March 9 (6.60 mg/L) is suspected to be erroneous and was not reported.
[8] A sheen was observed in cell 1 of the pond and contained with spill booms. The contractor was notified.

Table B-6: East Catchment Daily Discharge Volumes for the Monitoring Period (March 9 – March 15).

	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				
2025-03-09	0	2,427 [2]	553 [3]	2,012
2025-03-10	0	1,993 [2]	689 [3]	1,993
2025-03-11	0	2,364 [2]	703 [3]	2,364
2025-03-12	0	257 [2]	719 [3]	84
2025-03-13	0	1,734 [2]	743 [3]	1,719
2025-03-14	0	1,259 [2]	209 [3]	569
2025-03-15	0	920 [2]	0 [3]	0

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 East Sedimentation Pond Discharge Limit.
[1] The annual average authorized discharge rate from the East Sedimentation Pond is 650 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 discharged to Howe Sound at SP-E-OUT on March 10 and 11 and were recirculated to the East Sedimentation Pond on March 15. A total of 2,012 m^3 of clarified effluent from the E500GPM TSS Settling System were discharged to Howe Sound at SP-E-OUT and a total of 415 m^3 were recirculated to the East Sedimentation Pond on March 9. A total of 84 m^3 of clarified effluent from the E500GPM system were discharged to Howe Sound at SP-E-OUT and a total of 173 m^3 were recirculated to the East Sedimentation Pond on March 12. A total of 1,719 m^3 of clarified effluent from the E500GPM system were discharged to Howe Sound at SP-E-OUT and a total of 15 m^3 were recirculated to the East Sedimentation Pond on March 13. A total of 569 m^3 of clarified effluent from the E500GPM system were discharged to Howe Sound at SP-E-OUT and a total of 690 m^3 were recirculated to the East Sedimentation Pond on March 14.
[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
					VA25A5325-001
		Long Term	Short Term		2025-03-11 9:15
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.0
Conductivity - Field	µS/cm	-	-	-	85
Temperature - Field	°C	-	-	-	6.3
Salinity - Field	ppt	-	-	-	0.06
Turbidity - Field	NTU	-	-	-	22.62
TSS	mg/L	-	-	25 [6]	4.7
Dissolved Oxygen - Field	mg/L	≥8	-	-	14.26
Anions and Nutrients					
Sulphate	mg/L	-	-	-	19.0
Chloride	mg/L	-	-	-	4.47
Fluoride	mg/L	-	1.5	-	0.058
Ammonia ($N\text{-}NH_3$)	mg/L	2.9 [3]	19 [3]	-	0.0092
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.0168
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	1.15
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.646
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00109
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00183
Barium, total (T-Ba)	mg/L	-	-	-	0.00666
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	-	-	<0.0000200
Chromium, total (T-Cr)	mg/L	-	-	-	0.00144
Cobalt, total (T-Co)	mg/L	-	-	-	0.0002
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00212
Iron, total (T-Fe)	mg/L	-	-	-	0.418
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000766
Manganese, total (T-Mn)	mg/L	-	-	-	0.0142
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000208
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.025
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000141
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	0.000011
Uranium, total (T-U)	mg/L	-	-	-	0.00514
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00321
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.0045
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00122
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000100
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00122
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.024
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000105
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00289
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0489
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00235
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0072
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	0.000014
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	-	-	-	0.000011
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 9 – March 15).
[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 9, 10, 12, and 13.

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
					VA25A5325-002
		Long Term	Short Term		2025-03-11 8:50
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	7.1
Conductivity - Field	µS/cm	-	-	-	69
Temperature - Field	°C	-	-	-	6.9
Salinity - Field	ppt	-	-	-	0.05
Turbidity - Field	NTU	-	-	-	4.26
TSS	mg/L	-	-	25 [6]	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	13.36
Anions and Nutrients					
Sulphate	mg/L	-	-	-	19.2
Chloride	mg/L	-	-	-	4.48
Fluoride	mg/L	-	1.5	-	0.061
Ammonia (N-NH_3)	mg/L	29 [3]	191 [3]	-	0.0082
Nitrite (N-NO_2)	mg/L	-	-	-	0.0174
Nitrate (N-NO_3)	mg/L	3.7	339	-	1.14
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.130
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00109
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.0018
Barium, total (T-Ba)	mg/L	-	-	-	0.00196
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	-	-	<0.0000100
Chromium, total (T-Cr)	mg/L	-	-	-	0.00124
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00010
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00129
Iron, total (T-Fe)	mg/L	-	-	-	0.028
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000119
Manganese, total (T-Mn)	mg/L	-	-	-	0.00243
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.0000011
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0249
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000147
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	-	-	-	0.00475
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00257
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.0012
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000100
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00118
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.015
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000052
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00185
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0496
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00232
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0020
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 9 – March 15).
[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 9, 10, 12, and 13.

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

Parameter					**Total Methylmercury**	**Total Mercury**
Unit					**µg/L**	**µg/L**
Lowest Applicable Guideline[1]					0.0001 [2]	0.020 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-W-IN	Influent	SP-W-IN	VA25A4991-001	2025-03-05	0.000034	0.00408
Effluent						
SP-W-OUT	Effluent	SP-W-OUT	VA25A4991-002	2025-03-05	0.000043	0.00093

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

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

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-W-IN	Influent	SP-W-IN	L2758975-2	2025-02-15	0.0911	1.40

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

Table C-5: West Catchment Field Measurements Collected During the Monitoring Period (March 9 – March 15).

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	2025-03-09 10:29	6.6	12.30	0.05	81.28	63.6	9.1	32	No
SP-W-IN	Influent	2025-03-10 9:44	5.9	13.23	0.06	72.74	57.2	10.7	87	No
SP-W-IN	Influent	2025-03-11 9:15	6.3	14.26	0.06	22.62	19.9	8.0	85	No
SP-W-IN	Influent	2025-03-12 13:42	6.5	12.68	0.07	17.92	16.4	8.2	93	No
SP-W-IN	Influent	2025-03-13 9:01	5.9	13.31	0.07	26.35	22.7	8.5	89	No
SP-W-IN	Influent	2025-03-14 13:16	9.0	12.88	0.06	23.47	20.5	8.4	95	No
SP-W-IN	Influent	2025-03-15 14:30	7.2	12.69	0.07	4.31	6.2	8.0	93	No
W500GPM-IN	Influent	2025-03-09 10:34	6.4	12.68	0.05	68.57	54.1	9.0	71	No
W500GPM-IN	Influent	2025-03-10 9:04	7.1	12.19	0.07	30.95	26.1	9.2	91	No
W500GPM-IN	Influent	2025-03-11 9:42	6.1	13.16	0.06	13.97	13.4	9.1	84	No
W500GPM-IN	Influent	2025-03-12 14:03	6.4	12.59	0.07	27.01	23.1	8.3	91	No
W500GPM-IN	Influent	2025-03-13 9:09	6.0	12.41	0.07	20.87	18.6	8.4	90	No
W500GPM-IN	Influent	2025-03-14 13:24	8.9	13.65	0.06	5.04	6.8	8.3	93	No
W500GPM-IN	Influent	2025-03-15 14:38	7.4	12.76	0.07	8.04	9.0	8.5	93	No
Effluent [5]										
SP-W-OUT	Effluent	2025-03-09 10:22	6.8	13.14	0.05	3.98	6.0	8.7	72	No
SP-W-OUT	Effluent	2025-03-10 9:33	6.0	14.94	0.06	6.68	8.0	11.0	82	No
SP-W-OUT	Effluent	2025-03-11 8:50	6.9	13.36	0.05	4.26	6.2	7.1	69	No
SP-W-OUT [5]	Effluent	2025-03-12 [5]	8.2 [5]	- [5]	- [5]	6.66 [5]	8.0	7.2 [5]	- [5]	- [5]
SP-W-OUT	Effluent	2025-03-13 7:51	6.8	13.72	0.07	0.58	3.4	7.5	91	No
SP-W-OUT	Effluent	2025-03-14 13:07	9.8	14.42	0.06	2.42	4.8	7.9	96	No
SP-W-OUT	Effluent	2025-03-15 14:23	8.2	12.69	0.07	2.02	4.5	7.5	95	No
W500GPM-OUT	Effluent	2025-03-09 10:32	6.7	13.02	0.05	3.59	5.7	8.7	72	No
W500GPM-OUT	Effluent	2025-03-10 9:09	6.2	16.17	0.06	1.71	4.3	9.0	82	No
W500GPM-OUT	Effluent	2025-03-10 13:22	8.0	14.14	0.06	9.94	10.4	6.9	89	No
W500GPM-OUT	Effluent	2025-03-11 9:39	6.1	14.81	0.06	1.47	4.1	8.7	86	No
W500GPM-OUT	Effluent	2025-03-12 13:59	6.7	12.99	0.07	3.20	5.4	8.2	103	No
W500GPM-OUT	Effluent	2025-03-13 9:27	6.3	14.42	0.07	0.45	3.3	8.1	90	No
W500GPM-OUT	Effluent	2025-03-14 13:21	9.6	14.66	0.06	1.91	4.4	8.0	95	No
W500GPM-OUT	Effluent	2025-03-15 14:34	7.7	12.77	0.03	1.70	4.3	8.0	47	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 no discharge at the authorized discharge location (SP-W-OUT) at the time of monitoring on March 12, therefore daily field measurements for SP-W-OUT were not collected on those days. Average temperature, turbidity and pH measurements logged at the W500GPM-OUT meter box during the discharge period are reported for March 12.
[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 9, 10, 12, and 13.

Table C-6: West Catchment Daily Discharge Volumes for the Monitoring Period (March 9 – March 15).

	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					
2025-03-09	0	3,130 [3]	729 [4]	0	3,856
2025-03-10	0	2,729 [3]	492 [4]	0	2,765
2025-03-11	0	2,710 [3]	0	0	2,286
2025-03-12	0	2,046 [3]	0	0	1,934
2025-03-13	0	1,986 [3]	0	0	1,502
2025-03-14	0	1,611 [3]	0	0	1,061
2025-03-15	0	1,546 [3]	0	0	565

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] All of the volumes clarified through the W500GPM TSS Settling System were discharged to Howe Sound on March 9. A total of 2,509 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 220 m^3 were recirculated to the West Sedimentation Pond on March 10. A total of 2,286 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 424 m^3 were recirculated to the West Sedimentation Pond on March 11. A total of 1,934 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 112 m^3 were recirculated to the West Sedimentation Pond on March 12. A total of 1,502 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 484 m^3 were recirculated to the West Sedimentation Pond on March 13. A total of 1,061 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 550 m^3 were recirculated to the West Sedimentation Pond on March 14. A total of 565 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 981 m^3 were recirculated to the West Sedimentation Pond on March 15.
[4] Clarified effluent from the West 150GPM (ESC) TSS Settling System was recirculated to the West Sedimentation Pond and discharged to Howe Sound on March 9 and 10. A total of 726 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 3 m^3 were recirculated to the West Sedimentation Pond on March 9. A total of 256 m^3 were discharged to Howe Sound at SP-W-OUT and a total of 236 m^3 were recirculated to the West Sedimentation Pond on March 10.

Appendix D: Non-Contact Water Diversion Ditch Outlets Results

Table D-1: Summary of Non-Contact Water Diversion Ditch Outlet Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1, 2]		Station OUT-06	Station OUT-01	Station OUT-02	Station OUT-06
				Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet
				OUT-06 *	OUT-01	OUT-02	OUT-06
				VA25A3650-001	VA25A5181-001	VA25A5181-002	VA25A5181-003
		Long Term	Short Term	2025-02-20 12:31	2025-03-09 15:15	2025-03-09 14:50	2025-03-09 14:15
General Parameters							
pH - Field	pH units	6.5 - 9.0	-	7.06 [5]	7.6	7.6	7.2
Specific Conductivity - Field	µS/cm	-	-	27.3 [5]	19	12	26
Temperature - Field	℃	-	-	- [5]	7.2	6.9	7.6
Salinity - Field	ppt	-	-	<1.0 [5]	0.01	0.01	0.02
Turbidity - Field	NTU	-	-	0.76 [5]	0.66	0.91	0.47
TSS	mg/L	-	-	<3.0	3.7	4.3	4.1
Dissolved Oxygen - Field	mg/L	>=8	>=5	- [5]	11.45	11.81	11.65
Anions and Nutrients							
Sulphate [2]	mg/L	128	-	1.86	1.29	1.55	1.78
Chloride	mg/L	120	600	0.53	<0.50	<0.50	<0.50
Fluoride [2]	mg/L	-	0.40-0.46	<0.020	<0.020	<0.020	<0.020
Ammonia (N-NH_3) [2]	mg/L	1.54-4.84	11.5-21.6	<0.0050	<0.0050	0.0083	<0.0050
Nitrite (N-NO_2) [2]	mg/L	0.02	0.06	<0.0010	<0.0010	<0.0010	<0.0010
Nitrate (N-NO_3)	mg/L	3	32.8	0.228	0.0468	0.0381	0.103
Total Metals							
Aluminum, total (T-Al) [2]	mg/L	0.10-0.27	-	***0.174***	***0.283***	***0.460***	***0.491***
Antimony, total (T-Sb)	mg/L	0.074	-	<0.00010	<0.00010	<0.00010	0.00012
Arsenic, total (T-As)	mg/L	0.005	-	0.00018	<0.00010	0.00016	0.00022
Barium, total (T-Ba)	mg/L	1	-	0.00373	0.00295	0.0031	0.00489
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000100	<0.000020	<0.000020	<0.000020
Boron, total (T-B)	mg/L	1.2	29	<0.010	<0.010	<0.010	<0.010
Cadmium, total (T-Cd) [2]	mg/L	0.000036	0.00011-0.00023	0.000007	<0.0000050	<0.0000050	0.000008
Chromium, total (T-Cr) [4]	mg/L	0.001	-	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	0.001	0.11	<0.00010	<0.00010	0.00016	0.00013
Copper, total (T-Cu)	mg/L	-	-	0.00081	0.00068	0.00115	0.00118
Iron, total (T-Fe)	mg/L	0.3	1	0.038	0.065	0.138	0.139
Lead, total (T-Pb)	mg/L	-	-	0.00013	0.000099	0.000431	0.000403
Manganese, total (T-Mn) [2]	mg/L	0.768	0.816	0.00147	0.00436	0.00803	0.00578
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	<0.0000050	0.00000138 [6]	0.00000354 [6]	0.00000307 [6]
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000602	0.000258	0.000747	0.000491
Nickel, total (T-Ni) [2]	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.001	-	0.000052	<0.000050	0.000077	<0.000050
Silver, total (T-Ag) [2]	mg/L	0.00012	-	<0.000010	<0.000010	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	0.0008	-	<0.000010	<0.000010	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	0.0085	0.033	0.000098	0.00004	0.000216	0.000063
Vanadium, total (T-V)	mg/L	0.12	-	<0.00050	<0.00050	0.00061	0.0008
Zinc, total (T-Zn)	mg/L	-	-	<0.0030	0.0052	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.001	-	<0.00050	-	-	-
Dissolved Metals							
Cadmium, dissolved (D-Cd) [2]	mg/L	0.000019-0.000043	0.000038-0.000063	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Copper, dissolved (D-Cu) [2]	mg/L	0.00051-0.0017	0.0031-0.0098	***0.00073***	0.00052	0.00078	0.00083
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.013	0.021	0.024	0.02
Lead, dissolved (D-Pb) [2]	mg/L	0.0048-0.0073	-	0.000059	<0.000050	0.000125	0.000075
Manganese, dissolved (D-Mn) [2]	mg/L	0.35	1.97	0.0007	0.00095	0.00138	0.00084
Nickel, dissolved (D-Ni) [2]	mg/L	0.00090-0.0018	0.014-0.024	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.0175	0.00514	0.00657	0.0197
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved (D-Zn) [2]	mg/L	0.0039-0.0065	0.011-0.012	0.0013	<0.0010	0.0017	0.0014
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	mg/L	0.0058	-	<0.000010	-	-	-
Acridine	mg/L	0.003	-	<0.000010	-	-	-
Anthracene	mg/L	0.000012	-	<0.000010	-	-	-
Benz(a)anthracene	mg/L	0.000018	-	<0.000010	-	-	-
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	-	-	-
Chrysene	mg/L	-	-	<0.000010	-	-	-
Fluoranthene	mg/L	0.00004	-	<0.000010	-	-	-
Fluorene	mg/L	0.003	-	<0.000010	-	-	-
1-methylnaphthalene	mg/L	-	-	<0.000010	-	-	-
2-methylnaphthalene	mg/L	-	-	<0.000010	-	-	-
Naphthalene	mg/L	0.001	0.001	<0.000050	-	-	-
Phenanthrene	mg/L	0.0003	-	<0.000020	-	-	-
Pyrene	mg/L	0.00002	-	<0.000010	-	-	-
Quinoline	mg/L	0.0034	-	<0.000050	-	-	-
Volatile Organic Compounds (VOCs)							
Benzene	mg/L	0.04	-	<0.00050	-	-	-
Ethylbenzene	mg/L	0.09	-	<0.00050	-	-	-
Methyl-tert-butyl-ether	mg/L	10	3.4	<0.00050	-	-	-
Styrene	mg/L	0.072	-	<0.00050	-	-	-
Toluene	mg/L	0.0005	-	<0.00040	-	-	-
Total Xylenes	mg/L	0.03	-	<0.00050	-	-	-
Chlorobenzene	mg/L	-	-	<0.00050	-	-	-
1,2-Dichlorobenzene	mg/L	-	-	<0.00050	-	-	-

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of freshwater aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of freshwater aquatic life.
* The February 20 OUT-06 sample was collected by Keystone Environmental.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] BC WQG or CWQG indicated to be variable are calculated from sample-specific measurements for temperature, field pH, total hardness and dissolved organic carbon (DOC) content.
[3] When MeHg ⩽ 0.5% of total Hg, BC WQG = 0.00002 mg/L.
[4] The approved BC WQG for hexavalent chromium [Cr(VI)] is 0.001 mg/L and 0.0089 mg/L for trivalent chromium [Cr(III)]. The more conservative criteria for Cr(VI) is applied to total chromium results.
[5] Field measurements were not available therefore lab measurements are presented.
[6] Total mercury results are for samples collected March 11.
The lowest applicable guidelines are shown in the table; however, water quality data was screened to all applicable guidelines.

Table D-2: 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]	0.0037 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
OUT-06 *	Non-Contact Water Diversion Ditch Outlet	OUT-06	VA25A3650-001	2025-02-20	***0.000136***	***<0.0050***

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of freshwater aquatic life.
* The February 20 OUT-06 sample was collected by Keystone Environmental.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.026 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
Non-detect results are screened using the detection limit value.

Table D-3: Non-contact Water Diversion Ditch Outlet Dioxin and Furan Toxicity Equivalency Quantity (TEQ) Results Received at the Time of Reporting.

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
OUT-06 *	Non-Contact Water Diversion Ditch Outlet	OUT-06	L2759039-1	2025-02-20	0.00181	1.70

Notes:
* The February 20 OUT-06 sample was collected by Keystone Environmental.
PCDD = polychlorinated dibenzodioxins (dioxins)
PCDF = polychlorinated dibenzofurans (furans)
TEQ = toxic equivalency
Lower bound PCDD/F TEQ is the sum of the toxic equivalency results for the individual PCDD/F parameters. Non-detectable parameters are assigned a value of zero (0).
Upper bound PCDD/F TEQ is the sum of the toxic equivalency results for the individual PCDD/F parameters. Non-detectable parameters are assigned the value of the detection limit.

Appendix E: Freshwater Receiving Environment Results

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

Parameter	Unit	Lowest Applicable Guideline [1, 2]		Station SW-02 Mill Creek Upper Reach SW-02 VA25A3569-001 2025-02-19 13:30	Station SW-07 Upstream Mill Creek SW-07 VA25A3569-003 2025-02-19 12:50
		Long Term	Short Term		
General Parameters					
pH - Field	pH units	6.5 - 9.0	-	7.97	6.61
Specific Conductivity - Field	µS/cm	-	-	42.4	15.5
Temperature - Field	°C	-	-	2.3	3.4
Salinity - Field	ppt	-	-	0.03	0.01
Turbidity - Field	NTU	-	-	6.6	4.47
TSS	mg/L	-	-	4.7	<3.0
Dissolved Oxygen - Field	mg/L	>=8	>=5	14.53	13.17
Anions and Nutrients					
Sulphate [2]	mg/L	128	-	3.66	4.45
Chloride	mg/L	120	600	1.45	6.68
Fluoride [2]	mg/L	-	0.40	<0.020	<0.020
Ammonia ($N\text{-}NH_3$) [2]	mg/L	1.46-23.1	7.6-26.8	<0.0050	<0.0050
Nitrite ($N\text{-}NO_2$) [2]	mg/L	0.020-0.080	0.060-0.24	<0.0010	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	3	32.8	0.107	0.0849
Total Metals					
Aluminum, total (T-Al) [2]	mg/L	0.019-0.16	-	***0.668***	***0.337***
Antimony, total (T-Sb)	mg/L	0.074	-	<0.00010	<0.00010
Arsenic, total (T-As)	mg/L	0.005	-	0.00014	<0.00010
Barium, total (T-Ba)	mg/L	1	-	0.0098	0.00618
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000020	<0.000020
Boron, total (T-B)	mg/L	1.2	29	0.018	0.018
Cadmium, total (T-Cd) [2]	mg/L	0.000036	0.00014-0.00016	0.0000101	0.0000098
Chromium, total (T-Cr) [4]	mg/L	0.001	-	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	0.001	0.11	0.00023	0.00014
Copper, total (T-Cu)	mg/L	-	-	0.00151	0.0007
Iron, total (T-Fe)	mg/L	0.3	1	***0.523***	0.246
Lead, total (T-Pb)	mg/L	-	-	0.000215	0.0001
Manganese, total (T-Mn) [2]	mg/L	0.768	0.816	0.0116	0.00575
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	0.00000126	0.00000075
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000841	0.000635
Nickel, total (T-Ni) [2]	mg/L	0.025	-	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.001	-	<0.000050	<0.000050
Silver, total (T-Ag) [2]	mg/L	0.00012	-	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	0.0008	-	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	0.0085	0.033	0.000191	0.000149
Vanadium, total (T-V)	mg/L	0.12	-	0.00116	0.00057
Zinc, total (T-Zn)	mg/L	-	-	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.001	-	<0.00050	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd) [2]	mg/L	0.000030-0.000033	0.000038-0.000044	0.0000089	0.0000087
Copper, dissolved (D-Cu) [2]	mg/L	0.00020-0.00051	0.00020-0.0030	0.00041	***0.00032***
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.011	<0.010
Lead, dissolved (D-Pb) [2]	mg/L	0.0011-0.0014	-	<0.000050	<0.000050
Manganese, dissolved (D-Mn) [2]	mg/L	0.32-0.33	1.97	0.00114	0.00086
Nickel, dissolved (D-Ni) [2]	mg/L	0.00060-0.00070	0.0093	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.0108	0.0117
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050
Zinc, dissolved (D-Zn) [2]	mg/L	0.0017-0.0044	0.0073-0.0081	0.0010	0.0013
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.0058	-	<0.000010	<0.000010
Acridine	mg/L	0.003	-	<0.000010	<0.000010
Anthracene	mg/L	0.000012	-	<0.000010	<0.000010
Benz(a)anthracene	mg/L	0.000018	-	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050
Chrysene	mg/L	-	-	<0.000010	<0.000010
Fluoranthene	mg/L	0.00004	-	<0.000010	<0.000010
Fluorene	mg/L	0.003	-	<0.000010	<0.000010
1-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010
2-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010
Naphthalene	mg/L	0.001	0.001	<0.000050	<0.000050
Phenanthrene	mg/L	0.0003	-	<0.000020	<0.000020
Pyrene	mg/L	0.00002	-	<0.000010	<0.000010
Quinoline	mg/L	0.0034	-	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.04	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.09	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	10	3.4	<0.00050	<0.00050
Styrene	mg/L	0.072	-	<0.00050	<0.00050
Toluene	mg/L	0.0005	-	<0.00040	<0.00040
Total Xylenes	mg/L	0.03	-	<0.00050	<0.00050
Chlorobenzene	mg/L	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	-	-	<0.00050	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of freshwater aquatic life.
Shaded results exceed the applicable short-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] BC WQG or CWQG indicated to be variable are calculated from sample-specific measurements for temperature, field pH, total hardness and dissolved organic carbon (DOC) content.
[3] When MeHg $\leqslant$ 0.5% of total Hg, BC WQG = 0.00002 mg/L.
[4] The approved BC WQG for hexavalent chromium [Cr(VI)] is 0.001 mg/L and 0.0089 mg/L for trivalent chromium [Cr(III)]. The more conservative criteria for Cr(VI) is applied to total chromium results.
The lowest applicable guidelines are shown in the table; however, water quality data was screened to all applicable guidelines.

Table E-2: Freshwater Methylmercury and Corresponding Total Mercury Results Received at the Time of Reporting.

Parameter					**Total Methylmercury**	**Total Mercury**
Unit					**µg/L**	**µg/L**
Lowest Applicable Guideline[1]					0.0001 [2]	0.02 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
SW-02	Upper Reach of Mill Creek (upstream of the third bridge)	SW-02	VA25A3569-001	2025-02-19	<0.000020	0.00126
SW-07	Upstream Mill Creek (at the diversion inlet)	SW-07	VA25A3569-003	2025-02-19	<0.000020	0.00075

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

Appendix F: Estuarine Water Receiving Environment Results

Table F-1: Summary of Mill Creek Estuary Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		Station SW-03 Mill Creek Estuary SW-03 VA25A3569-002
		Long Term	Short Term	2025-02-19 14:00
General Parameters				
pH - Field	pH units	7.0 - 8.7	-	***6.65***
Specific Conductivity - Field	µS/cm	-	-	4392
Temperature - Field	°C	-	-	3.3
Salinity - Field	ppt	-	-	4.1
Turbidity - Field	NTU	-	-	7.88
TSS	mg/L	-	-	<13
Dissolved Oxygen - Field	mg/L	-	-	13.59
Anions and Nutrients				
Sulphate	mg/L	-	-	280
Chloride	mg/L	-	-	2140
Fluoride	mg/L	-	-	<1.00
Ammonia (N-NH_3)	mg/L	-	-	<0.0050
Nitrite (N-NO_2)	mg/L	-	-	<0.0500
Nitrate (N-NO_3)	mg/L	-	-	0.276
Total Metals				
Aluminum, total (T-Al)	mg/L	-	-	0.399
Antimony, total (T-Sb)	mg/L	-	-	<0.00010
Arsenic, total (T-As)	mg/L	-	-	0.00018
Barium, total (T-Ba)	mg/L	-	-	0.00822
Beryllium, total (T-Be)	mg/L	-	-	<0.000020
Boron, total (T-B)	mg/L	-	-	0.091
Cadmium, total (T-Cd)	mg/L	-	-	0.0000133
Chromium, total (T-Cr)	mg/L	-	-	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.00015
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00097
Iron, total (T-Fe)	mg/L	-	-	0.313
Lead, total (T-Pb)	mg/L	0.002	0.14	0.000276
Manganese, total (T-Mn)	mg/L	-	-	0.00832
Mercury, total (T-Hg) [2]	mg/L	0.00002	-	0.00000132
Molybdenum, total (T-Mo)	mg/L	-	-	0.000982
Nickel, total (T-Ni)	mg/L	-	-	<0.00050
Selenium, total (T-Se)	mg/L	-	-	<0.000050
Silver, total (T-Ag)	mg/L	-	-	0.000019
Thallium, total (T-Tl)	mg/L	-	-	<0.000010
Uranium, total (T-U)	mg/L	-	-	0.000328
Vanadium, total (T-V)	mg/L	-	-	0.00074
Zinc, total (T-Zn)	mg/L	-	-	0.0072
Hexavalent Chromium, total	mg/L	-	-	<0.00150
Dissolved Metals				
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.0000103
Copper, dissolved (D-Cu)	mg/L	-	-	0.00036
Iron, dissolved (D-Fe)	mg/L	-	-	0.013
Lead, dissolved (D-Pb)	mg/L	-	-	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00131
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.138
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0026
Polycyclic Aromatic Hydrocarbons (PAHs)				
Acenaphthene	mg/L	-	-	<0.000010
Acridine	mg/L	-	-	<0.000010
Anthracene	mg/L	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010
Benzo(a)pyrene	mg/L	-	-	<0.0000050
Chrysene	mg/L	-	-	<0.000010
Fluoranthene	mg/L	-	-	<0.000010
Fluorene	mg/L	-	-	<0.000010
1-methylnaphthalene	mg/L	-	-	<0.000010
2-methylnaphthalene	mg/L	-	-	<0.000010
Naphthalene	mg/L	-	-	<0.000050
Phenanthrene	mg/L	-	-	<0.000020
Pyrene	mg/L	-	-	<0.000010
Quinoline	mg/L	-	-	<0.000050
Volatile Organic Compounds (VOCs)				
Benzene	mg/L	-	-	<0.00050
Ethylbenzene	mg/L	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	-	-	<0.00050
Styrene	mg/L	-	-	<0.00050
Toluene	mg/L	-	-	<0.00040
Total Xylenes	mg/L	-	-	<0.00050
Chlorobenzene	mg/L	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	-	-	<0.00050

Notes:
Results in ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of estuarine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of estuarine water aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] When MeHg ⩽ 0.5% of total Hg, BC WQG = 0.00002 mg/L.

Table F-2: Estuarine 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]	0.0046 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
SW-03	Mill Creek Estuary	SW-03	VA25A3569-002	2025-02-19	0.000029	0.00132

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

Appendix G: Marine Water Receiving Environment Results

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

Parameter	Unit	Lowest Applicable Guideline [1]		Station IDZ-E1			Station IDZ-E2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				IDZ-E1-0.5	IDZ-E1-2m	IDZ-E1-SF	IDZ-E2-0.5	IDZ-E2-2m	IDZ-E2-SF
				VA25A5556-001	VA25A5556-002	VA25A5556-003	VA25A5556-004	VA25A5556-005	VA25A5556-006
		Long Term	Short Term	2025-03-13 8:50	2025-03-13 12:05	2025-03-13 12:20	2025-03-13 9:00	2025-03-13 12:40	2025-03-13 13:00
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.94	7.92	7.77	8.10	8.04	7.94
Specific Conductivity - Field	µS/cm	-	-	24855	26915	28221	25826	27377	28087
Temperature - Field	°C	-	-	7.4	7.7	7.4	7.5	7.6	7.4
Salinity - Field	ppt	Narrative [2]	-	23.49	25.43	27.04	24.42	25.95	26.84
Turbidity - Field	NTU	2.54-3.23 [2]	8.54-9.23 [2]	1.19	0.80	0.69	1.25	0.86	0.84
TSS	mg/L	7.0-10.9 [2]	27.0-30.9 [2]	4.4	2.6	3.2	4.5	4.2	6.6
Dissolved Oxygen - Field	mg/L	>=8	-	12.11	11.95	11.35	12.21	12.12	12.2
Anions and Nutrients									
Sulphate	mg/L	-	-	1660	1060	2030	1160	1740	2060
Chloride	mg/L	-	-	12200	7890	14800	8540	12800	15000
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH_3)	mg/L	3.0-8.1 [3]	20-54 [3]	0.0094	0.0106	0.0178	0.0107	0.0092	0.0184
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	-	-	0.0316	0.0421	0.0158	0.0529	0.0198	0.0127
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	0.00132	0.00087	0.00138	0.00114	0.0014	0.00149
Barium, total (T-Ba)	mg/L	-	-	0.0078	0.0071	0.0077	0.0078	0.0078	0.0079
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	-	***3.22***	***2.13***	***3.83***	***2.22***	***3.79***	***3.99***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000059	0.000034	0.000076	0.000045	0.000061	0.00006
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000087	0.00008	0.000079	0.000097	0.000086	0.00008
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00064	0.00059	<0.00050	0.00095	0.00052	<0.00050
Iron, total (T-Fe)	mg/L	-	-	0.057	0.075	0.024	0.064	0.036	0.02
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010	0.00014	<0.00010	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.0043	0.00557	0.0027	0.00668	0.00301	0.00238
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	-	-	0.00756	0.00505	0.00816	0.0121	0.00808	0.00874
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	-	-	0.00201	0.00128	0.00214	0.0032	0.00208	0.00215
Vanadium, total (T-V)	mg/L	0.005	-	0.0013	0.00092	0.00129	0.00131	0.00131	0.00139
Zinc, total (T-Zn)	mg/L	0.01	0.055	0.0042	<0.0030	<0.0030	0.0043	<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	-	-	0.000033	0.000064	0.00006	0.000042	0.000056	0.00007
Copper, dissolved (D-Cu)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.016	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00365	0.0015	0.00101	0.00274	0.00201	0.00076
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	3.96	5.55	5.86	4.83	5.15	5.85
Vanadium, dissolved (D-V)	mg/L	-	-	0.00098	0.00127	0.00129	0.0012	0.00118	0.00124
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0032	0.0039	0.0012	0.0028	0.0025	<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	0.000022	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	0.00001	<0.000010	<0.000010	0.000045	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	0.00008	<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 13 IDZ-E1 and IDZ-E2 samples are the maximum values measured in the March 13 WQR1 reference station samples at 0.5 and 2 m below the surface and 2 m above the seafloor (Report #55).

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

Parameter	Unit	Lowest Applicable Guideline [1]		Reference Station WQR1		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				WQR1-0.5	WQR1-2m	WQR1-SF
				VA25A5556-007	VA25A5556-008	VA25A5556-009
		Long Term	Short Term	2025-03-13 13:20	2025-03-13 13:40	2025-03-13 14:00
General Parameters						
pH - Field	pH units	7.0 - 8.7	-	8.24	8.29	7.71
Specific Conductivity - Field	µS/cm	-	-	18499	26250	29320
Temperature - Field	°C	-	-	6.7	7.8	7.4
Salinity - Field	ppt	Narrative [2]	-	17.35	24.69	28.21
Turbidity - Field	NTU	Narrative [2]	Narrative [2]	1.23	0.96	0.54
TSS	mg/L	Narrative [2]	Narrative [2]	<2.0	5.7	5.9
Dissolved Oxygen - Field	mg/L	>=8	-	11.34	12.84	9.34
Anions and Nutrients						
Sulphate	mg/L	-	-	871	1190	2100
Chloride	mg/L	-	-	6560	8730	15200
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0
Ammonia ($N\text{-}NH_3$)	mg/L	1.9-8.1 [3]	13-54 [3]	0.0077	0.0059	0.0295
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	<0.50
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	0.0408	0.0376	0.0128
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	0.00073	0.00093	0.00151
Barium, total (T-Ba)	mg/L	-	-	0.0076	0.0074	0.0095
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	***1.78***	***2.23***	***4.06***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000031	0.000042	0.000072
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.00009	0.000092	0.000079
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00066	0.00063	<0.00050
Iron, total (T-Fe)	mg/L	-	-	0.1	0.084	0.02
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.00725	0.00611	0.00222
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00396	0.00518	0.00884
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	-	-	0.00104	0.00134	0.00223
Vanadium, total (T-V)	mg/L	0.005	-	0.00087	0.00099	0.00144
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	-	-	0.000040	0.00006	0.000078
Copper, dissolved (D-Cu)	mg/L	-	-	0.00053	<0.00050	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.022	<0.010	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00623	0.00108	0.00051
Nickel, dissolved (D-Ni)	mg/L	-	-	0.00053	0.00074	0.00062
Strontium, dissolved (D-Sr)	mg/L	-	-	2.79	5.41	6.35
Vanadium, dissolved (D-V)	mg/L	-	-	0.00076	0.00115	0.00138
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0016	<0.0010	0.0011
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 ⩽ 0.5% of total Hg, BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.

Table G-3: 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
				VA25A5004-001	VA25A5004-002	VA25A5004-003	VA25A5004-004	VA25A5004-005	VA25A5004-006
		Long Term	Short Term	2025-03-06 10:35	2025-03-06 10:30	2025-03-06 10:25	2025-03-06 10:20	2025-03-06 10:15	2025-03-06 10:10
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	8.39	8.36	7.87	8.37	8.53	7.83
Specific Conductivity - Field	µS/cm	-	-	10366	19419	29044	11775	17748	29369
Temperature - Field	°C	-	-	6.2	7.0	7.2	6.4	7.1	7.3
Salinity - Field	ppt	Narrative [2]	-	9.42	18.16	28.04	10.73	16.43	28.32
Turbidity - Field	NTU	2.54-3.23 [2]	8.54-9.23 [2]	0.80	0.93	0.50	1.04	1.48	0.74
TSS	mg/L	7.0-10.9 [2]	27.0-30.9 [2]	<2.0	4.8	5.8	4.1	***13.4***	8.3
Dissolved Oxygen - Field	mg/L	≥8	-	13.70	13.48	10.21	12.63	13.82	10.11

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 6 IDZ-W1 and IDZ-W2 samples are the maximum values measured in the March 13 WQR1 reference station samples at 0.5 and 2 m below the surface and 2 m above the seafloor (Report #55).

Table G-4: Marine Water Dioxin and Furan Toxicity Equivalency Quantity (TEQ) Results Received at the Time of Reporting.

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Station IDZ-E1						
IDZ-E1	0.5 m Below Surface	IDZ-E1-0.5	L2759040-1	2025-02-20	0.000360	3.26
IDZ-E1	2 m Below Surface	IDZ-E1-2m	L2759040-2	2025-02-20	0.0664	1.32
IDZ-E1	2 m Above Seafloor	IDZ-E1-SF	L2759040-3	2025-02-20	0.000585	1.60
Station IDZ-E2						
IDZ-E2	0.5 m Below Surface	IDZ-E2-0.5	L2759040-4	2025-02-20	0	1.24
IDZ-E2	2 m Below Surface	IDZ-E2-2m	L2759040-5	2025-02-20	0.0140	1.51
IDZ-E2	2 m Above Seafloor	IDZ-E2-SF	L2759040-6	2025-02-20	0.00807	1.54
Reference Station WQR1						
WQR1	0.5 m Below Surface	WQR1-0.5	L2759040-7	2025-02-20	0	1.69
WQR1	2 m Below Surface	WQR1-2m	L2759040-8	2025-02-20	0.000402	1.27
WQR1	2 m Above Seafloor	WQR1-SF	L2759040-9	2025-02-20	0.000287	1.34

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