TECHNICAL MEMORANDUM

To:	**Ian McAllister, Ashleigh Crompton, Mike Champion, Jackie Boruch and Ryan Schucroft (Woodfibre LNG)**	**Date:**	**4 Nov 2024**
From:	**Cheng Kuang, Holly Pelletier and Patrick Mueller (Lorax)**	**Project #:**	**A633-8**
Subject:	**PE-111578 Weekly Discharge and Compliance Report #37 for October 20 – 26**		

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 #37) was prepared by Lorax Environmental and summarizes WDA monitoring conducted the week of October 20 – 26. 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 #37 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."

The site layout is shown in Figure 1 at the end of this memorandum. Sedimentation pond photographs and other water management figures are included in Appendix A. Monitoring results are tabulated in Appendix B through Appendix H 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, 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 October 20 – 26 monitoring period. The East Wastewater Treatment Plant (WWTP), East Sedimentation Pond and West Sedimentation Pond are commissioned for operation and discharge. The East WWTP treatment process was upgraded on October 14 to enhance the treatment of copper, vanadium and zinc.

Pilot testing of the West WWTP was suspended September 25. The suspension was implemented for the temporary reconfiguration of the plant to allow 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.

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, non-contaminated and contaminated contact waters within the catchments are managed to remain on site using a system of sumps and baker tanks for intermediate storage and are then directed to the East WWTP for treatment or the East and West Sedimentation Ponds for TSS settling and discharge.

A flocculant-based TSS settling system (ESC system) is used at the West Sedimentation Pond to remove TSS from non-contaminated contact water that is directed to the pond. A revised schedule is being developed to complete the installation of the East Sedimentation Pond permanent outfall structure and construction of the West Sedimentation Pond permanent outfall is underway. A temporary discharge system (i.e., pump, hosing and diffusor) is used to convey East and West Sedimentation Pond effluent to their respective authorized discharge locations when necessary for the discharge of excess water, and if the effluent water quality is compliant with the requirements of PE-111578. Each of the authorized discharge locations has an initial dilution zone (IDZ) within where sedimentation pond discharges mix with Howe Sound surface waters. The IDZ is defined in PE-111578 and extends 150 m from point of discharge into Howe Sound.

The non-contact water diversion ditch west of Mill Creek has been upgraded and discharges to Mill Creek at station OUT-06 (Figure 1). Other pre-existing diversion ditches west of Mill Creek

have been partially upgraded and discharge at station OUT-02. During heavy precipitation these ditches also convey non-contact water to station OUT-01. To facilitate the replacement of the East Creek discharge culvert, the lower reach of East Creek was temporarily diverted to the adjacent culvert, OUT-11, on September 17.

Water management facilities that are completed or were under construction during the reporting period are shown in Figure 1. Established 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 Activities

From October 18 to 20 there was a strong fall storm with heavy rainfall on the south coast of British Columbia. Following the storm, variable weather characterized the balance of the monitoring period (October 20 – 26) culminating with heavy rains on October 26. The total weekly precipitation amount was 101 mm with the majority (98.2 mm) received on October 20 and 26. 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
10-20-2024	54.6	12.0	8.6	Heavy rain
10-21-2024	0.0	13.3	7.7	Overcast
10-22-2024	0.0	12.6	5.9	Overcast
10-23-2024	2.4	10.3	4.9	Scattered Showers
10-24-2024	0.6	10.8	4.7	Scattered Showers
10-25-2024	0.0	11.5	5.3	Overcast
10-26-2024	43.6	11.7	7.3	Heavy Rain

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

Routine operation of the East WWTP continued during the monitoring period (October 20 – 26). Contaminated and potentially contaminated contact waters from the 1100, 1200, and 1300 Areas, and concrete batch plant washout were directed to the East WWTP for treatment, as well as water recirculated from the East Sedimentation Pond (Appendix A, Figure 2). A total of 3,581 m^3 of treated WWTP effluent was discharged to the East Sedimentation Pond during the reporting period (October 20 – 26). Daily East WWTP effluent flows are provided in Appendix C (Table C-3).

The East Sedimentation Pond received treated water each day October 20 – 26 and on October 20 contact water from the 1200 contact water sump, 1300 contact water ditch and 1200 dewatering tanks was also directed to the pond (Figure 2). Discharge from the East Sedimentation Pond that was initiated mid-afternoon on October 19 continued until early morning on October 22. Discharge was also conducted on October 26 when the site received heavy rainfall. During the monitoring period (October 20 – 26) a total of 6,175 m^3 was discharged from the East Sedimentation Pond to

Howe Sound. Daily East Sedimentation Pond discharge volumes are provided in Appendix B, Table B-4.

During the October 20 – 26 monitoring period, contact water from the 4100 stormwater sump and dewatering tanks, 4200 stormwater sump and collection ditch, 4200 surge pond, 4200 dewatering tanks was directed to the West Sedimentation Pond TSS settling system prior to deposition in the pond (Figure 3). On October 20 contact water from the surge pond and 4200 dewatering tanks was placed directly into the pond, bypassing the TSS settling system. Due to heavy rains from the October 18 to 20 storm and heavy rainfall on October 26, discharge from the West Sedimentation Pond was conducted October 20 to October 22, and October 26. A total of 8,279 m^3 was discharged from the West Sedimentation Pond to Howe Sound during the monitoring period (October 20 – 26). Daily West Sedimentation Pond discharge volumes are provided in Appendix D, Table D-6.

Due to stormwater runoff from heavy rains overnight from October 18 to 19, some road contact water pooling in two areas on the road adjacent to the floatel construction contact water bypassed the West Sedimentation Pond on October 19 and discharged directly to Howe Sound in the vicinity of the floatel (Figure 6). Plumes of turbid water were observed at two locations in Howe Sound (Figure 6, stations W-G-RE and RE-2). The discharge occurred from approximately 7:00 to 17:00 at station W-G-RE and approximately 10:30 to 18:30 at station W-RE, and the estimated areas of the turbid plumes in Howe Sound were 1700 m^2 and 500 m^2, respectively.

Also on October 19, a 330 m^2 (estimated area) turbidity plume was observed in the vicinity of the East Creek outfall (Figure 7). The plume originated from the supplemental dewatering of the East Creek intake sump that was implemented during the storm to manage the discharge of stormwater flows in East Creek. The outlet of the hose from the supplemental dewatering system was located upslope of the foreshore riprap near the mouth of East Creek. The supplemental dewatering system was turned off after the plume was observed along the foreshore by site staff at 9:05 on October 19, and discharge from the hose ceased.

2. Monitoring Summary

The PE-111578 authorized works were under construction during the October 20 – 26 monitoring period. Compliance monitoring stations are progressively established as water management infrastructure is completed. Monitoring is conducted by the on-site Environmental Monitors (Roe Environmental). Analytical samples are submitted by Roe Environmental to ALS Environmental in Burnaby, BC, for testing.

The following monitoring stations have been established (Figure 1):

- Creek water (SW-01, SW-02, SW-03, SW-04, SW-07).
- Howe Sound reference and IDZ locations (WQR1, WQR2, IDZ-E1 and IDZ-E2).

- Non-contact diversion ditch outlets (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.
- Contact water monitoring locations (WWTP-E-IN, WWTP-E-OUT, SP-E-IN-1, SP-E-IN-2, SP-E-OUT, SP-E-NE, SP-E-NW, WWTP-W-IN, WWTP-W-OUT, ESC-W-IN, SP-W-W, SP-W-E, and SP-W-OUT).

East Sedimentation Pond influent and effluent stations SP-E-NW and SP-E-NE, respectively, are in-pond stations that may be monitored in place of stations SP-E-IN-1, SP-E-IN-2 and SP-E-OUT, when there is no influent to, or discharge from the East Sedimentation Pond. Similarly, in-pond monitoring stations established for the West Sedimentation Pond at locations SP-W-W and SP-W-E and may be used for pond water quality monitoring proximal to the influent and effluent locations when there is no influent to or discharge from the pond. Station ESC-W-IN is the influent station located at the inlet to the TSS settling system for the West Sedimentation Pond.

Water quality was monitored at stations OUT-02, OUT-06, SW-01, SW-02, SW-03, SW-04, SW-07, IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1, WQR2, WWTP-E-IN, WWTP-E-OUT, SP-E-NE, SP-E-NW, SP-E-IN-1, SP-E-OUT, ESC-W-IN, SP-W-E, SP-W-W, and SP-W-OUT during the monitoring period (October 20 – 26) and at ad-hoc stations SP-W-IN, W-G-RE (Figure 6) and RE-2 (Figure 6) on October 20. Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (October 20 – 26) were met with the following minor exceptions. Daily field parameters were not collected at ESC-W-IN on October 21. The general parameters bottle was omitted from the laboratory submission for the October 26 sample collected at IDZ-E2-2m. These items are tracked in Table 12.

Daily field parameters were not collected at influent stations SP-E-IN-1 and SP-E-IN-2 from October 21 to October 26 as the East Sedimentation Pond did not receive contact water inflows on those days. Daily field parameters were not collected at West Sedimentation Pond influent station ESC-W-IN on October 23, 24, and 25 as there was no contact water directed to the influent station at the time of monitoring. Daily field parameters were not collected at WWTP-E-IN and WWTP-E-OUT on October 25 since the East WWTP was not discharging at the time of monitoring nor on October 26 since the East WWTP was not active at the time of monitoring. 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 active during the monitoring period.

Table 2: Summary of PE-111578 Monitoring Samples Collected October 20 – 26.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
October 20, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	SP-E-NW [1]	East Sedimentation Pond, in-pond sample, represents influent quality		
	SP-E-IN-1	East Sedimentation Pond influent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	SP-E-OUT	East Sedimentation Pond effluent		
	WWTP-E-OUT	East WWTP effluent	Field Parameters.	D
	WWTP-E-IN	East WWTP influent		
	SP-W-E [1]	West Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	SP-W-W [1]	West Sedimentation Pond, in-pond sample, represents influent quality		
	SP-W-IN	West Sedimentation Pond influent entering pond at cell 4 (last stage of the pond prior to discharge)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	SP-W-OUT	West Sedimentation Pond effluent		
	ESC-W-IN	West Sedimentation Pond influent, located at the TSS settling system.	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	OUT-06	Non-contact water diversion ditch outlet	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_4
	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, Glycols, Oil and Grease.	M, W_4
	IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
	IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface		
	IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
	WQR1-0.5	Reference site 1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Glycols, Oil and Grease.	M, W_4
	WQR2-0.5	Reference site 2; 0.5 m below surface		
	W-G-RE	Howe Sound at floatel west gangway	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Glycols, Oil and Grease.	P
	RE-2	Howe Sound at OUT-02		
October 21, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Glycols, Oil and Grease.	P
	SP-E-NW [1]	East Sedimentation Pond, in-pond sample, represents influent quality	Field Parameters.	P
	SP-E-OUT	East Sedimentation Pond effluent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Glycols, Oil and Grease.	D, W_1, W_2
	SP-W-OUT	West Sedimentation Pond effluent		
	WWTP-E-OUT	East WWTP effluent	Field Parameters.	D
	WWTP-E-IN	East WWTP influent		
October 22, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	SP-E-NW [1]	East Sedimentation Pond, in-pond sample, represents influent quality		
	WWTP-E-OUT	East WWTP effluent	Field Parameters.	D
	WWTP-E-IN	East WWTP influent		
	SP-W-E [1]	West Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	ESC-W-IN	West Sedimentation Pond influent, located at the TSS settling system.	Field Parameters.	D
	SW-01	Lower Reach of Woodfibre Creek (near the mouth)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_4
	SW-02	Upper Reach of Mill Creek (upstream of the third bridge)		
	SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
	SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
	SW-07	Upstream Mill Creek (at the diversion inlet)		
	WQR1-0.5	Reference site 1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_4
	WQR1-2m	Reference site 1; 2 m below surface		
	WQR1-SF	Reference site 1; 2 m above the seafloor		
	WQR2-0.5	Reference site 2; 0.5 m below surface		
	WQR2-2m	Reference site 2; 2 m below surface		
	WQR2-SF	Reference site 2; 2 m above the seafloor		
October 23, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	WWTP-E-OUT	East WWTP effluent	Field Parameters.	D
	WWTP-E-IN	East WWTP influent		
	OUT-02	Non-contact water diversion ditch outlet	Field, Physical & General Parameters, Total, Dissolved and Speciated Metals, and Methylmercury.	M, W_4
	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, Glycols, Oil and Grease.	M, W_4
	IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		

Table 2 (Continued): Summary of PE-111578 Monitoring Samples Collected October 20 – 26.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
October 24, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	P
	WWTP-E-OUT	East WWTP effluent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	D, W_1, W_2
	WWTP-E-IN	East WWTP influent		
	SP-W-W [1]	West Sedimentation Pond, in-pond sample, represents influent quality	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	P
	IDZ-W1-2m	Howe Sound IDZ station W1; 2 m below surface	Field[2], Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_4
	IDZ-W1-SF	Howe Sound IDZ station W1; 2 m above the seafloor		
	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		
October 25, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	WWTP-E-IN	East WWTP influent	Field Parameters.	D
	SP-W-W [1]	West Sedimentation Pond, in-pond sample, represents influent quality	Field Parameters.	P
	SW-02	Upper Reach of Mill Creek (upstream of the third bridge)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_4
	SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
	SW-07	Upstream Mill Creek (at the diversion inlet)		
October 26, 2024	SP-E-NE [1]	East Sedimentation Pond, in-pond sample, represents effluent quality	Field Parameters.	P
	SP-E-OUT	East Sedimentation Pond effluent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Glycols, Oil and Grease.	D, W_1, W_2
	SP-W-W [1]	West Sedimentation Pond, in-pond sample, represents influent quality	Field Parameters.	P
	SP-W-OUT	West Sedimentation Pond effluent	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Glycols, Oil and Grease.	D, W_1, W_2
	ESC-W-IN	West Sedimentation Pond influent, located at the TSS settling system.	Field, Physical & General Parameters, EPHs & PAHs, Total, Dissolved and Speciated Metals.	D, W_1
	SW-01	Lower Reach of Woodfibre Creek (near the mouth)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_4
	SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
	OUT-02	Non-contact water diversion ditch outlet	Field, Physical & General Parameters, Total, Dissolved and Speciated Metals, and Methylmercury.	M, W_4
	IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	Field, Physical & General Parameters[3], VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans, Glycols, Oil and Grease.	M, W_3, W_4
	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		

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.
W_4 – spring and fall high frequency sampling for all parameters at receiving environment stations (5 samples collected over a 30-day period).
P - periodic monitoring for targeted parameters that is supplementary to PE-111578 requirements.
[1] In-Pond stations SP-E-NW and SP-E-NE may be monitored in place of stations SP-E-IN-2 and SP-E-OUT, respectively, when there is no influent to, or discharge from the East Sedimentation Pond at the time of monitoring. Similarly, the West Sedimentation Pond in-pond stations, SP-W-W and SP-W-E are monitored for water management purposes. The monitoring of in-pond stations is not a PE-111578 requirement and is conducted at the discretion of field staff.
[2] The field parameters for IDZ-W1-2m, IDZ-W1-SF, IDZ-W2-2m, and IDZ-W2-SF samples were collected on October 23 and the analytical samples were collected on October 24.
[3] The general parameters bottle was omitted from the laboratory submission for the October 26 sample collected IDZ-E2-2m.

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). The screening results are discussed in Section 3. 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 chlorinated dibenzo-*p*-dioxins and chlorinated dibenzofurans. A sub-set of 17 polychlorinated dibenzo-*p*-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) are typically evaluated for toxicity and the individual parameter concentrations are converted to toxic equivalent (TEQ) values that are summed and reported 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 sub-set of 17 individual PCDDs and PCDFs are reported as not detected.

3.2 Summary of Reported Results

Field measurements and analytical results available at the time of reporting for samples collected during the monitoring period (October 20 – 26) and for other samples that have not been previously reported are listed below in Table 3. Results for samples collected at ad-hoc stations (SP-W-IN, W-GANGWAY, W-G-RE, and RE-2; Figure 6) are also reported. 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:

- SW-01, SW-02, SW-03, SW-04, SW-07 collected October 12 (methylmercury, dioxins and furans)

- IDZ-W1 and IDZ-W2 collected October 18 (methylmercury, dioxins and furans)
- IDZ-E1, IDZ-E2, IDZ-W1, WQR1, WQR2, W-Gangway, W-G-RE and RE-02 collected October 19 (methylmercury, dioxins and furans)
- SP-E-IN-1, SP-E-OUT, ESC-W-IN, SP-W-IN, SP-W-OUT collected October 20 (methylmercury, dioxins and furans)
- OUT-06, IDZ-E1, IDZ-E2, IDZ-W1, and IDZ-W2 collected October 20 (methylmercury, dioxins and furans)
- WQR1, WQR2, W-G-RE and RE-02 collected October 20 (methylmercury)
- SP-E-NE, SP-E-OUT, and SP-W-OUT collected October 21 (methylmercury)
- SW-01, SW-02, SW-03, SW-04, SW-07 collected October 22 (methylmercury, dioxins and furans)
- WQR1 and WQR2 collected October 22 (methylmercury, dioxins and furans)
- OUT-02 collected October 23 (methylmercury)
- WWTP-E-IN and WWTP-E-OUT collected October 24 (methylmercury, dioxins and furans)
- IDZ-W1 and IDZ-W2 collected October 24 (methylmercury, dioxins and furans)
- SW-02, SW-03, and SW-07 collected October 25 (field parameters and all analytical parameters)
- SP-E-OUT and SP-W-OUT collected October 26 (methylmercury)
- SW-01 and SW-04 collected October 26 (field parameters and all analytical parameters)
- OUT-02 collected October 26 (field parameters and all analytical parameters)
- IDZ-E1 and IDZ-E2 collected October 26 (field parameters and all analytical parameters)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #37.

Sample	Description	Sampling Date	Parameters Reported
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	October 9, 2024	Methylmercury.
IDZ-W1-2m	Howe Sound IDZ station W1; 2 m below surface		
IDZ-W1-SF	Howe Sound IDZ station W1; 2 m above the seafloor		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
IDZ-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	October 10, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, and Methylmercury.
IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface		
IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	October 12, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, and Methylmercury.
IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface		
IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
SW-01	Lower Reach of Woodfibre Creek (near the mouth)		Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
SW-02	Upper Reach of Mill Creek (upstream of the third bridge)		
SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
SW-07	Upstream Mill Creek (at the diversion inlet)		
WQR1-0.5	Reference site 1; 0.5 m below surface	October 13, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, and Methylmercury.
WQR1-2m	Reference site 1; 2 m below surface		
WQR1-SF	Reference site 1; 2 m above the seafloor		
WQR2-0.5	Reference site 2; 0.5 m below surface		
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
WWTP-E-OUT	East WWTP effluent		Methylmercury.
WWTP-E-IN	East WWTP influent		
WWTP-E-OUT	East WWTP effluent	October 17, 2024	Methylmercury.
WWTP-E-IN	East WWTP influent		
SP-E-OUT	East Sedimentation Pond effluent	October 18, 2024	Methylmercury.
SP-W-OUT	West Sedimentation Pond effluent		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
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		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	October 19, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR2-0.5	Reference site 2; 0.5 m below surface		
W-Gangway	Contact water at west floatel gangway		
W-G-RE	Howe Sound at floatel west gangway		
RE-2	Howe Sound at OUT-02		
SP-E-IN-1	East Sedimentation Pond influent	October 20, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-E-OUT	East Sedimentation Pond effluent		
SP-W-IN	West Sedimentation Pond influent		
SP-W-OUT	West Sedimentation Pond effluent		
ESC-W-IN	West Sedimentation Pond influent, located at the TSS settling system		
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface		
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR1-2m	Reference site 1; 2 m below surface		
WQR2-0.5	Reference site 2; 0.5 m below surface		
OUT-06	Non-contact water diversion ditch outlet		
W-G-RE	Howe Sound at floatel west gangway		
RE-2	Howe Sound at OUT-02		
SP-E-NE	East Sedimentation Pond, in-pond sample, represents effluent quality	October 21, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-E-OUT	East Sedimentation Pond effluent		
SP-W-OUT	West Sedimentation Pond effluent		
SW-01	Lower Reach of Woodfibre Creek (near the mouth)	October 22, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
SW-02	Upper Reach of Mill Creek (upstream of the third bridge)		
SW-03	Lower Reach of Mill Creek (near the mouth, in the estuarine zone)		
SW-07	Upstream Mill Creek (at the diversion inlet)		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR1-2m	Reference site 1; 2 m below surface		
WQR1-SF	Reference site 1; 2 m above the seafloor		
WQR2-0.5	Reference site 2; 0.5 m below surface		
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
OUT-02	Non-contact water diversion ditch outlet	October 23, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, and Hexavalent Chromium.
SP-E-NE	East Sedimentation Pond, in-pond sample, represents effluent quality	October 24, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, and PAHs.
WWTP-E-OUT	East WWTP effluent		Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
WWTP-E-IN	East WWTP influent		
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-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
SP-E-OUT	East Sedimentation Pond effluent	October 26, 2024	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
SP-W-OUT	West Sedimentation Pond effluent		

3.3 East Sedimentation Pond

The East Sedimentation Pond influent and effluent results 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. Influent water is not discharged from site, therefore only effluent water quality is assessed for exceedances. The analytical results, daily field parameters, discharge limits and WQGs are summarized in Table B-1 to Table B-3 (analytical results) and Table B-4 (field measurements) of Appendix B. Screening results are summarized below for parameter concentrations that exceeded PE-111578 discharge limits and WQGs in effluent discharged to Howe Sound (Table 4 and Table 5).

During the monitoring period (October 20 – 26), the East Sedimentation Pond received East WWTP treated effluent each day. The sedimentation pond also received contact water on October 20 during the fall storm event described in Section 1; therefore, field measurements and an analytical sample were collected at station SP-E-IN-1 on October 20. Field measurements were also collected October 20 to 22 at in-pond station SP-E-NW, located at the influent side of the pond. Influent concentrations of dissolved oxygen, turbidity and pH ranged from 9.89 to 11.27 mg/L, 52 to 816 NTU and pH 8.3 to 9.9 (Appendix B, Table B-4). The influent TSS concentrations from lab measurements and estimated from field turbidity values ranged from 42 to 556 mg/L. Analytical results for the SP-E-IN-1 sample showed elevated levels of pH, TSS, total metals (arsenic, cadmium, copper, lead, mercury, nickel, vanadium, zinc), benzo(a)pyrene, and chrysene as compared to PE-111578 discharge limits and WQGs (Appendix B, Table B-1).

Field measurements were taken daily at the in-pond effluent quality station (SP-E-NE) during the monitoring period (October 20 – 26). Field pH ranged from 6.0 to 8.8 at SP-E-NE, while dissolved oxygen ranged from 10.4 to 11.1 mg/L, and turbidity ranged from 0.32 to 312 NTU (Appendix B, Table B-4). The in-pond TSS concentrations from lab measurements and estimated from field turbidity values ranged from < 3 to 236 mg/L proximal to the effluent intake. Analytical results for the samples collected at SP-E-NE on October 21 and 24 were available at the time of reporting. The October 21 SP-E-NE sample was elevated in nitrate, total copper, total lead, and benzo(a)pyrene (Appendix B, Table B-1). Analytical results of the October 24 sample met PE-111578 discharge limits and WQGs but exceeded the long-term WQG for nitrate (Appendix B, Table B-2).

The East Sedimentation Pond discharged to Howe Sound from October 20 until 4:02 am on October 22. Field measurements and analytical samples collected at SP-E-OUT on October 20 and 21 showed pH ranging from 6.9 to 74, high turbidity (up to 228 NTU) and multiple parameters exceeded PE-111578 discharge limits and WQGs (Table 4 and Table 5). The TSS concentrations from lab measurements and estimated from field turbidity values measured at SP-E-OUT ranged from 34 to 173 mg/L. Exceedances for total metals (copper, lead, mercury, vanadium and zinc),

benzo(a)pyrene and naphthalene are attributed to particle-bound forms of these parameters associated with elevated TSS.

An analytical sample was collected at SP-E-OUT during discharge to Howe Sound on October 26 and the effluent quality met PE-111578 discharge limits and WQGs but exceeded the long-term WQG for nitrate (Appendix B, Table B-2).

Table 4:
Summary of Parameters Exceeding PE-111578 Discharge Limits in Effluent Discharged from the East Sedimentation Pond (October 20 – 26)

Parameter	Units	Discharge Limit	N	N >WQG	Commentary
TSS	mg/L	75	6	2	TSS estimated from field turbidity measurements on October 20 at 15:05 (173 mg/L) and 18:03 (146 mg/L) were 2.3 and 1.9 times greater than the discharge limit, respectively.
Total Copper	mg/L	0.0043	3	2	Total copper measured at station SP-E-OUT on October 20 (0.0194 mg/L) and October 21 (0.0152 mg/L) was 4.5 times and 3.5 times greater than the PE-111578 discharge limit, respectively.
Total Lead	mg/L	0.0035	3	2	Total lead measured at station SP-E-OUT on October 20 (0.0125 mg/L) and October 21 (0.00614 mg/L) was 3.6 times and 1.8 times greater than the PE-111578 discharge limit, respectively.
Total Vanadium	mg/L	0.0081	3	2	Total vanadium measured at station SP-E-OUT on October 20 (0.0132 mg/L) and October 21 (0.00904 mg/L) was 1.6 times and 1.1 times greater than the PE-111578 discharge limit, respectively.
Total Zinc	mg/L	0.0133	3	2	Total zinc measured at station SP-E-OUT on October 20 (0.0281 mg/L) and October 21 (0.0147 mg/L) was 2.1 times and 1.1 times greater than the PE-111578 discharge limit, respectively.

N = number of samples.

Table 5:
Summary of Parameters Exceeding WQGs in Effluent Discharged from the East Sedimentation Pond (October 20 – 26)

Parameter	Units	WQG	N	N >WQG	Commentary
Nitrate	mg/L	3.7	3	3	Nitrate measured at station SP-E-OUT on October 20 (10.7 mg/L), October 21 (10.6 mg/L), and October 26 (9.96 mg/L) was 2.7 to 2.9 times greater than the long-term WQG. The nitrate concentrations met the short-term WQG (339 mg/L).
Total Mercury	mg/L	0.000016	3	1	Total mercury measured at station SP-E-OUT on October 20 (0.0000411 mg/L) was 2.6 times greater than the long-term WQG.
Hexavalent Chromium	mg/L	0.0015	3	1	Hexavalent chromium measured at station SP-E-OUT on October 20 (0.00154 mg/L) was slightly above the long-term WQG.
Benzo(a)pyrene	mg/L	0.00001	3	2	Benzo(a)pyrene measured at station SP-E-OUT on October 20 (0.0000321 mg/L) and October 21 (0.0000199 mg/L) was 3.2 times and 2.0 times greater than the long-term WQG.
Naphthalene	mg/L	0.001	3	2	Naphthalene measured at station SP-E-OUT on October 20 (0.00130 mg/L) and October 21 (0.00113) was 1.3 times and 1.1 times greater than the long-term WQG.

N = number of samples.

Methylmercury analytical results were available at the time of reporting for the SP-E-OUT samples collected on October 18 (discussed in Weekly Report #36). Results of duplicate analysis show good agreement of methylmercury (0.000063 and 0.000064 µg/L) and total mercury (0.0156 and 0.0151 µg/L) concentrations (Appendix B, Table B-3).

3.4 East Wastewater Treatment Plant

The East WWTP influent and effluent results are screened against the operational minimum discharge objectives (MDOs) which the WWTP is operated to meet. Contaminated contact water is directed to the WWTP influent, and it is expected that influent water is unlikely to meet the operational MDOs. The analytical results, daily field measurements, and the operational MDOs are summarized in Table C-1 and C-2 (analytical results) and Table C-3 (field measurements) of Appendix C.

The East WWTP received contact water as well as recirculated water from the East Sedimentation Pond each day during the monitoring period (October 20 – 26). The influent waters were treated by the East WWTP and discharged to the East Sedimentation Pond. Daily field measurements were collected at the influent (WWTP-E-IN) and effluent (WWTP-E-OUT) stations from October 20 through 24, and at WWTP-E-IN on October 25 (Section 2). Analytical results for samples collected from the East WWTP influent and effluent stations on October 24 were available at the time of reporting.

Field pH ranged from 6.6 to 8.6 at WWTP-E-IN during the monitoring period (October 20 – 26), while dissolved oxygen ranged from 10.5 to 11.0 mg/L, and turbidity ranged from 11.5 to 224 NTU (Appendix C, Table C-3). Field pH, dissolved oxygen, and turbidity in the East WWTP effluent (WWTP-E-OUT) ranged from pH 5.7 to 6.4, 9.14 to 11.0 mg/L, and 0.12 to 9.74 NTU, respectively.

Analytical results for samples collected from the East WWTP influent and effluent stations on October 24 were available at the time of reporting. Station WWTP-E-IN influent water quality met operational MDOs except total zinc. However, the treated water quality monitored at WWTP-E-OUT on October 24 achieved operational MDOs for all parameters (Appendix C, Table C-1).

Methylmercury analytical results were available at the time of reporting for the East WWTP influent and effluent samples collected on October 13 and 17 (as discussed in Weekly Report #36). The methylmercury concentrations ranged from 0.000263 to 0.000279 µg/L at WWTP-E-IN, and from <0.00008 to 0.000098 µg/L at WWTP-E-OUT (Appendix C, Table C-2).

3.5 West Sedimentation Pond

The West Sedimentation Pond influent and effluent results 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. Influent water is not discharged from site, therefore only discharged effluent water quality is assessed for exceedances. The analytical results, discharge limits and WQGs are summarized in Table D-1 through Table D-5 (analytical results) and Table D-6 (field measurements) of Appendix D. Screening results are summarized below for parameter concentrations that exceeded PE-111578 discharge limits and WQGs in effluent discharged to Howe Sound (Table 6 and Table 7).

A flocculant-based TSS settling system (the ESC system) has been in use at the West Sedimentation Pond since September 25. Non-contaminated contact water influent to the pond is routed through the TSS settling system. Due to large volume of stormwater runoff from the October 18 to 20 heavy rains, influent volumes exceeded the capacity of the TSS settling system and some of the influent routed to the pond without TSS removal on October 20. The West Sedimentation Pond discharged to Howe Sound from 12:21 am on October 20 to 4:49 am on October 22, and on October 26.

Analytical samples of West Sedimentation Pond influent were collected on October 20 at station ESC-W-IN (influent to the TSS settling system) and ad-hoc station SP-W-IN (influent to the pond that bypassed the TSS settling system). Analytical results for the October 20 SP-W-IN sample showed elevated levels of pH, TSS, total metals (copper, lead, mercury, vanadium, zinc), and benzo(a)pyrene, as compared to PE-111578 discharge limits and WQGs (Appendix D, Table D-1). Pond influent quality captured at station ESC-W-IN on October 20 was also elevated in TSS, total metals (cadmium, copper, lead, mercury, vanadium, zinc), benzo(a)pyrene, and chrysene (Appendix D, Table D-2).

Field measurements were collected at the in-pond influent station (SP-W-W; October 20, October 24 - 26) and in-pond effluent station (SP-W-E; October 20 and 22). Field pH ranged from 7.3 to 9.1, while dissolved oxygen ranged from 10.8 to 12.5 mg/L, and turbidity ranged from 1.05 to 172 NTU in the West Sedimentation Pond. The concentration of TSS estimated from turbidity measurements ranged from 4 to 131 mg/L (Appendix D, Table D-6).

Field measurements and analytical samples of West Sedimentation Pond discharge collected at SP-W-OUT on October 20 and 21 showed high turbidity (up to147 NTU) and multiple parameters that exceeded PE-111578 discharge limits and WQGs (Table 6 and Table 7). The measured and estimated TSS concentrations ranged from 33 to 125 mg/L (Appendix D, Tables D-1 and D-6). The exceedances for total metals (cadmium, copper, lead, mercury, vanadium and zinc) and

benzo(a)pyrene are attributed to particle-bound forms of these parameters that are associated with elevated TSS.

Discharge from the West Sedimentation Pond on October 26 was monitored at station SP-E-OUT and met PE-111578 discharge limits and WQGs (Appendix D, Table D-1).

Due to stormwater runoff from heavy rains overnight from October 18 to 19, some road contact water pooling in two areas on the road adjacent to the floatel construction contact water bypassed the West Sedimentation Pond on October 19 and discharged directly to Howe Sound in the vicinity of the floatel (Figure 6). Plumes of turbid water were observed at two locations in Howe Sound (Figure 6, stations W-G-RE and RE-2). The discharge duration was approximately 7:00 to 17:00 at station W-G-RE and approximately 10:30 to 18:30 at station W-RE, and the estimated areas of the turbid plumes in Howe Sound were 1700 m^2 and 500 m^2, respectively. An analytical sample of pooled road water was collected October 19 at station W-GANGWAY (Appendix A, Figure 6). Due to the short-term duration of the discharges from the pooled water, the monitoring results were evaluated against short-term WQGs for the protection of marine water aquatic life. The short-term WQGs were met except for turbidity, TSS, total copper, and total zinc (Table 8). Screening results for short and long term WQGs are summarized in Appendix D, Table D-3.

Table 6:
Summary of Parameters Exceeding PE-111578 Discharge Limits in Effluent Discharged from the West Sedimentation Pond (October 20 – 26)

Parameter	Units	Discharge Limit	N	N >WQG	Commentary
pH	pH unit	5.5-9.0	9	1	Field pH measured at station SP-W-OUT on October 21 (9.3) was above the upper limit of the PE-111578 discharge limit.
TSS	mg/L	75	9	3	TSS concentrations estimated from turbidity measurements exceeded the PE-111578 discharge limit on October 20 at 14:31 (80 mg/L), 17:44 (113 mg/L) and 21:22 (>78 mg/L), by 1.06, 1.51 and >1.04 times, respectively.
Total Copper	mg/L	0.0043	3	2	Total copper measured at station SP-W-OUT on October 20 (0.0161 mg/L) and October 21 (0.00767 mg/L) was 3.7 times and 1.8 times greater than the PE-111578 discharge limit, respectively.
Total Lead	mg/L	0.0035	3	2	Total lead measured at station SP-W-OUT on October 20 (0.0148 mg/L) and October 21 (0.00559 mg/L) was 4.2 times and 1.6 times greater than the PE-111578 discharge limit, respectively.
Total Vanadium	mg/L	0.0081	3	2	Total vanadium measured at station SP-W-OUT on October 20 (0.0144 mg/L) and October 21 (0.00985 mg/L) was 1.8 times and 1.2 times greater than the PE-111578 discharge limit, respectively.
Total Zinc	mg/L	0.0133	3	2	Total zinc measured at station SP-W-OUT on October 20 (0.0343 mg/L) and October 21 (0.0134 mg/L) was 2.6 times and 1.01 times greater than the PE-111578 discharge limit, respectively.

N = number of samples.
Non-detect results are screened using the detection limit value.

Table 7:
Summary of Parameters Exceeding WQGs in Effluent Discharged from the West Sedimentation Pond (October 20 – 26)

Parameter	Units	WQG	N	N >WQG	Commentary
Nitrate	mg/L	3.7	3	2	Nitrate measured at station SP-W-OUT on October 20 (5.84 mg/L) and October 21 (6.8 mg/L) was 1.6 times and 1.8 times greater than the long-term WQG, respectively. The nitrate concentrations met the short-term WQG (339 mg/L).
Total Cadmium	mg/L	0.00012	3	1	Total cadmium measured at station SP-W-OUT on October 20 (0.000128 mg/L) was 1.1 times greater than the long-term WQG.
Total Mercury	mg/L	0.000016	3	1	Total mercury measured at station SP-W-OUT on October 20 (0.0000369 mg/L) was 2.3 times greater than the long-term WQG.
Hexavalent Chromium	mg/L	0.0015	3	2	Hexavalent chromium measured at station SP-W-OUT on October 20 (0.00166 mg/L) and October 21 (0.00158 mg/L) was 1.1 times greater than the long-term WQG.
Benzo(a)pyrene	mg/L	0.00001	3	2	Benzo(a)pyrene measured at station SP-W-OUT on October 20 (0.0000294 mg/L) and October 21 (0.0000119 mg/L) was 2.9 times and 1.2 times greater than the long-term WQG.

N = number of samples.
Non-detect results are screened using the detection limit value.

Table 8:
Summary of Parameters Exceeding Short-Term WQGs in Pooling Road Contact Water (station W-GANGWAY) Discharged to Howe Sound on October 19

Parameter	Units	WQG (Short-term)	N	N >WQG	Commentary
Turbidity	NTU	24.1	1	1	Turbidity was 1860 NTU in the October 19 the W-GANGWAY contact water sample. Discharge of pooled water occurred for approximately 8 to 10 hours at two locations.
TSS	mg/L	57.4	1	1	TSS was 1120 mg/L in the October 19 the W-GANGWAY contact water sample. Discharge of pooled water occurred for approximately 8 to 10 hours at two locations.
Total Copper	mg/L	0.003	1	1	Total copper was 0.0525 mg/L in the October 19 the W-GANGWAY contact water sample. Discharge of pooled water occurred for approximately 8 to 10 hours at two locations.
Total Zinc	mg/L	0.055	1	1	Total zinc was 0.212 mg/L in the October 19 the W-GANGWAY contact water sample. Discharge of pooled water occurred for approximately 8 to 10 hours at two locations.

N = number of samples.

Methylmercury analytical results were available at the time of reporting for the SP-W-OUT samples collected on October 18. Results of duplicate analysis show good agreement of methylmercury (0.000054 and 0.000058 µg/L) and total mercury (<0.005 µg/L) concentrations, and total mercury met the long-term WQG (Appendix D, Table D-4).

3.6 West Wastewater Treatment Plant

The West WWTP was not active during the monitoring period and pilot trials have been suspended since September 25. The suspension was implemented for the temporary reconfiguration of the plant to allow 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. Field measurements and analytical samples were not collected during the monitoring period at the influent (WWTP-W-IN) and effluent (WWTP-W-OUT) stations.

3.7 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 E.

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 October 20 non-contact water diversion ditch outlets sample collected at station OUT-06 and for the October 23 sample collected at station OUT-02. Parameter concentrations met WQGs except pH, total aluminum, total iron, dissolved copper and PAHs (benz(a)anthracene, benzo(a)pyrene, fluoranthene and pyrene) (Table 9).

Field pH was below the lower limit of the WQG at OUT-06 (pH 6.2) and OUT-02 (pH 6.4). Total aluminum was above the calculated long-term WQG at OUT-06 (1.3 mg/L) and OUT-02 (0.144 mg/L). Dissolved copper was above the calculated short-term and long-term WQGs at OUT-06 (0.00117 mg/L) and was above the calculated long-term WQG at OUT-02 (0.00053 mg/L). Total iron was above the long-term WQG at OUT-06 (0.856 mg/L). The October 20 observed concentrations of total aluminum, total iron and PAHs at OUT-06 are attributed to TSS in the non-contact water that was intercepted by the OUT-06 clean water diversion ditch.

Table 9:
Summary of Parameters Exceeding WQGs at Non-Contact Water Diversion Ditch Outlets

Parameter	Units	WQG	N	N >WQG	Commentary
Field pH	s.u.	6.5-9.0	2	2	Field pH was below the lower limit of the WQG at OUT-06 (pH 6.2) on October 20 and OUT-02 (pH 6.4) on October 23.
T-Al	mg/L	0.072 (OUT-06) 0.037 (OUT-02)	2	2	The total aluminum concentration measured at OUT-06 (1.3 mg/L) on October 20 and OUT-02 (0.144 mg/L) on October 23 were 18 and 3.9 times greater than the calculated long-term WQG, respectively.
T-Fe	mg/L	0.3	2	1	The total iron concentration measured at OUT-06 on October 20 (0.856 mg/L) was 2.9 times greater than the long-term WQG.
D-Cu	mg/L	0.0002	2	2	The dissolved copper concentration measured at OUT-06 (0.00117 mg/L) on October 20 and OUT-02 (0.00053 mg/L) on October 23 were 5.9 and 2.7 times greater than the calculated long-term WQG, respectively. The dissolved copper concentration at OUT-06 on October 20 was 1.01 times greater than the calculated short-term WQG (0.00116 mg/L).
Benz(a)anthracene	mg/L	0.000018	1	1	The benz(a)anthracene concentration measured at OUT-06 (0.000022 mg/L) on October 20 was 1.2 times the WQG.
Benzo(a)pyrene	mg/L	0.00001	1	1	The benzo(a)pyrene concentration measured at OUT-06 (0.0000248 mg/L) on October 20 was 2.5 times the WQG.
Fluoranthene	mg/L	0.00004	1	1	The fluoranthene concentration measured at OUT-06 (0.000046 mg/L) on October 20 was 1.2 times the WQG.
Pyrene	mg/L	0.00002	1	1	The pyrene concentration measured at OUT-06 (0.000042 mg/L) on October 20 was 2.1 times the WQG

N = number of samples.

3.8 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 exceedances. The analytical results, field parameters and WQGs are summarized in Appendix F (freshwater) and Appendix G (estuarine).

Analytical results were available at the time of reporting for freshwater and estuarine water samples collected near the mouth of Woodfibre Creek (station SW-01), upstream on Mill Creek (station SW-07), near the mouth of Mill Creek (station SW-02), the Mill Creek Estuary (station

SW-03), and East Creek (station SW-04) on October 12 (as discussed in Weekly Report #35) and on October 22.

Parameter concentrations met WQGs except pH, total aluminum, total iron, and dissolved copper in one or more samples. Field pH was below the lower limit of the WQG at SW-01 (October 22, pH 6.4) and SW-03 (October 12, pH 5.4).Total aluminum was above the calculated WQG in samples collected from SW-01 (0.0898 mg/L) and SW-07 (0.0354 mg/L) on October 12 and in samples collected from SW-02 (0.0852 mg/L) and SW-07 (0.119 mg/L) on October 22. Dissolved copper was above the calculated long-term WQG at Mill Creek stations SW-02 on October 12 (0.00021 mg/L) and October 22 (0.00035 mg/L) and SW-07 on October 22 (0.00041 mg/L). Dissolved copper was above the calculated short-term and long-term WQGs in East Creek on October 22 (0.00076 mg/L). Total iron was above the long-term WQG in the sample collected from East Creek on October 12 (0.472 mg/L).

The observed pH and concentrations of total aluminum and dissolved copper at SW-04 were within the ranges observed in the pre-construction baseline monitoring program for freshwater and estuarine water receiving environment stations. The dissolved copper concentration observed in Mill Creek (station SW-02) on October 22 (0.00035 mg/L) was 1.1 times greater than the maximum concentration observed in the pre-construction baseline monitoring program at Mill Creek (0.00034 mg/L; Table 10); however, the dissolved copper concentration observed at the Mill Creek upstream station at the diversion inlet (station SW-07; 0.00041 mg/L) reflects background concentrations in Mill Creek. Therefore, the dissolved coper concentrations at station SW-02 and SW-07 are considered to represent background conditions on Mill Creek.

The total iron concentration observed at the East Creek station (SW-04) on October 2 was 1.7 times greater than the maximum concentrations observed in the pre-construction baseline monitoring program at East Creek (Table 10). The evaluation of possible project influence at this station is tracked in Table 12.

Table 10:
Summary of Parameters Outside Baseline and Background Conditions at Freshwater Receiving Environment Stations

Parameter	Units	WQG	N	N >WQG	Commentary
T-Fe	mg/L	0.3	10	1	The total iron concentration measured in East Creek (SW-04) on October 12 (0.472 mg/L) was 1.6 times greater than the long-term WQG. The total iron concentration at SW-04 was 1.7 times greater than the maximum concentration observed in the pre-construction baseline monitoring program (0.273 mg/L).

N = number of samples.
Non-detect results are screened using the detection limit value.

3.9 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 are considered to represent the natural condition of the water and are not flagged as exceedances. 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 H.

Analytical results were available at the time of reporting for the October 13 marine water receiving environment reference station samples collected at WQR1 and WQR2 and the October 18 samples collected at IDZ-W2 (as discussed in Weekly Report #35) at 0.5 and 2 m below the water surface and 2 m above the seafloor. Analytical results were also available at the time of reporting for samples collected at 0.5 m below the water surface at IDZ-E1, IDZ-E2, IDZ-W1, WQR1, and WQR2 on October 19 (as discussed in Weekly Report #35) and on October 20. Results were available for samples collected from marine reference stations WQR1 and WQR2 at 0.5 and 2 m below the water surface and 2 m above the seafloor on October 22 and for samples collected at stations IDZ-W1 and IDZ-W2 at 2 m below the water surface and 2 m above the seafloor on October 24. Results are also reported for ad-hoc stations W-G-RE and RE-2 (Figure 6) monitored on October 19 and 20.

Parameter concentrations met WQGs except pH, TSS, dissolved oxygen, total boron, total copper, and total lead in one or more samples. Field pH was below the lower limit of the WQG at marine reference station WQR2 at 0.5 m below the water surface on October 20 (pH 6.9). Dissolved oxygen was below the lower limit of the WQG (>8 mg/L) in the WQR1 and WQR2 samples collected on October 13, at IDZ-W2 at 2 m above the seafloor on October 18, at WQR1 and WQR2 at 2 m above the seafloor on October 22, and in the IDZ-W1 and IDZ-W2 samples collected October 24 at 2 m above the seafloor. The total boron concentrations were above the long-term WQG (1.2 mg/L) in samples collected at WQR1 and WQR2 on October 13, at IDZ-W2 on October 18, at IDZ-E2, IDZ-W1, and WQR1 on October 19, at WQR1 and WQR2 on October 22, and at IDZ-W1 and IDZ-W2 on October 24. The observed pH and concentrations of dissolved oxygen and total boron were within the concentration ranges observed in the baseline monitoring program for the marine reference stations.

Total suspended solids (TSS) concentrations at IDZ-E1, IDZ-E2, and IDZ-W1 were above the calculated WQGs in samples collected at 0.5 m below the water surface on October 20. The elevated TSS and turbidity in these samples is attributed to high intensity rainfall associated with

the October 18 – 20 storm event and suggests some project-related influence of TSS within the IDZ (*i.e.*, mixing zone) on October 20.

Total copper concentrations were above the long-term WQG (0.002 mg/L) in samples collected at IDZ-E1, IDZ-E2, IDZ-W1, and WQR2 at 0.5 below the water surface on October 19, at IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1 and WQR2 at 0.5 below the water surface on October 20, and at WQR1 and WQR2 at 0.5 and 2 m below the water surface on October 22. Total copper concentrations were also above the short-term WQG (0.003 mg/L) in samples collected at WQR2 at 0.5 m below the water surface on October 19 and 20 as well as samples collected at IDZ-E1 and IDZ-E2 at 0.5 m below the water surface on October 20. Total lead concentrations measured at station IDZ-E2 and reference station WQR2 at 0.5 m below the water surface on October 19 were above the long-term WQG (0.002 mg/L). The total copper and total lead concentrations above WQG observed October 19, 20, and 22 are correlated with elevated TSS in the samples (9.0 – 47.4 mg/L) The observed concentrations are within baseline ranges (total copper), or background concentrations observed at reference stations (total copper, total lead) and are attributed to high intensity rainfall associated with the October 18 – 20 storm event.

Methylmercury analytical results were available at the time of reporting for the marine water receiving environment stations IDZ-W1 and IDZ-W2 collected on October 9 and stations IDZ-E1 and IDZ-E2 collected on October 10 and October 12 (as discussed in Weekly Report #35). Methylmercury results were also available for samples collected from marine reference stations WQR1 and WQR2 on October 13 (as discussed in Weekly Report #36). Samples were collected at 0.5 and 2 m below the water surface and 2 m above the seafloor. The methylmercury concentrations were below detectable limits (<0.000020 - <0.00080 µg/L) in all samples collected at IDZ-W1 and IDZ-W2 on October 9 and at IDZ-E1 and IDZ-E2 on October 12. Raised detection limits were reported for samples collected from IDZ-W1-0.5 and IDZ-W1-SF on October 9 and IDZ-E2-SF on October 12 are attributed to sample matrix interferences. The methylmercury concentrations in all samples at IDZ-E1 were <0.000020 µg/L on October 10 while concentrations at IDZ-E2 were 0.000028 µg/L, 0.000021 µg/L, and <0.000020 µg/L at 0.5 and 2 m below the water surface and 2 m above the seafloor, respectively, on October 10. The methylmercury concentrations were below the detection limit (<0.000020 µg/L) at marine reference stations WQR1 and WQR2 on October 13 except for the sample collected at WQR2 at 2 m below the water surface (0.000049 µg/L). The methylmercury concentrations were within the concentration ranges observed in the pre-construction baseline monitoring program for the marine reference stations. All samples were below the lowest applicable total mercury long-term WQG (Appendix H, Tables H-9 to H-12).

Due to stormwater runoff from heavy rains overnight from October 18 to 19, some road contact water pooling in two areas on the road adjacent to the floatel construction contact water bypassed

the West Sedimentation Pond on October 19 and discharged directly to Howe Sound in the vicinity of the floatel (Figure 6). Plumes of turbid water were observed at two locations in Howe Sound (Figure 6, stations W-G-RE and RE-2). Samples were collected on October 19 and 20 from the marine receiving environment at ad-hoc stations W-G-RE RE-2, both located near the foreshore. The discharges occurred for a short duration (approximately 8 to 10 hours) therefore receiving environment water quality is compared to short-term WQGs. Parameter concentrations in samples from stations W-G-RE and RE-2 met short-term WQGs except pH, turbidity, TSS, total copper and total zinc in one or more samples (Table 11). The concentration of pH is within the baseline range for shallow marine water within the CPA and is therefore considered a natural condition. Monitoring results are compared to short and long term WQGs in Appendix H, Table H-8. The methylmercury concentrations were 0.000238 µg/L at W-G-RE and 0.000051 µg/L at RE-2 (Appendix H, Table H-13).

Table 11:
Summary of Parameters that Exceeding a Short-Term WQG and Baseline Conditions at Marine Receiving Environment Stations W-G-RE and RE-2 Associated with Short-Term Discharge of Site Contact Water to Howe Sound on October 19

Parameter	Units	WQG	N	N >WQG	Commentary
Field Turbidity	NTU	21.1-28.4	4	1	Field turbidity at W-G-RE on October 19 (289.8 NTU) was 10.7 times greater than the calculated short-term WQG.
TSS	mg/L	18.4-72.4	4	1	The TSS concentration measured at W-G-RE on October 19 (609 mg/L) was 8.4 times greater than the calculated short-term WQG.
T-Cu	mg/L	0.002	4	4	The total copper concentration measured at RE-2 on October 20 was 3.5 times greater than the short-term WQG. Total copper concentrations measured at W-G-RE on October 19 (0.0403 mg/L) and October 20 (0.00643 mg/L) were 13.4 and 2.1 times greater than the short-term WQG, respectively.
T-Zn	mg/L	0.01	4	1	The total zinc concentration measured at W-G-RE on October 19 (0.122 mg/L) was 2.2 times greater than the short-term WQG.

N = number of samples.

4. Quality Control

This section presents the results of the quality control (QC) evaluation for the PE-111578 weekly report (Table 12). 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 12. Any items flagged for follow-up are carried forward to future reports until they are closed.

Table 12: Weekly Report QC Evaluations and Ongoing Items

QC Procedure	Observation	Investigation/Resolution
Reporting Period (October 20 – 26, Report #37)		
Monitoring Program Evaluation	PE-111578 contact water, non-contact water and initial dilution zone monitoring stations have not been fully established.	The PE-111578 authorized works were under construction during the reporting period. The East Sedimentation Pond and East WWTP are completed. The West Sedimentation Pond is completed. Temporary outfalls are used for both ponds until the permanent structures are completed. West WWTP pilot testing is suspended since September 25, and the plant has been repurposed to evaluate alternative treatment processes. The non-contact water diversion ditch that discharges at station OUT-06 has been completed, other diversion ditches are being upgraded or are not yet constructed. The lower reach of East Creek is temporarily diverted through OUT-11 outfall since September 17 to facilitate replacement of the East Creek outfall culvert (OUT-12). This item remains open.
Monitoring Program Evaluation	Sampling was not conducted as prescribed in PE-111578 on occasion.	Daily field parameters were not collected at ESC-W-IN on October 21. The general parameters bottle was omitted from laboratory submission for the October 26 sample collected at IDZ-E2-2m. A review of monitoring requirements with the QEP and site staff will be completed the week of November 3. This item remains open.
Non-compliant Discharge	Non-compliant discharge from the East Sedimentation Pond on October 19, 20, and 21 and the West Sedimentation Pond on October 20 and 21. Bypass of the West Sedimentation Pond on October 19.	East Sedimentation Pond discharge exceeded discharge limits on October 19. Site contact water bypassed the West Sedimentation Pond and discharged to Howe Sound on October 19. East Sedimentation Pond and West Sediment Pond discharge exceeded discharge limits on October 20 and 21. The exceedances are attributed to high intensity rainfall associated with the October 18 – 20 storm event. Review of these non-compliances has been completed to identify lessons learned to prevent recurrence, and outcomes will be communicated to BCER. This item is closed.
Potential Project Influence on Receiving Environment	Total iron, dissolved copper and dissolved nickel at East Creek were above concentration ranges observed in the pre-construction baseline program.	This item was first noted in Report #35. The total iron concentration observed at the East Creek station (SW-04) on September 28 and October 22 were 1.3 and 1.7 times the maximum concentration observed in the pre-construction baseline monitoring program at East Creek, respectively. Total iron, dissolved copper, and dissolved nickel concentrations observed at the East Creek station (SW-04) on October 4 were 4.2, 3.1, and 7.3 times greater than the maximum concentrations observed in the pre-construction baseline monitoring program at East Creek, respectively. It is possible the East Creek water quality at station SW-04 was influenced by discharge from the Fortis controlled portal area for the Eagle Mountain Pipeline Tunnel project. Follow-up with Woodfibre LNG staff is on-going. This item remains open.
Bypass of Authorized Discharge Location	Contact water discharged to Howe Sound from two locations in the West Catchment and one location in the East Catchment on October 19.	Due to stormwater runoff from heavy rains overnight from October 18 to 19, road contact water pooling in two areas of the West Catchment bypassed the West Sedimentation Pond on October 19 and discharged directly to Howe Sound in the vicinity of the floatel. Also on October 19, a turbidity plume was observed in the vicinity of the East Creek outfall. The plume was caused by discharge from a temporary hose that caused erosion of site fill materials because the hose outlet was located upslope of the foreshore riprap. Site staff have reviewed these events to identify lessons learned to prevent recurrence. Additional details will be communicated to BCER. This item is closed.
Pending Data	Analytical results were not reported for samples collected October 25 and 26. Methylmercury, dioxins and furans results were not reported for samples collected October 20, 21, 22, 23, 24, and 26.	Analytical results for samples collected October 25 and 26 were not complete at the time of Report #37 preparation. Methylmercury, dioxins and furans results for samples collected October 20, 21, 22, 23, 24, and 26 were not complete at the time of Report #37 preparation. Testing of methylmercury, dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
Ongoing Items from Previous Weekly Reports		
Report #32: Pending Data	Analytical results were not reported for samples collected September 18, 19 and 21.	Analytical results for dioxins and furans were not complete at the time of Report #37 preparation. Testing of dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
Report #33: Pending Data	Analytical results for samples collected September 28 were not reported.	Analytical results for dioxins and furans were not complete at the time of Report #37 preparation for the SW-01 and SW-04 samples collected September 28. Testing of dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
	Methylmercury, dioxins and furans results were not reported for samples collected September 23.	Analytical results for dioxins and furans were not complete at the time of Report #37 preparation for samples collected September 23. Testing of dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
Report #34: Pending Data	Analytical results for samples collected October 3, and 4 were not reported. Dioxins and furans results for samples collected October 1 were not reported.	Methylmercury, dioxin and furan results for samples collected October 3 and 4 were not complete at the time of Report #37 preparation. Testing of methylmercury, dioxins and furans typically requires up to 4 weeks to complete. The pending results will be included in future weekly reports when available. This item remains open.
Report #35: Data QC	Weekly Report #32 indicated that total mercury was above the calculated long-term WQG in the sample collected September 8 and 17 at SP-E-OUT.	The total mercury long-term WQG is calculated using the methylmercury result for the sample. Weekly Report #32 (Table 4) indicated that total mercury was not detected; however, after receipt of the methylmercury result from which the sample specific T-Hg WQG is calculated, it was determined that the detection limit was above the calculated long-term WQG for total mercury. The true total mercury concentration was not known and therefore, comparison to the long-term WQG could not be completed. This is considered a quality control issue. Follow-up with the lab indicates a specialized testing for a lower detection limit can be provided though it will take longer to complete this testing compared to the routine test method. The monitoring program has been revised to use a more sensitive test method for T-Hg. This item is closed.
Report #35: Pending Data	Methylmercury, dioxins and furans results for samples collected October 8, 11 and 12 were not reported.	Report #35 indicated analytical samples were collected October 10 from SP-E-NE, WWTP-E-OUT, and WWTP-E-IN; however, these analyses were cancelled at the laboratory at the request of the QEP and results will not be reported. Methylmercury, dioxins and furans results for samples collected October 6 and dioxins and furans results for samples collected October 8, 11, and 12 were not complete at the time of Report #37 preparation. The pending results will be included in future weekly reports when available. This item remains open.
Report #35: Potential Non-Compliant Discharge	Potentially non-compliant effluent was discharged from the East Sedimentation Pond on October 12.	Discharge occurred from 11:40 to 14:40 on October 12. An analytical sample was collected from the in-pond effluent quality station SP-E-NE at 15:00, after discharge had ceased and was non-compliant for T-Zn at 1.3 times the discharge limit. Review of this non-compliance has been completed and communicated to BCER. This item is closed.
Report #36: Monitoring Program Evaluation	Sampling was not conducted as prescribed in PE-111578 on occasion.	Daily field parameters were not collected at SP-W-OUT on October 19. Weekly high frequency (5-in-30) monitoring was not conducted at stations IDZ-E1, IDZ-E2, and IDZ-W1 at 2 m below surface and 2 m above the seafloor. Dioxins and furans were omitted from the suite of test parameters for the October 13 samples collected at WQR1 and WQR2. A review of monitoring requirements with the QEP and site staff will be completed the week of November 3. This item remains open.
Report #36: Data QC	Raised detection limits for marine reference station samples collected October 6 and IDZ-W samples collected October 9.	Detection limits for anions, total and dissolved metals were raised for samples collected at WQR1 and WQR2 on October 6 and, in some cases, the raised detection limits were above the respective WQG. Samples were misidentified as freshwater samples rather than seawater upon submission to the laboratory. This was an oversight by field staff. Detection limits for anions were raised for samples collected at IDZ-W1 and IDZ-W2 on October 9, resulting in detection limits for fluoride to be above the WQG. The incorrect analytical method was used at the laboratory. Follow-up with the QEP and laboratory is underway. This item remains open.
Report #36: Pending Data	Analytical results were not reported for samples collected October 13 and 19. Methylmercury, dioxins and furans results were not reported for samples collected October 13, 18, and 19.	Available analytical results for marine receiving environment samples collected October 13 and 19 are discussed in Section 3.9 of Report #37. Methylmercury results for SP-E-OUT and SP-W-OUT samples collected October 18 are discussed in Sections 3.3 and 3.5 of Report #37, respectively. Methylmercury, dioxins and furans results for samples collected October 13 (dioxins and furans only), 18, and 19 were not complete at the time of Report #37 preparation. Testing of methylmercury, dioxins and furans typically requires up to 4 weeks to complete. 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.
Monitoring program evaluation is an assessment of the completeness of the monitoring program compared to PE-111578 specified or implied requirements.
WWTP performance evaluation is an assessment of WWTP effluent quality compared to operational MDOs.
Data QC indicates an evaluation of data trends or inter-parameter relationships that suggest a test result may not be representative of water quality at the time of monitoring.
Non-compliant discharge indicates exceedance of a discharge limit or a discharge that bypasses the sedimentation pond discharge location.
Potential project influence is an assessment that water quality at creek and Howe Sound baseline stations are above the baseline concentration range and may indicate project influence at these stations.

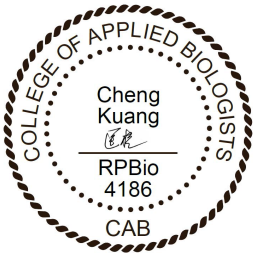
5. Closure

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

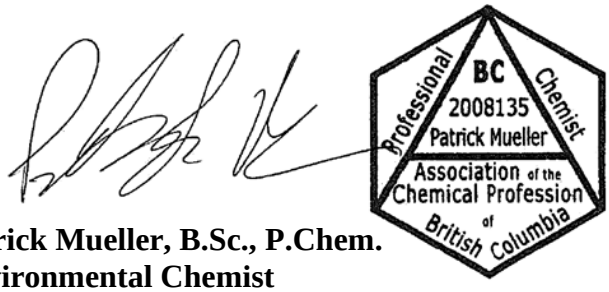
Regards,

LORAX ENVIRONMENTAL SERVICES LTD.

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



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



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

World Imagery: District of Squamish, Maxar. Additional imagery provided by McDermott International captured October 6th, 2024.

LEGEND

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

DATE SAVED:	Nov 01, 2024
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 (October 26, 2024)

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

Appendix A: East and West Catchment Photographs

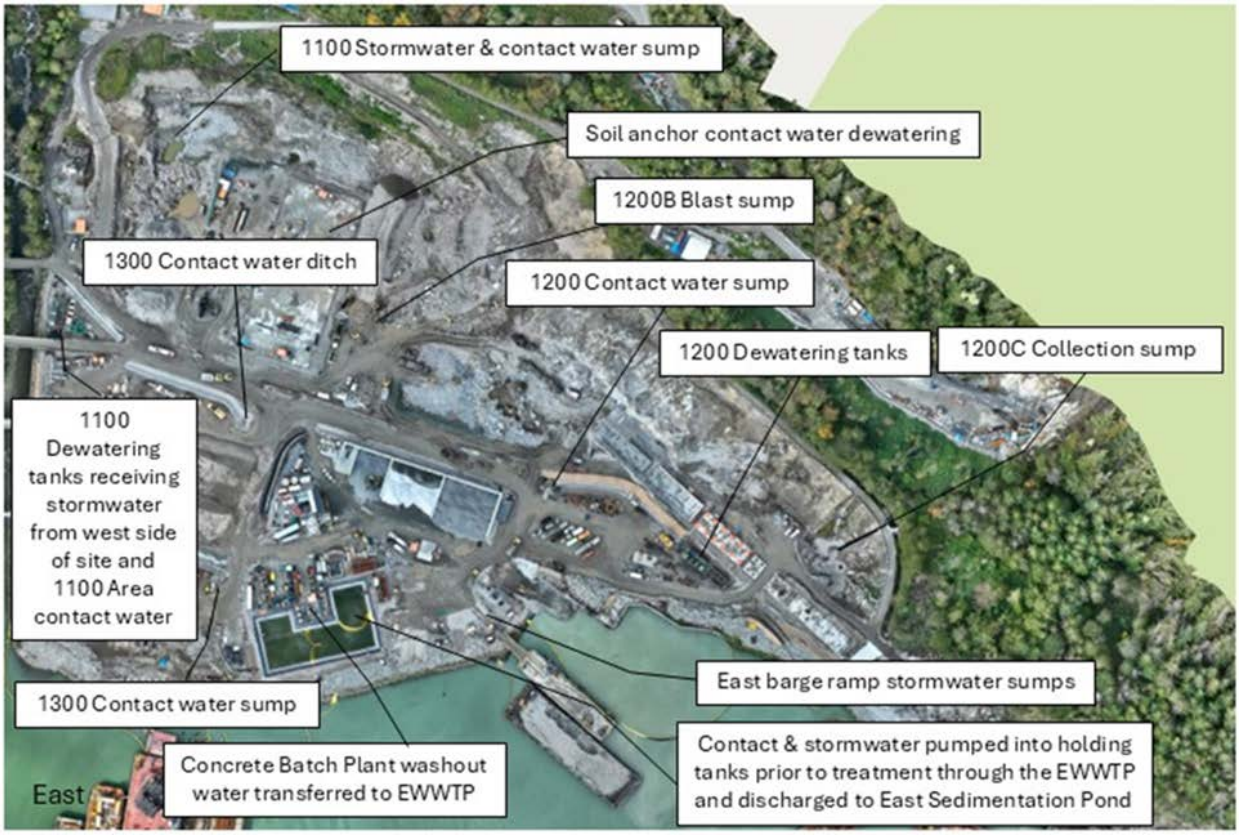


Figure 2: East Catchment contact water management facilities (October 20 – 26).

Figure 3: West Catchment contact water management facilities (October 20 – 26).

Figure 4: Aerial view of the East Sedimentation Pond showing the placement of two sediment curtains (October 25, 2024). The East WWTP is located on the left side of the pond.

Figure 5: Aerial view of the West Sedimentation Pond showing the placement of two sediment curtains (October 25, 2024). The TSS settling system (ESC System) the West WWTP are located to the right of the pond.

Figure 6: Location of pooled road surface stormwater sampled at West Gangway on October 19 (station W-GANGWAY) and locations of turbid site runoff observed in Howe Sound (stations W-GW-RE and RE-2) on October 19 and sampled October 19 and 20. The high turbidity plumes at W-GW-RE and RE-2 on October 19 were estimated to cover areas of approximately 1700 m^2 and 500 m^2, respectively.

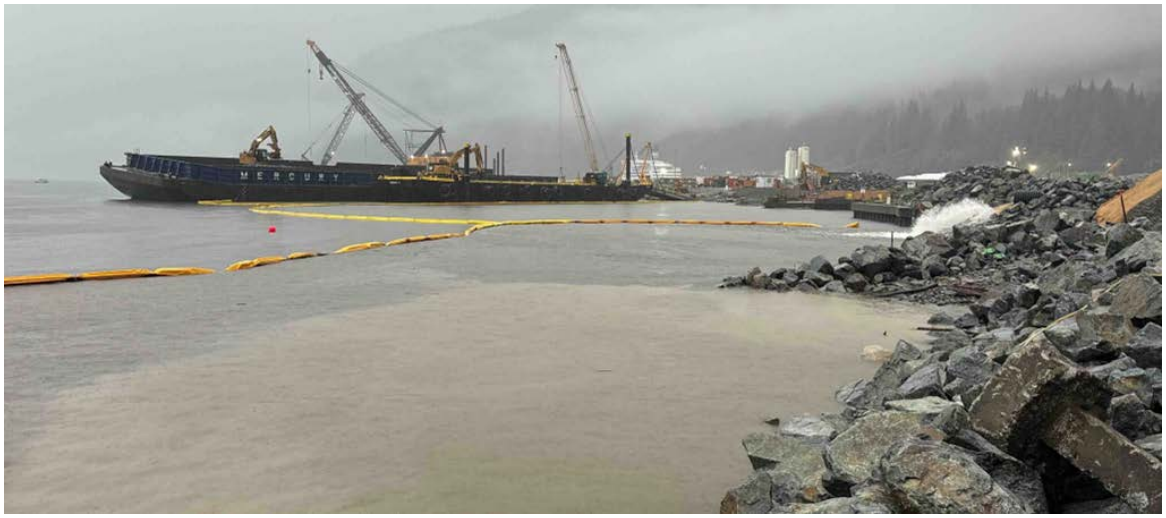


Figure 7: Photo of a 330 m2 (estimated area) turbidity plume observed in the vicinity of the East Creek outfall on October 19 at 9:05. The plume was caused by erosion of site fill materials from a supplemental East Creek diversion outlet that was located upslope of the foreshore riprap. The supplemental diversion pump was turned off on October 19 after the plume was observed by site staff, and turbid discharge to Howe Sound stopped.

Appendix B: East Sedimentation Pond Results

Table B-1: Summary of East Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	East Sedimentation Pond			
					Influent	Effluent	In-Pond at Effluent Location	Effluent
					SP-E-IN-1	SP-E-Out	SP-E-NE	SP-E-Out
					VA24C8023-001	VA24C8023-002	VA24C8160-001	VA24C8162-001
		Long Term	Short Term		2024-10-20 10:05	2024-10-20 10:59	2024-10-21 12:21	2024-10-21 14:45
General Parameters								
pH - Field	pH units	- [2]	-	5.5 - 9.0	9.9	6.9	6.2	7.1
Conductivity - Field	µS/cm	-	-	-	- [7]	- [7]	322	318
Temperature - Field	°C	-	-	-	11.7	- [7]	11.7	13.5
Salinity - Field	ppt	-	-	-	- [7]	- [7]	0.21	0.2
Turbidity - Field	NTU	-	-	-	816 [8]	106 [8]	67.43	42.06
TSS	mg/L	-	-	75 [6]	556	63.7	12.6	18.8
Dissolved Oxygen - Field	mg/L	>=8	-	-	- [7]	- [7]	10.43	10.6
Anions and Nutrients								
Sulphate	mg/L	-	-	-	6.69	39.2	76.3	40
Chloride	mg/L	-	-	-	5.38	9.37	8.64	9.19
Fluoride	mg/L	-	1.5	-	0.025	0.144	0.142	0.142
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	0.0402	2.21	1.64	2.3
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.0248	1.09	0.885	0.98
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	0.214	***10.7***	***9.51***	***10.6***
Total Metals								
Aluminum, total (T-Al)	mg/L	-	-	-	33.0	6.04	2.82	3.49
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00203	0.00184	0.00164	0.00163
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	***0.0129***	0.00348	0.00222	0.00282
Barium, total (T-Ba)	mg/L	-	-	-	0.258	0.0524	0.0253	0.0319
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000500	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	-	-	<0.050	0.043	0.052	0.044
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	***0.000423***	0.0000948	0.0000428	0.0000506
Chromium, total (T-Cr)	mg/L	-	-	-	0.0260	0.00484	0.002	0.00282
Cobalt, total (T-Co)	mg/L	-	-	-	0.0112	0.00288	0.00191	0.00211
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0637	0.0194	0.00993	0.0152
Iron, total (T-Fe)	mg/L	-	-	-	26.9	4.47	1.78	2.38
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.0658	0.0125	0.00421	0.00614
Manganese, total (T-Mn)	mg/L	-	-	-	0.678	0.130	0.0606	0.0768
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.000238***	***0.0000411***	0.0000146	0.0000132
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.00918	0.0357	0.0291	0.0346
Nickel, total (T-Ni)	mg/L	0.0083	-	-	***0.0157***	0.00286	0.00183	0.00182
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000286	0.000475	0.000347	0.000403
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	0.000184	0.000227	0.000138	0.000208
Thallium, total (T-Tl)	mg/L	-	-	-	0.000254	0.000051	0.000033	0.000031
Uranium, total (T-U)	mg/L	-	-	-	0.00679	0.0140	0.00935	0.0145
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.0608	0.0132	0.00756	0.00904
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.162	0.0281	0.0124	0.0147
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00104	***0.00154***	0.00071	0.00133
Dissolved Metals								
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000050	<0.0000200	0.000029	<0.0000200
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00126	0.00841	0.0052	0.00593
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.011	0.098	0.072	0.121
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000058	<0.000050	0.000051	0.000154
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00071	0.0212	0.0406	0.0212
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	0.00051	0.00099	0.0009
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0310	0.103	0.0942	0.121
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00395	0.00352	0.00329	0.00417
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010	0.0016	0.002	0.0025
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/L	0.006	-	-	0.000104	0.000186	0.00009	0.000174
Acridine	mg/L	-	-	-	<0.000068	<0.000040	<0.000025	<0.000043
Anthracene	mg/L	-	-	-	0.000164	<0.000049	<0.000022	<0.000053
Benz(a)anthracene	mg/L	-	-	-	0.000425	0.000044	0.000016	0.000029
Benzo(a)pyrene	mg/L	0.00001	-	-	***0.000342***	***0.0000321***	***0.000012***	***0.0000199***
Chrysene	mg/L	0.0001	-	-	***0.000360***	0.000041	0.000015	0.000026
Fluoranthene	mg/L	-	-	-	0.000905	0.000176	0.00007	0.000122
Fluorene	mg/L	0.012	-	-	0.000124	0.000276	0.00013	0.000254
1-methylnaphthalene	mg/L	0.001	-	-	0.000031	0.000253	0.000157	0.000326
2-methylnaphthalene	mg/L	0.001	-	-	0.000042	0.000239	0.000152	0.0003
Naphthalene	mg/L	0.001	-	-	0.000066	***0.00130***	0.000627	***0.00113***
Phenanthrene	mg/L	-	-	-	0.000523	0.000246	0.000101	0.000188
Pyrene	mg/L	-	-	-	0.000825	0.000168	0.000067	0.000131
Quinoline	mg/L	-	-	-	<0.000050	0.000398	0.000202	0.000349
Volatile Organic Compounds (VOCs)								
Benzene	mg/L	0.11	-	-	<0.00050	0.00680	0.00189	0.00392
Ethylbenzene	mg/L	0.25	-	-	<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
Styrene	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	0.00216	0.00081	0.00165
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<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.
Results in orange text exceeded the PE-11578 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged during the monitoring period (October 20 - 26) on October 20, October 21, and ceased at 04:02 on October 22 as well as October 26.
[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 Wet Conditions. Wet Conditions applied October 20, 21 and 26.
[7] Complete field measurements were not recorded at the time of analytical sample collection; however, complete field records were collected on October 20 at SP-E-OUT at 15:05 and 18:03 (see Table B4).
[8] Field turbidity measurements were recorded as "overrange" (above the upper range of 100 NTU) from the LaMotte 2020i field meter used at SP-E-IN-1 and SP-E-OUT on October 20. Therefore, lab measured values are reported for these samples.

Table B-2: Summary of East Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	East Sedimentation Pond	
					In-Pond at Effluent Location	Effluent
					SP-E-NE	SP-E-Out
					VA24C8688-003	VA24C8882-002
		Long Term	Short Term		2024-10-24 15:00	2024-10-26 11:43
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	6.16	6.46
Conductivity - Field	µS/cm	-	-	-	402.7	370.7
Temperature - Field	°C	-	-	-	10.8	9.7
Salinity - Field	ppt	-	-	-	0.27	0.25
Turbidity - Field	NTU	-	-	-	0.32	5.47
TSS	mg/L	-	-	25 / 75 [6]	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	-	-	11.06	10.9
Anions and Nutrients						
Sulphate	mg/L	-	-	-	44.3	43.6
Chloride	mg/L	-	-	-	10.9	10.9
Fluoride	mg/L	-	1.5	-	0.191	0.142
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	1.87	1.81
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.785	0.771
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	***10.2***	***9.96***
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	0.0961	0.44
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00189	0.00188
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.0013	0.00144
Barium, total (T-Ba)	mg/L	-	-	-	0.00241	0.00655
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	-	-	0.055	0.056
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000150	<0.0000250
Chromium, total (T-Cr)	mg/L	-	-	-	0.00082	0.00102
Cobalt, total (T-Co)	mg/L	-	-	-	0.00124	0.00138
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0021	0.00332
Iron, total (T-Fe)	mg/L	-	-	-	0.099	0.32
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000132	0.000809
Manganese, total (T-Mn)	mg/L	-	-	-	0.0142	0.0318
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	<0.0000050	0.0000059
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0375	0.0377
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.0007	0.00092
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000308	0.000438
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	<0.000010	0.000013
Thallium, total (T-Tl)	mg/L	-	-	-	0.000024	0.000025
Uranium, total (T-U)	mg/L	-	-	-	0.0112	0.0107
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00313	0.00364
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0030	0.0083
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00054	<0.00050
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000150	<0.0000200
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00192	0.00252
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.068	0.046
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.00005	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.014	0.0242
Nickel, dissolved (D-Ni)	mg/L	-	-	-	0.00067	0.00067
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0505	0.0614
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00292	0.00279
Zinc, dissolved (D-Zn)	mg/L	-	-	-	0.0014	0.0065
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	0.000011
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
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-11578 East Sedimentation Pond Discharge Limit.
The East Sedimentation Pond discharged during the monitoring period (October 20 - 26) on October 20, October 21, and ceased at 04:02 on October 22 as well as October 26.
[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 Wet Conditions. Wet Conditions applied October 20, 21 and 26

Table B-3: Summary of East Sedimentation Pond Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	East Sedimentation Pond	
			Effluent	Effluent
			SP-E-OUT	SP-E-OUT-Dup
			VA24C7958-001	VA24C7958-002
			2024-10-18	2024-10-18
Methylmercury	**µg/L**	**-**	0.000063	0.000064
Total Mercury	**µg/L**	0.016 [2,3]	0.0156	0.0151

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] CCME guideline for total mercury = 0.016 µg/L.
[3] 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).
Non-detect results are screened using the detection limit value.

Table B-4: Summary of East Sedimentation Pond Daily Field Parameters October 20 – 26.

Parameter		Temperature	Dissolved Oxygen (DO)	Salinity	Turbidity	TSS [7] (estimated)	pH	Conductivity	Visibility of Sheen	Total Daily Discharge from the East Sedimentation Pond to Howe Sound
Unit		**°C**	**mg/L**	**ppt**	**NTU**	**mg/L**	**s.u.**	**µS/cm**		**m^3**
PE-111578 Discharge Limit		-	-	-	-	25 or 75 [8]	5.5 - 9.0	-	-	-[3]
Lowest Applicable Guideline [1]		-	>=8	-	-	-[2]	-[2]	-	-	-
Station ID [4]	**Date**									
SP-E-NW	2024-10-20 8:10	11.1	11.27	0.21	268.08	203	7.4	321	No	2,757
SP-E-NE	2024-10-20 8:18	10.7	11.11	0.17	97.21	75	7.6	263	No	
SP-E-IN-1	2024-10-20 10:05	11.7	-[5]	-[5]	816 [6]	556 [6]	9.9	-[5]	No	
SP-E-NW	2024-10-20 10:42	10.9	11.07	0.12	351.12	265	9.0	177	No	
SP-E-OUT	2024-10-20 10:59	-[5]	-[5]	-[5]	106 [6]	63.7 [6]	6.9	-[5]	-[5]	
SP-E-NE	2024-10-20 14:58	10.7	10.97	0.13	312.49	236	8.8	201	No	
SP-E-OUT	2024-10-20 15:05	10.9	10.00	0.16	227.60	173	7.3	248	No	
SP-E-OUT	2024-10-20 18:03	11.1	10.99	0.15	191.41	146	7.4	225	No	
SP-E-NE	2024-10-21 12:21	11.7	10.43	0.21	67.43	53	6.2	322	Yes	2,624
SP-E-NW	2024-10-21 12:52	14.4	10.29	0.17	52.04	42	8.6	276	No	
SP-E-OUT	2024-10-21 14:45	13.5	10.6	0.20	42.06	34	7.1	318	No	
SP-E-NE	2024-10-22 12:27	11.5	10.68	0.13	129.63	100	6.0	651	No	315
SP-E-NW	2024-10-22 12:32	10.0	9.89	0.13	153.73	118	8.3	199	No	
SP-E-NE	2024-10-23 10:29	10.2	10.42	0.26	4.67	6	6.0	383	No	0
SP-E-NE	2024-10-24 15:00	10.8	11.06	0.27	0.32	3	6.2	403	No	0
SP-E-NE	2024-10-25 17:17	9.5	10.85	0.28	1.55	4	6.3	400	No	0
SP-E-NE	2024-10-26 8:26	9.4	10.87	0.25	2.10	5	6.3	362	No	479
SP-E-OUT	2024-10-26 11:43	9.7	10.90	0.25	5.47	7	6.5	371	No	
SP-E-OUT	2024-10-26 13:52	10.1	10.99	0.33	18.40	17	6.5	476	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-11578 East Sedimentation Pond Discharge Limit.
All SP-E-OUT samples collected from May 27 to the time of writing were taken from the sample port which is located near the inlet end of the temporary discharge hose.
The East Sedimentation Pond discharged during the monitoring period (October 20 - 26) on October 20, October 21, and ceased at 04:02 on October 22 as well as October 26.
[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 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.
[4] The sedimentation pond did not receive non-contaminated contact water influent October 21 – October 26, therefore daily measurements for station SP-E-IN-1/SP-E-IN-2 were not collected. The East Sedimentation Pond discharged on October 20, October 21, and ceased at 04:02 on October 22 as well as October 26. Daily field measurements and analytical samples were collected on October 20, 21, and 26. The East Sedimentation Pond did not discharge October 22 - 25, therefore daily measurements for station SP-E-OUT were not collected. In-Pond stations SP-E-NW and SP-E-NE may be monitored in place of stations SP-E-IN-1/SP-E-IN-2 and SP-E-OUT, respectively when there is no influent to, or discharge from the East Sedimentation Pond at the time of monitoring.
[5] Field measurements for turbidity and pH were recorded at the time of analytical sample collection for SP-E-IN-1 and SP-E-OUT on October 20. Complete field parameters were collected at SP-E-OUT on October 20 at 15:05 and 18:03. Field measurements for DO, salinity, and conductivity were not measured at SP-E-IN-1 on October 20.
[6]Field turbidity measurements were recorded as "overrange" (above the upper range of 100 NTU) from the LaMotte 2020i field meter used at SP-E-IN-1 and SP-E-OUT on October 20. Therefore, lab measured turbidity and TSS values are reported for these samples.
[7] TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.
[8] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for Wet Conditions. Wet Conditions applied October 20, 21 and 26.

Appendix C: East Wastewater Treatment Plant Results

Table C-1: Summary of East Wastewater Treatment Plant Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Operational Minimum Discharge Objective [1]	East WWTP	
			Influent	Effluent
			WWTP-E-IN	WWTP-E-OUT
			VA24C8688-001	VA24C8688-002
			2024-10-24 15:21	2024-10-24 15:55
General Parameters				
pH - Field	pH units	5.5 – 9.0	6.1	5.8
Conductivity - Field	µS/cm	-	557	442.2
Temperature - Field	℃	-	11.1	10.8
Salinity - Field	ppt	-	0.37	0.3
Turbidity - Field	NTU	-	21.29	9.74
TSS	mg/L	-	7.1	<3.0
Dissolved Oxygen - Field	mg/L	-	10.64	10.95
Anions and Nutrients				
Sulphate	mg/L	-	45.2	38.5
Chloride	mg/L	-	9.8	14.8
Fluoride	mg/L	-	0.177	0.24
Ammonia ($N\text{-}NH_3$)	mg/L	-	1.85	1.63
Nitrite ($N\text{-}NO_2$)	mg/L	-	0.839	0.829
Nitrate ($N\text{-}NO_3$)	mg/L	-	10.9	10
Total Metals				
Aluminum, total (T-Al)	mg/L	-	0.903	0.0702
Antimony, total (T-Sb)	mg/L	-	0.00206	0.00185
Arsenic, total (T-As)	mg/L	0.0125	0.0015	0.00166
Barium, total (T-Ba)	mg/L	-	0.0105	0.00193
Beryllium, total (T-Be)	mg/L	0.1	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	0.053	0.074
Cadmium, total (T-Cd)	mg/L	0.00012	<0.0000350	<0.0000200
Chromium, total (T-Cr)	mg/L	-	0.00136	0.00082
Cobalt, total (T-Co)	mg/L	-	0.00153	0.00125
Copper, total (T-Cu)	mg/L	0.0043	0.00401	0.00316
Iron, total (T-Fe)	mg/L	-	0.746	0.071
Lead, total (T-Pb)	mg/L	0.0035	0.00185	0.000158
Manganese, total (T-Mn)	mg/L	-	0.0355	0.0105
Mercury, total (T-Hg)	mg/L	0.000016	0.000005	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	0.0368	0.0455
Nickel, total (T-Ni)	mg/L	0.0083	0.00105	0.00078
Selenium, total (T-Se)	mg/L		0.000423	0.000333
Silver, total (T-Ag)	mg/L	0.0015	0.00002	<0.000010
Thallium, total (T-Tl)	mg/L	-	0.000028	0.000023
Uranium, total (T-U)	mg/L	-	0.00991	0.0105
Vanadium, total (T-V)	mg/L	0.0081	0.0046	0.00367
Zinc, total (T-Zn)	mg/L	0.0133	***0.025***	0.0085
Hexavalent Chromium, total	mg/L	0.0015	<0.00050	0.00098
Dissolved Metals				
Cadmium, dissolved (D-Cd)	mg/L	0.00012	<0.0000200	<0.0000150
Copper, dissolved (D-Cu)	mg/L	-	0.00275	0.00246
Iron, dissolved (D-Fe)	mg/L	-	0.062	0.060
Lead, dissolved (D-Pb)	mg/L	-	0.000094	0.000137
Manganese, dissolved (D-Mn)	mg/L	-	0.0224	0.0084
Nickel, dissolved (D-Ni)	mg/L	-	0.00073	0.0007
Strontium, dissolved (D-Sr)	mg/L	-	0.0534	0.0451
Vanadium, dissolved (D-V)	mg/L	-	0.00293	0.00351
Zinc, dissolved (D-Zn)	mg/L	-	0.0293	0.0092
Polycyclic Aromatic Hydrocarbons (PAHs)				
Acenaphthene	mg/L	-	<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	-	0.000012	<0.000010
Fluorene	mg/L	0.012	<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	<0.000050	<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	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	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	-	<0.00050	<0.00050

Notes:
[1] Operational minimum discharge objectives (MDOs) for WWTP effluent that are listed in Appendix B of the Construction Wastewater Treatment Plant Operations Environmental Protection Plan dated February 7, 2024.
Results ***underlined in bold italics*** exceed the applicable minimum discharge objective.

Table C-2: Summary of East Wastewater Treatment Plant Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	East WWTP			
		Influent	Effluent	Influent	Effluent
		WWTP-E-IN	WWTP-E-OUT	WWTP-E-IN	WWTP-E-OUT
		VA24C7397-002	VA24C7397-003	VA24C7774-001	VA24C7774-002
		2024-10-13	2024-10-13	20204-10-17	20204-10-17
Methylmercury	**µg/L**	0.000279	0.000098	0.000263	<0.000080

Table C-3: Summary of East Wastewater Treatment Plant Daily Field Parameters October 20 – 26.

Parameter		**Temperature**	**Dissolved Oxygen (DO)**	**Salinity**	**Turbidity**	**pH**	**Conductivity**	**Visibility of Sheen**	**Total Daily Discharge from the East WWTP**
Unit		**°C**	**mg/L**	**ppt**	**NTU**	**s.u.**	**µS/cm**		**m^3**
PE-111578 Discharge Limit [1]		-	-	-	-	-	-	-	1,100
Minimum Discharge Objective [2]		-	-	-	-	5.5 – 9.0	-	-	-
Station ID	**Date**								
WWTP-E-IN	2024-10-20 14:56	10.5	10.73	0.23	223.51	7.9	340	No	-
WWTP-E-OUT	2024-10-20 14:51	10.8	10.94	0.33	3.91	6.4	487	No	531
WWTP-E-IN	2024-10-21 12:48	12.5	10.52	0.21	75.04	6.3	328	No	-
WWTP-E-OUT	2024-10-21 13:00	11.8	9.14	0.23	0.70	5.8	359	No	451
WWTP-E-IN	2024-10-22 9:04	11.4	10.95	0.44	104.41	8.6	663	No	-
WWTP-E-OUT	2024-10-22 9:06	11.8	9.36	0.39	0.60	5.7	587	No	610
WWTP-E-IN	2024-10-23 10:24	9.3	10.68	0.23	95.97	6.7	338	No	-
WWTP-E-OUT	2024-10-23 10:19	10.2	10.82	0.25	0.12	5.8	369	No	516
WWTP-E-IN	2024-10-24 15:21	11.1	10.64	0.37	21.29	6.1	557	No	-
WWTP-E-OUT	2024-10-24 15:55	10.8	10.95	0.30	9.74	5.8	442	No	560
WWTP-E-IN	2024-10-25 17:24	9.5	10.66	0.34	11.45	6.3	481	No	-
WWTP-E-OUT	2024-10-25	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	-[3]	434
WWTP-E-IN	2024-10-26	-[4]	-[4]	-[4]	-[4]	-[4]	-[4]	-[4]	-
WWTP-E-OUT	2024-10-26	-[4]	-[4]	-[4]	-[4]	-[4]	-[4]	-[4]	479

Notes:
[1] PE-111578 East WWTP Discharge Limit is applied to effluent compliance station WWTP-E-OUT.
[2] Operational minimum discharge objectives (MDOs) for WWTP effluent that are listed in Appendix B of the Construction Wastewater Treatment Plant Operations Environmental Protection Plan dated February 7, 2024.
Results ***underlined in bold italics*** do not meet the applicable minimum discharge objective.
[3] Field measurements were not collected from the effluent station on October 25 as the East WTTP was not discharging at the time of monitoring.
[4] Field measurements were not collected from the influent and effluent stations on October 26 as the East WWTP was not active at the time of monitoring.

Appendix D: West Sedimentation Pond Results

Table D-1: Summary of West Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	West Sedimentation Pond			
					Influent	Effluent	Effluent	Effluent
					SP-W-IN	SP-W-OUT	SP-W-OUT	SP-W-OUT
					VA24C8023-004	VA24C8023-003	VA24C8162-002	VA24C8882-001
		Long Term	Short Term		2024-10-20 10:45	2024-10-20 10:12	2024-10-21 16:29	2024-10-26 11:23
General Parameters								
pH - Field	pH units	- [2]	-	5.5 - 9.0	9.6	8.7	9.3	8.11
Conductivity - Field	µS/cm	-	-	-	-[7]	-[7]	170.5	158.7
Temperature - Field	°C	-	-	-	12.7	-[7]	13.5	9.7
Salinity - Field	ppt	-	-	-	-[7]	-[7]	0.1	0.11
Turbidity - Field	NTU	-	-	-	239 [8]	125 [8]	40.33	1.44
TSS	mg/L	-	-	25 or 75[6]	103	67.9	35.2	<3.0
Dissolved Oxygen - Field	mg/L	>=8	-	-	-[7]	-[7]	10.85	12.06
Anions and Nutrients								
Sulphate	mg/L	-	-	-	3.39	20.8	25.8	20.3
Chloride	mg/L	-	-	-	0.69	8.11	7.37	5.83
Fluoride	mg/L	-	1.5	-	0.038	0.104	0.097	0.096
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	0.0204	0.550	0.349	0.0904
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.0256	0.448	0.467	0.346
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	0.284	***5.84***	***6.8***	3.69
Total Metals								
Aluminum, total (T-Al)	mg/L	-	-	-	12.4	6.95	2.84	0.28
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00104	0.00165	0.00188	0.00183
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00293	0.00401	0.00278	0.00186
Barium, total (T-Ba)	mg/L	-	-	-	0.0983	0.0603	0.0254	0.00644
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000157	0.000114	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	-	-	0.016	0.036	0.036	<0.010
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	0.0000953	***0.000128***	0.0000476	<0.0000150
Chromium, total (T-Cr)	mg/L	-	-	-	0.00365	0.00480	0.00261	0.00089
Cobalt, total (T-Co)	mg/L	-	-	-	0.00330	0.00232	0.00122	0.00027
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0102	0.0161	0.00767	0.00129
Iron, total (T-Fe)	mg/L	-	-	-	8.18	4.72	1.85	0.052
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.00824	0.0148	0.00559	0.000216
Manganese, total (T-Mn)	mg/L	-	-	-	0.283	0.139	0.0516	0.00144
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.0000206***	***0.0000369***	0.0000062	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.00509	0.0357	0.036	0.0304
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00226	0.00283	0.00116	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000117	0.000338	0.000338	0.000186
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	0.000025	0.000061	0.00002	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	-	0.000047	0.000047	0.000019	<0.000010
Uranium, total (T-U)	mg/L	-	-	-	0.00276	0.00934	0.00561	0.00571
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.0182	0.0144	0.00985	0.00245
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.0388	0.0343	0.0134	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00058	***0.00166***	***0.00158***	0.00074
Dissolved Metals								
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000050	<0.0000100	<0.0000050	<0.0000050
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00099	0.00281	0.00379	0.00107
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.010	0.023	0.018	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000050	<0.000050	0.000077	<0.000050
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00174	0.00244	0.00179	0.0004
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0301	0.0882	0.0899	0.095
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00361	0.00476	0.00598	0.00226
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010	<0.0010	0.001	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	mg/L	0.006	-	-	0.000039	0.000208	0.000106	<0.000010
Acridine	mg/L	-	-	-	<0.000020	<0.000020	<0.000015	<0.000010
Anthracene	mg/L	-	-	-	<0.000016	0.000032	<0.000013	<0.000010
Benz(a)anthracene	mg/L	-	-	-	0.000038	0.000043	0.000015	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	***0.0000267***	***0.0000294***	***0.0000119***	<0.0000050
Chrysene	mg/L	0.0001	-	-	0.000035	0.000039	0.000017	<0.000010
Fluoranthene	mg/L	-	-	-	0.000128	0.000169	0.000068	<0.000010
Fluorene	mg/L	0.012	-	-	0.000035	0.000130	0.000055	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	0.000012	0.000044	0.000016	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	0.000015	0.000040	0.000015	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	0.000093	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	0.000064	0.000146	0.000038	<0.000020
Pyrene	mg/L	-	-	-	0.000142	0.000142	0.000061	<0.000010
Quinoline	mg/L	-	-	-	<0.000050	0.000068	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)								
Benzene	mg/L	0.11	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<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
Styrene	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<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.
Results in orange text exceeded the PE-11578 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged during the monitoring period (October 20 - 26) on October 20, October 21, and ceased at 04:49 on October 22 as well as October 26.
[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. Wet Conditions applied October 20 – 21.
[7] Complete field measurements were not recorded at the time of analytical sample collection; however, complete field records were collected on October 20 at SP-W-OUT at 14:31 and 17:44 (see Table D6). The SP-W-IN sample collected on October 20 represents contact water discharging directly into the West Sedimentation Pond at SP-W-E and complete field records were collected at SP-W-E at 14:07 on October 20 (Table D6).
[8] Field turbidity measurements were recorded as "overrange" (above the upper range of 100 NTU) from the LaMotte 2020i field meter used at SP-W-IN and SP-W-OUT on October 20. Therefore, lab measured values are reported for these samples.

Table D-2: Summary of West Sedimentation Pond Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1, 2]		PE-111578 Discharge Limit *	West Sedimentation Pond
					Influent
					ESC-W-IN
					VA24C8165-001
		Long Term	Short Term		2024-10-20 12:50
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	8.7
Conductivity - Field	µS/cm	-	-	-	-[7]
Temperature - Field	°C	-	-	-	15.1
Salinity - Field	ppt	-	-	-	-[7]
Turbidity - Field	NTU	-	-	-	205 [8]
TSS	mg/L	-	-	75[6]	104
Dissolved Oxygen - Field	mg/L	>=8	-	-	-[7]
Anions and Nutrients					
Sulphate	mg/L	-	-	-	8.28
Chloride	mg/L	-	-	-	2.39
Fluoride	mg/L	-	1.5	-	0.102
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	-	0.0301
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	-	0.083
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	-	1.51
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	11.5
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00125
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00489
Barium, total (T-Ba)	mg/L	-	-	-	0.089
Beryllium, total (T-Be)	mg/L	0.1	-	-	0.000193
Boron, total (T-B)	mg/L	1.2	-	-	0.022
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	***0.000179***
Chromium, total (T-Cr)	mg/L	-	-	-	0.00614
Cobalt, total (T-Co)	mg/L	-	-	-	0.00361
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.025
Iron, total (T-Fe)	mg/L	-	-	-	8.6
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.0246
Manganese, total (T-Mn)	mg/L	-	-	-	0.238
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.0000533***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.0178
Nickel, total (T-Ni)	mg/L	0.0083	-	-	0.00433
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000282
Silver, total (T-Ag)	mg/L	0.0015	0.003	-	0.000084
Thallium, total (T-Tl)	mg/L	-	-	-	0.000073
Uranium, total (T-U)	mg/L	-	-	-	0.0137
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.0191
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	0.0511
Hexavalent Chromium, total	mg/L	0.0015	-	-	0.00066
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000050
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00291
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.013
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.00006
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.00275
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.0455
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00234
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	0.000126
Acridine	mg/L	-	-	-	<0.000020
Anthracene	mg/L	-	-	-	0.000049
Benz(a)anthracene	mg/L	-	-	-	0.000104
Benzo(a)pyrene	mg/L	0.00001	-	-	***0.0000793***
Chrysene	mg/L	0.0001	-	-	***0.000117***
Fluoranthene	mg/L	-	-	-	0.00033
Fluorene	mg/L	0.012	-	-	0.000097
1-methylnaphthalene	mg/L	0.001	-	-	0.000024
2-methylnaphthalene	mg/L	0.001	-	-	0.000027
Naphthalene	mg/L	0.001	-	-	0.00005
Phenanthrene	mg/L	-	-	-	0.000199
Pyrene	mg/L	-	-	-	0.00027
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-11578 West Sedimentation Pond Discharge Limit.
The West Sedimentation Pond discharged during the monitoring period (October 20 - 26) on October 20, October 21, and ceased at 04:49 on October 22 as well as October 26.
[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. Wet Conditions applied October 20 - 21.
[7] Complete field measurements were not recorded at the time of analytical sample collection; however, complete field records were collected on October 20 at ESC-W-IN at 14:27 (see Table D6).
[8] Field turbidity measurements were recorded as “overrange” (above the upper range of 100 NTU) from the LaMotte 2020i field meter used at ESC-W-IN on October 20. Therefore, the lab measured value is reported.

Table D-3: Summary of West Catchment Area Water Quality Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		Pooling Road Contact Water Near West Floatel Gangway
				W-GANGWAY
				VA24C7983-001
		Long Term	Short Term	2024-10-19 9:00
General Parameters				
pH - Field	pH units	7.0 - 8.7	-	8.10
Specific Conductivity - Field	µS/cm	-	-	44.7
Temperature - Field	°C	-	-	10.1
Salinity - Field	ppt	Narrative[2]	-	0.03
Turbidity - Lab[6]	NTU	Narrative[2]	Narrative[2]	***1860***
TSS	mg/L	Narrative[2]	Narrative[2]	***1120***
Dissolved Oxygen - Field	mg/L	>=8	-	10.62
Anions and Nutrients				
Sulphate	mg/L	-	-	6.60
Chloride	mg/L	-	-	1.86
Fluoride	mg/L	-	1.5	0.100
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	0.0271
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	0.0962
Nitrate ($N\text{-}NO_3$)	mg/L	3.7	339	1.26
Total Metals				
Aluminum, total (T-Al)	mg/L	-	-	51.4
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	0.00096
Arsenic, total (T-As)	mg/L	0.0125	0.0125	0.00902
Barium, total (T-Ba)	mg/L	-	-	0.43
Beryllium, total (T-Be)	mg/L	0.1	-	0.000781
Boron, total (T-B)	mg/L	1.2	-	<0.050
Cadmium, total (T-Cd)	mg/L	0.00012	-	***0.000488***
Chromium, total (T-Cr)	mg/L	-	-	0.0144
Cobalt, total (T-Co)	mg/L	-	-	0.0162
Copper, total (T-Cu)	mg/L	0.002	0.003	***0.0525***
Iron, total (T-Fe)	mg/L	-	-	40.2
Lead, total (T-Pb)	mg/L	0.002	0.14	***0.0359***
Manganese, total (T-Mn)	mg/L	-	-	1.37
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	***0.0000922***
Molybdenum, total (T-Mo)	mg/L	-	-	0.0159
Nickel, total (T-Ni)	mg/L	0.0083	-	***0.00998***
Selenium, total (T-Se)	mg/L	0.002	-	0.000319
Silver, total (T-Ag)	mg/L	0.0015	0.003	0.000172
Thallium, total (T-Tl)	mg/L	-	-	0.000161
Uranium, total (T-U)	mg/L	-	-	0.0132
Vanadium, total (T-V)	mg/L	0.005	-	***0.0730***
Zinc, total (T-Zn)	mg/L	0.01	0.055	***0.212***
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00050
Dissolved Metals				
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.0000100
Copper, dissolved (D-Cu)	mg/L	-	-	0.00249
Iron, dissolved (D-Fe)	mg/L	-	-	0.016
Lead, dissolved (D-Pb)	mg/L	-	-	0.000061
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00397
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.0315
Vanadium, dissolved (D-V)	mg/L	-	-	0.0018
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)				
Acenaphthene	mg/L	0.006	-	0.000110
Acridine	mg/L	-	-	<0.000017
Anthracene	mg/L	-	-	0.000056
Benz(a)anthracene	mg/L	-	-	0.000166
Benzo(a)pyrene	mg/L	0.00001	-	***0.000146***
Chrysene	mg/L	0.0001	-	***0.000154***
Fluoranthene	mg/L	-	-	0.000359
Fluorene	mg/L	0.012	-	0.000092
1-methylnaphthalene	mg/L	0.001	-	0.000024
2-methylnaphthalene	mg/L	0.001	-	0.000031
Naphthalene	mg/L	0.001	-	0.000055
Phenanthrene	mg/L	-	-	0.000271
Pyrene	mg/L	-	-	0.000330
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.

[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. The water quality data presented in the table were collected when the site was discharging, therefore the turbid water guidelines for TSS and turbidity were evaluated based on turbid water quality conditions observed October 19 at marine station WQR2 at 0.5 m depth (Turbidity = 19.12 NTU and TSS = 47.4 mg/L). The derived receiving environment WQG under these conditions are 24.1 NTU for turbidity and 57.4 mg/L TSS and these were used to assess the pooled contact water sample.

[3] The approved total ammonia nitrogen BC WQG is salinity, pH and temperature dependent; see Tables 26E and 26F in BC WQG guidance document.

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

[5] When MeHg $\leqslant$ 0.5% of total Hg, BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.

[6] Lab turbidity was reported for the October 19 sample since field turbidity (12.60 NTU) was suspected to be erroneous.

Table D-4: Summary of West Sedimentation Pond Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	West Sedimentation Pond	
			Effluent	Effluent
			SP-W-OUT	SP-W-OUT-Dup
			VA24C7958-003	VA24C7958-004
			2024-10-18	2024-10-18
Methylmercury	**µg/L**	-	0.000054	0.000058
Total Mercury	**µg/L**	0.00862 [2, 3]	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] CCME guideline for total mercury = 0.016 µg/L.
[3] 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).
Non-detect results are screened using the detection limit value.

Table D-5: Summary of West Catchment Area Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline[1]	Contact Water at West Floatel Gangway
			W-Gangway
			VA24C7983-001
			2024-10-19 9:00
Methylmercury	**µg/L**	-	0.000341
Total Mercury	**µg/L**	0.016 [2, 3]	***0.0922***

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] CCME guideline for total mercury = 0.016 µg/L.
[3] 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).
Non-detect results are screened using the detection limit value.

Table D-6: Summary of West Sedimentation Pond Daily Field Parameters October 20 – 26.

Parameter		Temperature	Dissolved Oxygen (DO)	Salinity	Turbidity	TSS [10] (estimated)	pH	Conductivity	Visibility of Sheen	Total Daily Discharge from the West Sedimentation Pond to Howe Sound
Unit		**°C**	**mg/L**	**ppt**	**NTU**	**mg/L**	**s.u.**	**µS/cm**		**m^3**
PE-111578 Discharge Limit		-	-	-	-	25 or 75 [11]	5.5 - 9.0	-	-	-[3]
Lowest Applicable Guideline [1]		-	>=8	-	-	-[2]	-[2]	-	-	-
Station ID [4]	**Date**									
SP-W-OUT	2024-10-20 10:12	-[6]	-[6]	-[6]	125 [8]	67.9 [8]	8.7	-[6]	-[6]	3,821
SP-W-IN	2024-10-20 10:45	12.7	-[6]	-[6]	239 [8]	103 [8]	9.6	-[6]	-[6]	
ESC-W-IN	2024-10-20 12:50	15.1	-[6]	-[6]	205 [8]	104 [8]	8.7	-[6]	No	
SP-W-W	2024-10-20 14:01	10.7	10.79	0.10	102.71	80	9.1	155	No	
SP-W-E	2024-10-20 14:07	11.0	11.35	0.06	172.09	131	9.1	91	No	
ESC-W-IN	2024-10-20 14:27	10.5	10.22	0.10	172.78	132	7.1	156	No	
SP-W-OUT	2024-10-20 14:31	10.9	10.92	0.14	103.91	80	7.6	212	No	
SP-W-OUT	2024-10-20 17:44	11.7	11.06	0.08	147.08	113	8.5	122	No	
SP-W-OUT	2024-10-20 21:22	-[6]	-[6]	-[6]	>100 [8]	> 78	8.9	-[6]	-[6]	
SP-W-OUT	2024-10-21 16:29	13.5	10.85	0.10	40.33	33	9.3	171	No	1,693
ESC-W-IN	2024-10-22 12:08	15.1	10.78	0.18	94.95	74	8.7	295	No	376
SP-W-E	2024-10-22 12:18	11.2	-[9]	0.10	1.05	4	8.1	158	No	
-[5]	2024-10-23	-[5]	-[5]	-[5]	-[5]	-	-[5]	-[5]	-[5]	0
SP-W-W	2024-10-24 16:23	10.7	12.02	0.10	7.83	9	7.3	160	No	0
SP-W-W	2024-10-25 16:59	9.4	12.53	0.12	1.59	4	7.87	176	No	0
SP-W-W	2024-10-26 8:09	9.0	12.09	0.10	2.4	5	8.2	145	No	2,389
SP-W-OUT	2024-10-26 11:23	9.7	12.06	0.11	1.44	4	8.1	159	No	
SP-W-OUT	2024-10-26 13:52	10.0	12.08	0.10	1.84	4	7.5	157	No	
ESC-W-IN	2024-10-26 14:36	9.5	11.64	0.09	512.63	385	8.23	131	No	
SP-W-OUT	2024-10-26 16:25	-[7]	-[7]	-[7]	2.23	5	7.6	-[7]	-[7]	
SP-W-OUT	2024-10-26 17:55	-[7]	-[7]	-[7]	6.30	8	7.8	-[7]	-[7]	

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-11578 West Sedimentation Pond Discharge Limit.

The West Sedimentation Pond discharged during the monitoring period (October 20 - 26) on October 20, October 21, and ceased at 04:49 on October 22, as well as October 26.

[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 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.

[4] The West ESC system was not active at the time of monitoring on October 23 to 25, therefore daily measurements for station ESC-W-IN were not collected. Contact water was directly discharged into Cell 4 of the West Sedimentation Pond at SP-W-E on October 20 and field measurements and an analytical sample were collected of this influent source (SP-W-IN) on October 20. The West Sedimentation Pond discharged on October 20, October 21, and ceased at 04:49 on October 22, as well as October 26. Daily field measurements and analytical samples were collected on October 20, 21, and 26. The West Sedimentation Pond did not discharge October 22 - 25, therefore daily measurements for station SP-W-OUT were not collected. In-Pond stations SP-W-W and SP-W-E may be monitored in place of stations SP-W-IN-1/SP-W-IN-2 and SP-W-OUT, respectively when there is no influent to, or discharge from the West Sedimentation Pond at the time of monitoring.

[5] The pond did not discharge on October 23; therefore, daily monitoring of field parameters was not conducted.

[6] Field measurements for turbidity and pH were recorded at the time of analytical sample collection for SP-W-OUT, ESC-W-IN, and SP-W-IN on October 20. Complete field parameters were collected on October 20 at SP-W-OUT at 14:31 and 17:44 and at ESC-W-IN at 14:27. Field measurements for DO, salinity, and conductivity were not measured at SP-W-IN on October 20.

[7] Additional field measurements for turbidity and pH were monitored while the West Sedimentation Pond was discharging on October 26 that were supplemental to the complete field records measured at SP-W-OUT on October 26 at 11:23 and 13:52.

[8] Field turbidity measurements were recorded as "overrange" (above the upper range of 100 NTU) from the LaMotte 2020i field meter used on October 20. Lab measured turbidity values are available and are reported for the SP-W-OUT, ESC-W-IN, and SP-W-IN samples collected October 20.

[9] The field measurement for DO on October 22 at the in-pond station SP-W-E was 1.72 mg/L and is suspected to be a measurement error.

[10] TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.

[11] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for Wet Conditions. Wet Conditions applied October 20, 21 and 26.

Appendix E: Non-Contact Water Diversion Ditch Outlets Results

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

Parameter	Unit	Lowest Applicable Guideline [1, 2]		Station OUT-06	Station OUT-02
				Non-Contact Water Diversion Ditch Outlet	Non-Contact Water Diversion Ditch Outlet
				OUT-06	OUT-02
				VA24C8159-007	VA24C8483-001
		Long Term	Short Term	2024-10-20 13:10	2024-10-23 11:43
General Parameters					
pH - Field	pH units	6.5 - 9.0	-	***6.2***	***6.4***
Specific Conductivity - Field	µS/cm	-	-	40	9.9
Temperature - Field	℃	-	-	14.6	9.6
Salinity - Field	ppt	-	-	0.02	0.01
Turbidity - Field	NTU	-	-	36.8	0.2
TSS	mg/L	-	-	15.6	<3.0
Dissolved Oxygen - Field	mg/L	>=8	>=5	10.52	11.55
Anions and Nutrients					
Sulphate [2]	mg/L	128-218	-	2.22	1.83
Chloride	mg/L	120	600	0.66	0.66
Fluoride [2]	mg/L	-	0.400-1.16	<0.020	<0.020
Ammonia ($N\text{-}NH_3$) [2]	mg/L	0.0290-231	0.682-28.7	<0.0050	<0.0050
Nitrite ($N\text{-}NO_2$) [2]	mg/L	0.0200	0.1	<0.0010	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	3	32.8	0.43	0.0314
Total Metals					
Aluminum, total (T-Al) [2]	mg/L	0.037-0.072	-	***1.3***	***0.144***
Antimony, total (T-Sb)	mg/L	0.074	-	0.00023	<0.00010
Arsenic, total (T-As)	mg/L	0.005	-	0.0007	<0.00010
Barium, total (T-Ba)	mg/L	1	-	0.0155	0.00304
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	29	0.012	<0.010
Cadmium, total (T-Cd) [2]	mg/L	0.000036-0.000051	0.000106-0.000526	0.000028	<0.0000050
Chromium, total (T-Cr) [4]	mg/L	0.001	-	0.00094	<0.00050
Cobalt, total (T-Co)	mg/L	0.001	0.11	0.00042	<0.00010
Copper, total (T-Cu)	mg/L	-	-	0.00338	0.00058
Iron, total (T-Fe)	mg/L	0.3	1	***0.856***	0.027
Lead, total (T-Pb) [2]	mg/L	-	-	0.00293	<0.000060
Manganese, total (T-Mn) [2]	mg/L	0.77	0.82	0.0247	0.00131
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	0.0000172	<0.0000050
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000953	0.000413
Nickel, total (T-Ni) [2]	mg/L	0.025	-	0.00089	<0.00050
Selenium, total (T-Se)	mg/L	0.001	-	<0.000050	<0.000050
Silver, total (T-Ag) [2]	mg/L	0.0000500	0.000100	0.000014	<0.000010
Thallium, total (T-Tl)	mg/L	0.0008	-	0.000011	<0.000010
Uranium, total (T-U)	mg/L	0.0085	0.033	0.000283	0.000088
Vanadium, total (T-V)	mg/L	0.12	-	0.00264	<0.00050
Zinc, total (T-Zn)	mg/L	-	-	0.0081	<0.0030
Hexavalent Chromium, total	mg/L	0.001	-	<0.00050	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd) [2]	mg/L	0.000021-0.000078	0.000038-0.000145	<0.0000050	<0.0000050
Copper, dissolved (D-Cu) [2]	mg/L	0.00020	0.00061-0.0012	***0.00117***	***0.00053***
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.023	0.014
Lead, dissolved (D-Pb) [2]	mg/L	0.0022-0.0044	-	0.000116	<0.000050
Manganese, dissolved (D-Mn) [2]	mg/L	0.29-0.31	1.97-2.01	0.0014	0.00096
Nickel, dissolved (D-Ni) [2]	mg/L	0.00070-0.00090	0.012-0.016	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.038	0.00654
Vanadium, dissolved (D-V)	mg/L	-	-	0.00067	<0.00050
Zinc, dissolved (D-Zn)	mg/L	0.0088-0.012	0.00722-0.0686	0.0012	0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.0058	-	0.000073	-[5]
Acridine	mg/L	0.003	-	<0.000010	-[5]
Anthracene	mg/L	0.000012	-	<0.000010	-[5]
Benz(a)anthracene	mg/L	0.000018	-	***0.000022***	-[5]
Benzo(a)pyrene	mg/L	0.00001	-	***0.0000248***	-[5]
Chrysene	mg/L	-	-	0.000025	-[5]
Fluoranthene	mg/L	0.00004	-	***0.000046***	-[5]
Fluorene	mg/L	0.003	-	0.000038	-[5]
1-methylnaphthalene	mg/L	-	-	0.000034	-[5]
2-methylnaphthalene	mg/L	-	-	0.000063	-[5]
Naphthalene	mg/L	0.001	0.001	0.000255	-[5]
Phenanthrene	mg/L	0.0003	-	0.000055	-[5]
Pyrene	mg/L	0.00002	-	***0.000042***	-[5]
Quinoline	mg/L	0.0034	-	<0.000050	-[5]
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.04	-	<0.00050	-[5]
Ethylbenzene	mg/L	0.09	-	<0.00050	-[5]
Methyl-tert-butyl-ether	mg/L	10	3.4	<0.00050	-[5]
Styrene	mg/L	0.072	-	<0.00050	-[5]
Toluene	mg/L	0.0005	-	<0.00040	-[5]
Total Xylenes	mg/L	0.03	-	<0.00050	-[5]
Chlorobenzene	mg/L	-	-	<0.00050	-[5]
1,2-Dichlorobenzene	mg/L	-	-	<0.00050	-[5]

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 ⩽ 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] Monitoring of PAHs and VOCs in non-contact water samples is not required by PE-111578, therefore these parameters were not tested in sample OUT-02.
The lowest applicable guidelines are shown in the table; however, water quality data was screened to all applicable guidelines.

Appendix F: Freshwater Receiving Environment Results

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

Parameter	Unit	Lowest Applicable Guideline [1, 2]		Station SW-01	Station SW-02	Station SW-04	Station SW-07
				Woodfibre Creek Lower Reach	Mill Creek Mid-Reach	East Creek Lower Reach	Mill Creek Background
				SW-01	SW-02	SW-04	SW-07
				VA24C7381-001	VA24C7381-002	VA24C7381-004	VA24C7381-005
		Long Term	Short Term	2024-10-12 16:45	2024-10-12 12:30	2024-10-12 10:30	2024-10-12 9:15
General Parameters							
pH - Field	pH units	6.5 - 9.0	-	7.0	7.2	7.0	6.5
Specific Conductivity - Field	µS/cm	-	-	8.9	19.1	99.6	17.0
Temperature - Field	°C	-	-	11.5	12.1	15.7	8.8
Salinity - Field	ppt	-	-	0	0.01	0.06	0.01
Turbidity - Field	NTU	-	-	0.82	0.19	2.06	0.06
TSS	mg/L	-	-	<3.0	<3.0	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	>=5	10.82	10.29	9.18	11.55
Anions and Nutrients							
Sulphate [2]	mg/L	128-218	-	0.40	3.19	7.66	3.02
Chloride	mg/L	120	600	0.75	1.75	1.44	1.7
Fluoride [2]	mg/L	-	0.400-1.16	<0.020	<0.020	0.091	<0.020
Ammonia ($N\text{-}NH_3$) [2]	mg/L	0.0290-231	0.682-28.7	<0.0050	<0.0050	<0.0050	<0.0050
Nitrite ($N\text{-}NO_2$) [2]	mg/L	0.0200	0.1	<0.0010	<0.0010	<0.0010	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	3	32.8	0.0297	0.106	0.0741	0.102
Total Metals							
Aluminum, total (T-Al) [2]	mg/L	0.019-0.71	-	***0.0898***	0.0344	0.0504	***0.0354***
Antimony, total (T-Sb)	mg/L	0.074	-	<0.00010	<0.00010	0.00012	<0.00010
Arsenic, total (T-As)	mg/L	0.005	-	0.00012	<0.00010	0.00064	<0.00010
Barium, total (T-Ba)	mg/L	1	-	0.00195	0.00363	0.0128	0.00321
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000100	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	29	<0.010	0.02	0.014	0.019
Cadmium, total (T-Cd) [2]	mg/L	0.0000364-0.000111	0.000106-0.00136	<0.0000050	0.000007	0.0000155	0.0000067
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	<0.00010	<0.00010
Copper, total (T-Cu)	mg/L	-	-	<0.00050	<0.00050	0.00073	<0.00050
Iron, total (T-Fe)	mg/L	0.3	1	0.038	<0.010	***0.472***	<0.010
Lead, total (T-Pb) [2]	mg/L	0.00344-0.00516	0.00300-0.0476	0.000056	<0.000050	0.000151	<0.000050
Manganese, total (T-Mn) [2]	mg/L	0.768-0.893	0.816-1.26	0.00095	0.00029	0.0394	0.00023
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000394	0.000783	0.00739	0.000629
Nickel, total (T-Ni) [2]	mg/L	0.0250-0.0692	-	<0.00050	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050
Silver, total (T-Ag) [2]	mg/L	0.0000500	0.000100	<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	0.000486	0.000134	0.00218	0.000108
Vanadium, total (T-V)	mg/L	0.12	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total (T-Zn)	mg/L	-	-	<0.0030	<0.0030	0.0048	<0.0030
Hexavalent Chromium, total	mg/L	0.001	-	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals							
Cadmium, dissolved (D-Cd) [2]	mg/L	0.0000176-0.000155	0.0000380-0.000380	<0.0000050	0.0000081	0.0000086	0.0000064
Copper, dissolved (D-Cu) [2]	mg/L	0.00020-0.0013	0.00020-0.0082	0.00023	***0.00021***	0.00043	<0.00020
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.024	<0.010	0.016	<0.010
Lead, dissolved (D-Pb) [2]	mg/L	0.00208-0.00858	-	<0.000050	<0.000050	<0.000050	<0.000050
Manganese, dissolved (D-Mn) [2]	mg/L	0.200-0.490	1.97-4.58	0.00047	0.0002	0.0146	0.00024
Nickel, dissolved (D-Ni) [2]	mg/L	0.00060-0.00140	0.0093-0.025	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.00379	0.0104	0.0528	0.00957
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved (D-Zn)	mg/L	0.000935-0.0267	0.00722-0.0686	<0.0010	<0.0010	0.0042	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	mg/L	0.0058	-	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	0.003	-	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	0.000012	-	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	0.000018	-	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	0.00004	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.003	-	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	0.001	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	0.0003	-	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	0.00002	-	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	0.0034	-	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)							
Benzene	mg/L	0.04	-	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.09	-	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	10	3.4	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	0.072	-	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.0005	-	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	0.03	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	-	-	<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 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.

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

Parameter	Unit	Lowest Applicable Guideline [1, 2]		Station SW-01	Station SW-02	Station SW-04	Station SW-07
				Woodfibre Creek Lower Reach	Mill Creek Mid-Reach	East Creek Lower Reach	Mill Creek Background
				SW-01	SW-02	SW-04	SW-07
				VA24C8331-001	VA24C8331-002	VA24C8331-004	VA24C8331-005
		Long Term	Short Term	2024-10-22 15:20	2024-10-22 14:15	2024-10-22 13:05	2024-10-22 11:33
General Parameters							
pH - Field	pH units	6.5 - 9.0	-	6.4 [5]	6.7	7.2	6.6
Specific Conductivity - Field	µS/cm	-	-	310.1	10.8	39.3	10.7
Temperature - Field	℃	-	-	10.6	8.5	10.08	8.3
Salinity - Field	ppt	-	-	0.21	0.01	0.03	0.01
Turbidity - Field	NTU	-	-	0.21	0.06	1.0	0.08
TSS	mg/L	-	-	<3.0	<3.0	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	>=8	>=5	11.87	12.26	11.51	11.93
Anions and Nutrients							
Sulphate [2]	mg/L	128-218	-	0.56	2.33	3.55	2.27
Chloride	mg/L	120	600	0.64	0.66	1.02	0.68
Fluoride [2]	mg/L	-	0.400-1.16	<0.020	<0.020	<0.02	0.023
Ammonia ($N\text{-}NH_3$) [2]	mg/L	0.0290-231	0.682-28.7	0.0055	<0.0050	<0.0050	0.0106
Nitrite ($N\text{-}NO_2$) [2]	mg/L	0.0200	0.1	<0.0010	<0.0010	<0.0010	<0.0010
Nitrate ($N\text{-}NO_3$)	mg/L	3	32.8	0.0545	0.12	0.0416	0.0548
Total Metals							
Aluminum, total (T-Al) [2]	mg/L	0.019-0.71	-	0.145	***0.0852***	0.108	***0.119***
Antimony, total (T-Sb)	mg/L	0.074	-	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic, total (T-As)	mg/L	0.005	-	0.00015	<0.00010	0.00015	<0.00010
Barium, total (T-Ba)	mg/L	1	-	0.00201	0.00286	0.00806	0.00493
Beryllium, total (T-Be)	mg/L	0.00013	-	<0.000100	<0.000100	<0.000100	<0.000100
Boron, total (T-B)	mg/L	1.2	29	<0.010	<0.010	<0.010	<0.010
Cadmium, total (T-Cd) [2]	mg/L	0.0000364-0.000111	0.000106-0.00136	<0.0000050	0.0000075	0.0000085	<0.0000050
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	<0.00010	<0.00010
Copper, total (T-Cu)	mg/L	-	-	<0.00050	<0.00050	0.00097	0.00055
Iron, total (T-Fe)	mg/L	0.3	1	0.035	0.016	0.171	0.02
Lead, total (T-Pb) [2]	mg/L	0.00344-0.00516	0.00300-0.0476	0.000061	0.000052	0.000169	<0.000050
Manganese, total (T-Mn) [2]	mg/L	0.768-0.893	0.816-1.26	0.00119	0.00129	0.0173	0.0026
Mercury, total (T-Hg) [3]	mg/L	0.00002	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	0.073	46	0.000254	0.000358	0.000643	0.000609
Nickel, total (T-Ni) [2]	mg/L	0.0250-0.0692	-	<0.00050	<0.00050	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050
Silver, total (T-Ag) [2]	mg/L	0.0000500	0.000100	<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	0.000596	0.000156	0.000216	0.00004
Vanadium, total (T-V)	mg/L	0.12	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, total (T-Zn)	mg/L	-	-	<0.0030	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.001	-	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals							
Cadmium, dissolved (D-Cd) [2]	mg/L	0.0000176-0.000155	0.0000380-0.000380	<0.0000050	0.0000062	0.0000066	0.0000083
Copper, dissolved (D-Cu) [2]	mg/L	0.00020-0.0013	0.00020-0.0082	0.00024	***0.00035***	***0.00076***	***0.00041***
Iron, dissolved (D-Fe)	mg/L	-	0.35	0.020	<0.010	0.024	0.010
Lead, dissolved (D-Pb) [2]	mg/L	0.00208-0.00858	-	<0.000050	<0.000050	<0.000050	<0.000050
Manganese, dissolved (D-Mn) [2]	mg/L	0.200-0.490	1.97-4.58	0.00068	0.00092	0.0113	0.00156
Nickel, dissolved (D-Ni) [2]	mg/L	0.00060-0.00140	0.0093-0.025	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	2.5	-	0.00384	0.00678	0.0271	0.00582
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc, dissolved (D-Zn)	mg/L	0.000935-0.0267	0.00722-0.0686	<0.0010	<0.0010	0.0018	0.0017
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	mg/L	0.0058	-	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	0.003	-	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	0.000012	-	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	0.000018	-	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	0.00004	-	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.003	-	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	0.001	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	0.0003	-	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	0.00002	-	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	0.0034	-	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)							
Benzene	mg/L	0.04	-	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.09	-	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	10	3.4	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	0.072	-	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.0005	-	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	0.03	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	-	-	<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 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 ⩽ 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 criterium for Cr(VI) is applied to total chromium results.
[5] The field pH reading (pH 9.1) recorded at station SW-01 on October 22 is inconsistent with baseline values and the lab pH measured for the October 22 sample, therefore the field pH reading is considered erroneous, and the lab pH is reported for this sample.

Appendix G: Estuarine Water Receiving Environment Results

Table G-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 VA24C7381-003 2024-10-12 11:30	Station SW-03 Mill Creek Estuary SW-03 VA24C8331-003 2024-10-22 13:35
		Long Term	Short Term		
General Parameters					
pH - Field	pH units	7.0 - 8.7	-	***5.4***	7.6
Specific Conductivity - Field	µS/cm	-	-	34.8	3423
Temperature - Field	℃	-	-	15.1	8.3
Salinity - Field	ppt	-	-	0.0	2.7
Turbidity - Field	NTU	-	-	0.68	4.97
TSS	mg/L	-	-	<3.0	<3.0
Dissolved Oxygen - Field	mg/L	-	-	10.53	11.83
Anions and Nutrients					
Sulphate	mg/L	-	-	4.11	42.8
Chloride	mg/L	-	-	7.75	310
Fluoride	mg/L	-	-	<0.020	<0.100
Ammonia (N-NH_3)	mg/L	-	-	<0.0050	<0.0050
Nitrite (N-NO_2)	mg/L	-	-	<0.0010	<0.0050
Nitrate (N-NO_3)	mg/L	-	-	0.101	0.110
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	0.0409	0.198
Antimony, total (T-Sb)	mg/L	-	-	<0.00010	<0.00010
Arsenic, total (T-As)	mg/L	-	-	<0.00010	0.00012
Barium, total (T-Ba)	mg/L	-	-	0.00354	0.00647
Beryllium, total (T-Be)	mg/L	-	-	<0.000100	<0.000100
Boron, total (T-B)	mg/L	-	-	0.021	0.099
Cadmium, total (T-Cd)	mg/L	-	-	<0.0000050	0.0000111
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	<0.00010	0.00012
Copper, total (T-Cu)	mg/L	0.002	0.003	<0.00050	0.00064
Iron, total (T-Fe)	mg/L	-	-	<0.010	0.098
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.000050	0.000063
Manganese, total (T-Mn)	mg/L	-	-	0.00028	0.0049
Mercury, total (T-Hg) [2]	mg/L	0.00002	-	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.000871	0.000688
Nickel, total (T-Ni)	mg/L	-	-	<0.00050	<0.00050
Selenium, total (T-Se)	mg/L	-	-	<0.000050	<0.000050
Silver, total (T-Ag)	mg/L	0.0015	0.003	<0.000010	<0.000010
Thallium, total (T-Tl)	mg/L	-	-	<0.000010	<0.000010
Uranium, total (T-U)	mg/L	-	-	0.000145	0.000222
Vanadium, total (T-V)	mg/L	-	-	<0.00050	<0.00050
Zinc, total (T-Zn)	mg/L	-	-	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	-	-	<0.00050	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.0000085	0.0000086
Copper, dissolved (D-Cu)	mg/L	-	-	0.00024	0.00032
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	-	-	0.00077	0.00224
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.0105	0.124
Vanadium, dissolved (D-V)	mg/L	-	-	<0.00050	<0.00050
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	-	-	<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	-	-	<0.0000050	<0.0000050
Chrysene	mg/L	-	-	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010
Fluorene	mg/L	-	-	<0.000010	<0.000010
1-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010
2-methylnaphthalene	mg/L	-	-	<0.000010	<0.000010
Naphthalene	mg/L	-	-	<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	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	-	-	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050
Toluene	mg/L	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	-	-	<0.00050	<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.

Appendix H: Marine Water Receiving Environment Results

Table H-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
				VA24C7163-001	VA24C7163-002	VA24C7163-003	VA24C7163-004	VA24C7163-005	VA24C7163-006
		Long Term	Short Term	2024-10-10 15:00	2024-10-10 15:20	2024-10-10 15:40	2024-10-10 13:45	2024-10-10 14:05	2024-10-10 14:30
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.6	7.5	7.5	7.6	7.5	7.2
Specific Conductivity - Field	µS/cm	-	-	8778	28519	32392	246	28597	32844
Temperature - Field	℃	-	-	12	12.4	12.6	11.9	12.4	10.3
Salinity - Field	ppt	-	-	6.69	23.78	27.21	0.16	23.87	29.42
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	6.75	2.11	1.2	6.16	2.55	1.5
TSS	mg/L	Narrative[2]	Narrative[2]	4.1	<2.5	<2.0	4.3	2.8	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	10.72	8.74	***7.90***	10.96	8.76	***5.38***
Anions and Nutrients									
Sulphate	mg/L	-	-	811	1690	2140	408	1820	2320
Chloride	mg/L	-	-	5790	11900	15100	2960	12800	16400
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0115	0.0064	0.0174	0.0060	0.0062	<0.0050
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	-	-	0.216	0.0726	0.0263	0.260	0.0717	0.038
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	0.00178	0.00292	0.00367	0.00104	0.00329	0.00386
Barium, total (T-Ba)	mg/L	-	-	0.0152	0.0123	0.0107	0.016	0.0119	0.0121
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	-	***1.24***	***2.19***	***2.77***	0.6	***2.32***	***3.01***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000034	0.000065	0.00006	<0.000020	0.000072	0.000073
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000138	0.000089	0.000064	0.000161	0.000084	0.000075
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00162	0.00078	0.00064	0.00184	0.00093	0.00089
Iron, total (T-Fe)	mg/L	-	-	0.225	0.083	0.028	0.254	0.082	0.049
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010	0.00118	0.00011	0.00021
Manganese, total (T-Mn)	mg/L	-	-	0.0116	0.0058	0.00332	0.0127	0.0054	0.0056
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	-	-	0.00348	0.00638	0.00798	0.00193	0.00699	0.00866
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	0.0015	0.003	<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	-	-	0.0012	0.0022	0.00269	0.000646	0.00232	0.00308
Vanadium, total (T-V)	mg/L	0.005	-	0.00124	0.00126	0.00116	0.00122	0.00122	0.0013
Zinc, total (T-Zn)	mg/L	0.01	0.055	0.0068	<0.0030	<0.0030	0.0035	0.0042	<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	-	-	0.000022	0.000064	0.000077	<0.000020	0.000045	0.00008
Copper, dissolved (D-Cu)	mg/L	-	-	0.00106	0.00076	0.00062	0.00112	0.00105	0.00066
Iron, dissolved (D-Fe)	mg/L	-	-	0.018	<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	-	-	0.0077	0.00296	0.00236	0.0073	0.00384	0.00439
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	1.45	4.84	5.78	1.14	4.43	6.31
Vanadium, dissolved (D-V)	mg/L	-	-	0.00062	0.00103	0.00112	0.00059	0.00095	0.00126
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0031	0.0011	<0.0010	0.0022	0.0023	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	0.000010	<0.000010	0.000019	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Notes:

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

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

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

[2] Narrative guideline for the evaluation of change from background conditions arising from discharges to the aquatic environment. The water quality data presented in the table were collected when the site was not discharging, therefore the guidelines 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 H-2: 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
				VA24C7379-001	VA24C7379-002	VA24C7379-003	VA24C7379-004	VA24C7379-005	VA24C7379-006
		Long Term	Short Term	2024-10-12 15:15	2024-10-12 15:45	2024-10-12 16:10	2024-10-12 10:45	2024-10-12 11:15	2024-10-12 11:45
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	-[6]	-[6]	-[6]	-[6]	-[6]	-[6]
Specific Conductivity - Field	µS/cm	-	-	-[7]	31024	32732	23430	27556	32533
Temperature - Field	°C	-	-	-[7]	10.5	9.9	11.6	11.3	9.4
Salinity - Field	ppt	-	-	-[7]	27.49	2965	19.59	23.57	30.08
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	-[7]	1.80	1.11	3.81	3.23	1.20
TSS	mg/L	Narrative[2]	Narrative[2]	6.2	8.6	4.8	7.1	6.6	4.3
Dissolved Oxygen - Field	mg/L	>=8	-	-[7]	***6.58***	***4.96***	9.06	8.02	***4.76***
Anions and Nutrients									
Sulphate	mg/L	-	-	1430	2010	1960	1350	1540	2110
Chloride	mg/L	-	-	10000	14100	13800	9530	10900	14800
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0079	<0.0050	<0.0050	0.0099	0.0073	<0.0050
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	-	-	0.0868	0.0566	0.0136	0.101	0.0881	0.0190
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	0.00351	0.00464	0.00478	0.00354	0.00372	0.00463
Barium, total (T-Ba)	mg/L	-	-	0.0142	0.0130	0.0120	0.0145	0.0138	0.0116
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	-	***2.38***	***3.03***	***3.32***	***2.24***	***2.43***	***3.29***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000055	0.000082	0.000079	0.000052	0.000067	0.000082
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000111	0.000101	0.000081	0.000114	0.000109	0.000089
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00183	0.00123	0.00057	0.00130	0.00122	0.00060
Iron, total (T-Fe)	mg/L	-	-	0.110	0.081	0.018	0.137	0.120	0.026
Lead, total (T-Pb)	mg/L	0.002	0.14	0.00014	0.00012	<0.00010	0.00033	0.00098	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.0116	0.00815	0.00552	0.00922	0.00855	0.00688
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	-	-	0.00679	0.00794	0.00831	0.00586	0.00626	0.00854
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	0.0015	0.003	<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	-	-	0.00236	0.00252	0.00269	0.00193	0.00208	0.00270
Vanadium, total (T-V)	mg/L	0.005	-	0.00120	0.00123	0.00120	0.00117	0.00115	0.00120
Zinc, total (T-Zn)	mg/L	0.01	0.055	0.0056	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.000053	0.000070	0.000074	0.000056	0.000060	0.000086
Copper, dissolved (D-Cu)	mg/L	-	-	0.00186	0.00079	0.00069	0.00074	0.00061	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00020	0.00010	0.00015	<0.00010	<0.00010	0.00014
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00945	0.00542	0.00428	0.00532	0.00466	0.00537
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	4.06	5.09	5.71	3.64	4.05	5.75
Vanadium, dissolved (D-V)	mg/L	-	-	0.00093	0.00096	0.00106	0.00088	0.00086	0.00106
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0064	0.0020	<0.0010	0.0027	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	0.000021	<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	-	-	0.000013	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	0.000016	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	0.000014	<0.000010	<0.000010	0.000022	0.000011	<0.000010
2-methylnaphthalene	mg/L	0.001	-	0.000023	0.000012	<0.000010	0.000041	0.000023	0.000016
Naphthalene	mg/L	0.001	-	0.000054	<0.000050	<0.000050	0.000057	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	0.000021	<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	0.00127	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	0.00193	<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. The water quality data presented in the table were collected when the site was discharging, therefore the guidelines were 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.
[6] Field measurements for pH were not recorded due to a field probe malfunction.
[7] Field measurements for sample IDZ-E1-0.5 were not recorded due to a data transcription error.

Table H-3: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Reference Station WQR1			Reference Station WQR2		
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				WQR1-0.5	WQR1-2m	WQR1-SF	WQR2-0.5	WQR2-2m	WQR2-SF
				VA24C7408-001	VA24C7408-002	VA24C7408-003	VA24C7408-004	VA24C7408-005	VA24C7408-006
		Long Term	Short Term	2024-10-13 16:12	2024-10-13 17:01	2024-10-13 17:45	2024-10-13 10:12	2024-10-13 12:00	2024-10-13 13:49
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.3	7.7	7.6	7.6	7.6	7.4
Specific Conductivity - Field	µS/cm	-	-	29555	32842	32558	18682	31822	32573
Temperature - Field	℃	-	-	11.6	11.9	9.2	11.2	11.6	9.1
Salinity - Field	ppt	-	-	25.26	28.22	30.03	15.46	27.45	30.14
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	2.19	1.58	1.25	4.75	1.97	1.52
TSS	mg/L	Narrative[2]	Narrative[2]	<2.0	<2.0	<2.0	2.3	<2.0	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	***7.12***	***6.34***	***4.63***	9.19	***6.66***	***4.59***
Anions and Nutrients									
Sulphate	mg/L	-	-	1550	1800	2300	1170	1520	2300
Chloride	mg/L	-	-	11200	12800	16400	8330	10900	16400
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	0.0115	0.0056	<0.0050	0.0153	0.0095	<0.0050
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate ($N\text{-}NO_3$)	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	-	-	0.128	0.0516	0.018	0.123	0.083	0.0191
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	0.00465	0.00522	0.00586	0.00436	0.0044	0.00612
Barium, total (T-Ba)	mg/L	-	-	0.0143	0.0127	0.0113	0.0141	0.0133	0.0107
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	-	***2.14***	***2.86***	***3.4***	***1.91***	***2.35***	***3.5***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.00006	0.000073	0.000094	0.000052	0.000075	0.000084
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.00014	0.00008	0.000076	0.000116	0.000095	0.000075
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00092	0.00062	<0.00050	0.00128	0.00075	<0.00050
Iron, total (T-Fe)	mg/L	-	-	0.174	0.079	0.024	0.175	0.112	0.027
Lead, total (T-Pb)	mg/L	0.002	0.14	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.0138	0.00789	0.00633	0.0124	0.00995	0.00596
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	-	-	0.00613	0.00716	0.00917	0.00505	0.00598	0.00875
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	0.0015	0.003	<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	-	-	0.00192	0.00226	0.003	0.00165	0.00175	0.00282
Vanadium, total (T-V)	mg/L	0.005	-	0.00131	0.00118	0.00126	0.00122	0.00117	0.00121
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	0.000057	0.000062	0.000068	0.000048	0.000065	0.000081
Copper, dissolved (D-Cu)	mg/L	-	-	0.00058	0.00064	0.00059	0.00073	<0.00050	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	<0.010	<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	-	-	0.0102	0.00673	0.00515	0.00788	0.00702	0.00626
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	3.77	4.26	5.66	3.04	3.42	5.2
Vanadium, dissolved (D-V)	mg/L	-	-	0.00089	0.00089	0.00103	0.00076	0.00081	0.00101
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] Narrative guideline for the evaluation of change from background conditions arising from discharges to the aquatic environment. Reference stations are used as background stations.
[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 H-4: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Station IDZ-W2			Station IDZ-E1	Station IDZ-E2	Station IDZ-W1
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface
				IDZ-W2-0.5	IDZ-W2-2m	IDZ-W2-SF	IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5
				VA24C7985-001	VA24C7985-002	VA24C7985-003	VA24C8041-004	VA24C8041-001	VA24C8041-005
		Long Term	Short Term	2024-10-18 13:47	2024-10-18 14:36	2024-10-18 15:05	2024-10-19 12:27	2024-10-19 16:09	2024-10-19 11:56
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.8	7.6	7.5	7.6	7.6	7.5
Specific Conductivity - Field	µS/cm	-	-	17734	24429	32751	5759	13124	5759
Temperature - Field	℃	-	-	10.6	11.3	10.7	9.5	9.7	9
Salinity - Field	ppt	-	-	14.85	20.7	29.06	-[6]	-[6]	-[6]
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	4.95	4.11	2.00	6.74	4.68	5.19
TSS	mg/L	Narrative[2]	Narrative[2]	4.6	2.6	<3.2	12.0	9.0	42.8
Dissolved Oxygen - Field	mg/L	>=8	-	9.79	9.13	***6.19***	10.77	10.32	11.35
Anions and Nutrients									
Sulphate	mg/L	-	-	957	973	2200	719	675	982
Chloride	mg/L	-	-	6810	6890	15600	5210	4840	6890
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0113	0.011	0.0092	0.0144	0.016	0.0089
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	-	-	0.258	0.224	0.0809	0.667	0.398	1.2
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	0.00365	0.00382	0.00598	0.00221	0.00243	0.00304
Barium, total (T-Ba)	mg/L	-	-	0.019	0.0186	0.0126	0.0165	0.016	0.0177
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	-	***1.65***	***1.68***	***3.46***	1.12	***1.22***	***1.67***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000042	0.000041	0.000094	0.000045	0.000032	0.000051
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00068
Cobalt, total (T-Co)	mg/L	-	-	0.000186	0.000182	0.00014	0.000316	0.000248	0.000641
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00146	0.00118	0.0008	***0.00258***	***0.00204***	***0.00278***
Iron, total (T-Fe)	mg/L	-	-	0.262	0.225	0.092	0.572	0.349	1.04
Lead, total (T-Pb)	mg/L	0.002	0.14	0.0003	0.00022	0.00045	0.00099	***0.00436***	0.00086
Manganese, total (T-Mn)	mg/L	-	-	0.0156	0.0141	0.00721	0.0252	0.018	0.0357
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	-	-	0.00384	0.00428	0.00902	0.00322	0.00376	0.00404
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00150	<0.00150	<0.00100	<0.00150	<0.00150	<0.00150
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	0.0015	0.003	<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	-	-	0.00119	0.00127	0.00276	0.00129	0.00127	0.00165
Vanadium, total (T-V)	mg/L	0.005	-	0.0013	0.00125	0.00142	0.00167	0.0013	0.00293
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	<0.0030	0.0035	0.0033	0.0037
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	-	-	0.000043	0.000036	0.000071	0.000032	0.000035	0.000026
Copper, dissolved (D-Cu)	mg/L	-	-	0.00089	0.00051	<0.00050	0.0011	0.00112	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.011	<0.010	<0.010	0.019	0.012	0.014
Lead, dissolved (D-Pb)	mg/L	-	-	0.00021	0.00041	0.00013	<0.00010	0.0003	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00862	0.0082	0.00358	0.00785	0.00874	0.00469
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00150	<0.00150	<0.00150	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	2.44	2.42	5.75	1.97	2.32	2.35
Vanadium, dissolved (D-V)	mg/L	-	-	0.00078	0.00077	0.00112	0.0007	0.00075	0.00059
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	<0.0010	<0.0010	0.0012	0.0023	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	0.00030	<0.000010	<0.000010	<0.000010	0.000013	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	0.000018	<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	-	-	0.000038	<0.000010	0.00001	<0.000010	0.000021	0.000014
Fluorene	mg/L	0.012	-	0.000094	<0.000010	<0.000010	<0.000010	0.000012	<0.000010
1-methylnaphthalene	mg/L	0.001	-	0.000038	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	0.00002	<0.000010	<0.000010	<0.000010	0.000011	<0.000010
Naphthalene	mg/L	0.001	-	0.000135	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	0.000038	<0.000020	<0.000020	<0.000020	0.000024	<0.000020
Pyrene	mg/L	-	-	0.000024	<0.000010	<0.000010	<0.000010	0.000014	<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. The water quality data presented in the table were collected when the site was discharging, therefore the guidelines were evaluated for these samples. Turbidity and TSS BC WQG are evaluated using Station WQR2 at 0.5 m below the water surface on October 19 as the background station.

[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.

[6] Field measurements for salinity are not available due to a field probe malfunction.

Table H-5: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Reference Station WQR1	Reference Station WQR2	Station IDZ-E1	Station IDZ-E2	Station IDZ-W1	Station IDZ-W2
				0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	0.5 m Below Surface
				WQR1-0.5	WQR2-0.5	IDZ-E1-0.5	IDZ-E2-0.5	IDZ-W1-0.5	IDZ-W2-0.5
				VA24C8041-003	VA24C8041-002	VA24C8159-001	VA24C8159-006	VA24C8159-002	VA24C8159-003
		Long Term	Short Term	2024-10-19 12:56	2024-10-19 16:41	2024-10-20 15:45	2024-10-20 16:10	2024-10-20 15:54	2024-10-20 16:34
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.59	***6.9***	7.4	7.3	7.2	7.3
Specific Conductivity - Field	µS/cm	-	-	9056	11904	4741	6398	6367	6538
Temperature - Field	℃	-	-	9.1	9.4	10.7	10.7	11.4	11
Salinity - Field	ppt	-	-	-[6]	-[6]	3.58	4.94	4.82	5.01
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	15.38	19.12	23.64	18.31	20.57	16.2
TSS	mg/L	Narrative[2]	Narrative[2]	4.2	47.4	***19.0***	***22.0***	***44.8***	17.9
Dissolved Oxygen - Field	mg/L	>=8	-	10.93	10.47	10.92	10.99	10.84	10.75
Anions and Nutrients									
Sulphate	mg/L	-	-	812	573	372	368	338	396
Chloride	mg/L	-	-	5880	4150	2700	2700	2470	2880
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0149	0.0112	0.0316	0.0191	0.0057	0.0085
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	-	-	0.259	1.06	1.18	1.1	1.41	1.09
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	0.00217	0.002	<0.00200	<0.00200	<0.00200	<0.00200
Barium, total (T-Ba)	mg/L	-	-	0.0149	0.0252	0.0328	0.0322	0.0252	0.0242
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	-	***1.3***	1.02	0.62	0.64	0.62	0.69
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000038	0.000031	0.000034	0.000032	0.000024	0.000037
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	0.00052	0.0007	0.00066	0.00071	0.00062
Cobalt, total (T-Co)	mg/L	-	-	0.00017	0.000347	0.000573	0.00057	0.000641	0.000521
Copper, total (T-Cu)	mg/L	0.002	0.003	0.00076	***0.0034***	***0.00312***	***0.0031***	***0.0022***	***0.00227***
Iron, total (T-Fe)	mg/L	-	-	0.2	0.65	0.949	0.903	1.07	0.814
Lead, total (T-Pb)	mg/L	0.002	0.14	0.00011	***0.00719***	0.00054	0.0004	0.00048	0.00036
Manganese, total (T-Mn)	mg/L	-	-	0.0125	0.0255	0.0381	0.037	0.0364	0.0316
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	-	-	0.003	0.00244	0.00217	0.00196	0.00157	0.0018
Nickel, total (T-Ni)	mg/L	0.0083	-	<0.00150	<0.00150	0.00064	0.00072	0.00063	<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	0.0015	0.003	<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	-	-	0.00105	0.000763	0.000755	0.000725	0.000797	0.000803
Vanadium, total (T-V)	mg/L	0.005	-	0.0011	0.00188	0.00269	0.0026	0.00283	0.00235
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	0.0085	0.0032	<0.0030	0.0032	<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	-	-	0.000028	0.00003	0.00003	0.000027	0.000026	0.00002
Copper, dissolved (D-Cu)	mg/L	-	-	<0.00050	<0.00050	0.00073	0.0008	0.00186	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.012	0.019	0.024	0.022	0.022	0.022
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	0.0005	<0.00010	<0.00010	0.00012	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.0099	0.0103	0.0175	0.0158	0.01	0.0105
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	0.00053	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	2.24	1.48	1.18	1.07	1.02	1.23
Vanadium, dissolved (D-V)	mg/L	-	-	0.00068	0.00058	0.00055	0.00054	<0.00050	<0.00050
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0010	<0.0010	<0.0020	<0.0020	<0.0020	<0.0020
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	0.000018	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	0.000033	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	0.000067	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	0.00042	<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. The water quality data presented in the table were collected when the site was discharging, therefore the guidelines were evaluated. Reference stations are background stations. Turbidity and TSS BC WQG are evaluated using station WQR2 at 0.5 m below the water surface on October 19 as the background station for samples collected October 19 and were evaluated using Station WQR2 at 0.5 m below the water surface on October 20 as the background station for samples collected October 20.

[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.

[6] Field measurements for salinity are not available due to a field probe malfunction.

Table H-6: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Reference Station WQR1		Reference Station WQR2	Reference Station WQR1		
				0.5 m Below Surface	2 m Below Surface	0.5 m Below Surface	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
				WQR1-0.5	WQR1-2m	WQR2-0.5	WQR1-0.5	WQR1-2m	WQR1-SF
				VA24C8159-005	VA24C8041-006	VA24C8159-004	VA24C8330-001	VA24C8330-002	VA24C8330-003
		Long Term	Short Term	2024-10-20 16:35	2024-10-20 11:20	2024-10-20 15:15	2024-10-22 16:47	2024-10-22 16:48	2024-10-22 16:52
General Parameters									
pH - Field	pH units	7.0 - 8.7	-	7.0	7.37 [6]	7.3	7.7	7.9	7.6
Specific Conductivity - Field	µS/cm	-	-	6367	-[6]	5852	10058	22823	32766
Temperature - Field	℃	-	-	11.1	-[6]	10.9	9.1	10.7	9.8
Salinity - Field	ppt	-	-	4.85	-[6]	4.46	8.38	19.52	29.79
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	22.25	24.8 [6]	20.4	20.8 [7]	21.6 [7]	0.90 [7]
TSS	mg/L	Narrative[2]	Narrative[2]	14.6	20.9	13.4	11.6	10.6	3.0
Dissolved Oxygen - Field	mg/L	>=8	-	10.71	-[6]	10.95	10.38	9.02	***5.01***
Anions and Nutrients									
Sulphate	mg/L	-	-	367	494	354	409	378	2230
Chloride	mg/L	-	-	2710	3650	2570	3160	2940	16500
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia ($N\text{-}NH_3$)	mg/L	Variable [3]	Variable [3]	0.0081	0.0117	0.0117	0.011	0.0143	0.0066
Nitrite ($N\text{-}NO_2$)	mg/L	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate ($N\text{-}NO_3$)	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	-	-	1.01	0.963	1.42	1.02	0.947	0.0524
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	<0.00200	0.0016	<0.00200	0.00154	0.00194	0.0063
Barium, total (T-Ba)	mg/L	-	-	0.031	0.0369	0.034	0.029	0.0289	0.0132
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.66	0.89	0.60	0.68	0.81	***3.9***
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000023	0.000026	0.000025	0.000021	0.000024	0.000091
Chromium, total (T-Cr)	mg/L	-	-	0.00056	0.00056	0.0008	0.00053	0.00052	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000488	0.000513	0.000692	0.000469	0.000433	0.000135
Copper, total (T-Cu)	mg/L	0.002	0.003	***0.0024***	***0.00292***	***0.0037***	***0.00233***	***0.00229***	<0.00050
Iron, total (T-Fe)	mg/L	-	-	0.824	0.813	1.14	0.842	0.821	0.057
Lead, total (T-Pb)	mg/L	0.002	0.14	0.0002	0.00027	0.00031	0.0002	0.00026	0.00015
Manganese, total (T-Mn)	mg/L	-	-	0.0338	0.0388	0.0412	0.0303	0.03	0.00959
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	-	-	0.00161	0.00209	0.00162	0.00182	0.00179	0.00869
Nickel, total (T-Ni)	mg/L	0.0083	-	0.0005	<0.00150	0.00068	0.0006	0.00051	<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	0.0015	0.003	<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	-	-	0.000617	0.000715	0.000551	0.00062	0.000586	0.0029
Vanadium, total (T-V)	mg/L	0.005	-	0.0023	0.00239	0.00321	0.00244	0.00237	0.00129
Zinc, total (T-Zn)	mg/L	0.01	0.055	<0.0030	<0.0030	0.0036	0.0062	0.0032	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals									
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000020	0.00003	0.000024	0.000022	0.000039	0.000077
Copper, dissolved (D-Cu)	mg/L	-	-	0.00066	0.00065	0.00556	0.0006	0.00061	<0.00050
Iron, dissolved (D-Fe)	mg/L	-	-	0.024	0.033	0.024	0.02	0.012	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	0.0004	<0.00010	0.00018	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.0153	0.0207	0.0147	0.0108	0.00803	0.00784
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	0.00068	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	1.07	1.38	1.12	0.935	2.64	6.02
Vanadium, dissolved (D-V)	mg/L	-	-	0.00052	0.00058	0.00053	0.00056	0.00073	0.00109
Zinc, dissolved (D-Zn)	mg/L	-	-	<0.0020	<0.0010	<0.0030	<0.0010	<0.0010	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Pyrene	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Quinoline	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)									
Benzene	mg/L	0.11	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

Notes:

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

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

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

[2] Narrative guideline for the evaluation of change from background conditions arising from discharges to the aquatic environment. Reference stations are considered to be background stations.

[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.

[6] Field measurements were not recorded for WQR1 at 2 m below surface on October 20. The lab pH and turbidity values are reported.

[7] Field measurements for turbidity are not available due to a field probe malfunction. The lab turbidity values are reported.

Table H-7: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Reference Station WQR2			Station IDZ-W1		Station IDZ-W2	
				0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	2 m Below Surface	2 m Above Seafloor	2 m Below Surface	2 m Above Seafloor
				WQR2-0.5	WQR2-2m	WQR2-SF	IDZ-W1-2m	IDZ-W1-SF	IDZ-W2-2m	IDZ-W2-SF
				VA24C8330-004	VA24C8330-005	VA24C8330-006	VA24C8690-001	VA24C8690-002	VA24C8690-003	VA24C8690-004
		Long Term	Short Term	2024-10-22 12:57	2024-10-22 12:58	2024-10-22 13:03	2024-10-24 11:45	2024-10-24 12:00	2024-10-24 11:00	2024-10-24 11:20
General Parameters										
pH - Field	pH units	7.0 - 8.7	-	7.4	7.8	7.6	7.6 [6]	7.6 [6]	7.9 [6]	7.6 [6]
Specific Conductivity - Field	µS/cm	-	-	3405	27343	32864	31822 [6]	32573 [6]	26091 [6]	32750 [6]
Temperature - Field	°C	-	-	8.4	11.5	9.9	11.0 [6]	9.6 [6]	11.2 [6]	9.6 [6]
Salinity - Field	ppt	-	-	2.68	23.25	29.77	21.69 [6]	29.92 [6]	22.30 [6]	29.92 [6]
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	-[7]	-[7]	-[7]	-[7]	-[7]	-[7]	-[7]
TSS	mg/L	Narrative[2]	Narrative[2]	13.7	12	5.0	3.1	<2.0	5.6	<2.0
Dissolved Oxygen - Field	mg/L	>=8	-	11.19	8.5	***5.22***	8.52 [6]	***4.97*** [6]	8.46 [6]	***4.92*** [6]
Anions and Nutrients										
Sulphate	mg/L	-	-	189	374	1810	1190	2270	1100	2400
Chloride	mg/L	-	-	1520	2980	13400	8770	16500	8200	17600
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0108	0.009	0.0081	0.0156	<0.0050	0.0174	<0.0050
Nitrite (N-NO_2)	mg/L	-	-	<0.10	<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	<0.50
Total Metals										
Aluminum, total (T-Al)	mg/L	-	-	1.16	0.976	0.208	0.246	0.0194	0.222	0.0224
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	0.00095	0.00175	0.00544	0.00288	0.0062	0.0034	0.00569
Barium, total (T-Ba)	mg/L	-	-	0.0307	0.0296	0.0168	0.0167	0.0112	0.0161	0.0107
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.36	0.72	***3.32***	***1.6***	***3.53***	***1.83***	***3.49***
Cadmium, total (T-Cd)	mg/L	0.00012	-	<0.000020	0.000025	0.000089	0.000051	0.000074	0.000057	0.00008
Chromium, total (T-Cr)	mg/L	-	-	0.00053	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000497	0.000456	0.000189	0.000161	0.000097	0.000155	0.000091
Copper, total (T-Cu)	mg/L	0.002	0.003	***0.00288***	***0.0023***	0.00086	0.00141	<0.00050	0.00127	0.0007
Iron, total (T-Fe)	mg/L	-	-	0.919	0.817	0.202	0.224	0.019	0.218	0.022
Lead, total (T-Pb)	mg/L	0.002	0.14	0.00026	0.00021	0.00015	<0.00010	<0.00010	0.00011	<0.00010
Manganese, total (T-Mn)	mg/L	-	-	0.0327	0.0294	0.0101	0.0138	0.00692	0.0148	0.00651
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00104	0.00174	0.00777	0.00393	0.00958	0.00463	0.00881
Nickel, total (T-Ni)	mg/L	0.0083	-	0.00063	0.0006	<0.00050	<0.00050	<0.00050	<0.00050	0.00051
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	<0.00050	<0.00050	0.00056	<0.00050	0.00059
Silver, total (T-Ag)	mg/L	0.0015	0.003	<0.00010	<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	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.000325	0.00056	0.00264	0.00135	0.00281	0.00148	0.00277
Vanadium, total (T-V)	mg/L	0.005	-	0.00252	0.00241	0.00153	0.00117	0.00117	0.0012	0.00114
Zinc, total (T-Zn)	mg/L	0.01	0.055	0.0042	0.0031	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals										
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000020	0.000027	0.000055	0.000038	0.000086	0.000025	0.000069
Copper, dissolved (D-Cu)	mg/L	-	-	0.00097	0.00088	0.0007	0.00057	<0.00050	<0.00050	0.00059
Iron, dissolved (D-Fe)	mg/L	-	-	0.023	0.019	0.011	<0.010	<0.010	0.011	<0.010
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	<0.00010	0.00033	<0.00010	<0.00010	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.0118	0.0097	0.00411	0.0107	0.00494	0.0118	0.0057
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	0.538	1.4	4.78	3.09	5.89	2.54	6.19
Vanadium, dissolved (D-V)	mg/L	-	-	0.00051	0.00059	0.00097	0.00077	0.00106	0.0007	0.00112
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0013	<0.0010	<0.0010	0.0011	<0.0010	0.0012	<0.0010
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	mg/L	0.006	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000013	<0.000010
Acridine	mg/L	-	-	<0.000010	<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	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	<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	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	<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	<0.000010
Fluorene	mg/L	0.012	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	<0.000020	<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	<0.000010
Quinoline	mg/L	-	-	<0.000050	<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	<0.00050
Ethylbenzene	mg/L	0.25	-	<0.00050	<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	<0.00050
Styrene	mg/L	-	-	<0.00050	<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	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<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	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<0.00050	<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. The water quality data presented in the table were collected when the site was not discharging, therefore the guidelines 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.

[6] Field measurements were collected on October 23.

[7] Field measurements for turbidity are not available due to a field probe malfunction.

Table H-8: Summary of Marine Water Quality Results Received at the Time of Reporting

Parameter	Unit	Lowest Applicable Guideline [1]		Howe Sound at OUT-02	Howe Sound at West Floatel Gangway	Howe Sound at OUT-02	Howe Sound at West Floatel Gangway
				RE-2	W-G-RE	RE-2	W-G-RE
				VA24C7983-003	VA24C7983-002	VA24C8163-001	VA24C8163-002
		Long Term	Short Term	2024-10-19 12:30	2024-10-19 11:00	2024-10-20 13:00	2024-10-20 13:30
General Parameters							
pH - Field	pH units	7.0 - 8.7	-	***6.9***	7.0	***6.6***	***6.4***
Specific Conductivity - Field	µS/cm	-	-	5182	4848	3917	5371
Temperature - Field	°C	-	-	11.3	9.6	9.7	8.8
Salinity - Field	ppt	-	-	32.5	-[6]	3.0	4.3
Turbidity - Field	NTU	Narrative[2]	Narrative[2]	16.90	***289.78***	18.05	11.63
TSS	mg/L	Narrative[2]	Narrative[2]	8.9	***609***	12.6	7.4
Dissolved Oxygen - Field	mg/L	>=8	-	8.04	10.92	11.0	11.2
Anions and Nutrients							
Sulphate	mg/L	-	-	431	242	241	314
Chloride	mg/L	-	-	3300	1860	1750	2250
Fluoride	mg/L	-	1.5	<1.0	<1.0	<1.0	<1.0
Ammonia (N-NH_3)	mg/L	Variable [3]	Variable [3]	0.0107	0.0161	0.0067	0.0098
Nitrite (N-NO_2)	mg/L	-	-	<0.10	<0.10	<0.10	<0.10
Nitrate (N-NO_3)	mg/L	3.7	339	<0.50	0.78	<0.50	<0.50
Total Metals							
Aluminum, total (T-Al)	mg/L	-	-	0.761	30.5	0.964	0.633
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic, total (T-As)	mg/L	0.0125	0.0125	0.00225	0.00861	<0.00160	<0.00160
Barium, total (T-Ba)	mg/L	-	-	0.0140	0.277	0.0212	0.0210
Beryllium, total (T-Be)	mg/L	0.1	-	<0.00050	<0.00050	<0.00050	<0.00050
Boron, total (T-B)	mg/L	1.2	-	0.85	0.53	0.43	0.50
Cadmium, total (T-Cd)	mg/L	0.00012	-	0.000030	***0.000365***	0.000026	<0.000020
Chromium, total (T-Cr)	mg/L	-	-	<0.00050	0.0112	0.00059	<0.00050
Cobalt, total (T-Co)	mg/L	-	-	0.000270	0.0101	0.000402	0.000368
Copper, total (T-Cu)	mg/L	0.002	0.003	***0.00299***	***0.0403***	***0.0104***	***0.00643***
Iron, total (T-Fe)	mg/L	-	-	0.472	26.5	0.651	0.446
Lead, total (T-Pb)	mg/L	0.002	0.14	0.00099	***0.0313***	0.00115	0.00046
Manganese, total (T-Mn)	mg/L	-	-	0.0187	0.832	0.0272	0.0224
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	0.0000051	***0.0000651***	<0.0000050	<0.0000050
Molybdenum, total (T-Mo)	mg/L	-	-	0.00274	0.00987	0.00150	0.00155
Nickel, total (T-Ni)	mg/L	0.0083	-	0.00053	0.00797	0.00052	<0.00050
Selenium, total (T-Se)	mg/L	0.002	-	<0.00050	<0.00050	<0.00050	<0.00050
Silver, total (T-Ag)	mg/L	0.0015	0.003	<0.00010	<0.00010	<0.00010	<0.00010
Thallium, total (T-Tl)	mg/L	-	-	<0.000050	0.000133	<0.000050	<0.000050
Uranium, total (T-U)	mg/L	-	-	0.00104	0.00640	0.000706	0.000619
Vanadium, total (T-V)	mg/L	0.005	-	0.00163	***0.0496***	0.00180	0.00142
Zinc, total (T-Zn)	mg/L	0.01	0.055	0.0048	***0.122***	0.0035	<0.0030
Hexavalent Chromium, total	mg/L	0.0015	-	<0.00150	<0.00150	<0.00150	<0.00150
Dissolved Metals							
Cadmium, dissolved (D-Cd)	mg/L	-	-	<0.000020	0.000051	<0.000020	<0.000020
Copper, dissolved (D-Cu)	mg/L	-	-	0.00085	0.00423	0.00056	0.00100
Iron, dissolved (D-Fe)	mg/L	-	-	0.015	0.999	0.024	0.020
Lead, dissolved (D-Pb)	mg/L	-	-	<0.00010	0.00304	<0.00010	<0.00010
Manganese, dissolved (D-Mn)	mg/L	-	-	0.00487	0.0474	0.0109	0.0125
Nickel, dissolved (D-Ni)	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Strontium, dissolved (D-Sr)	mg/L	-	-	1.51	0.688	0.604	0.794
Vanadium, dissolved (D-V)	mg/L	-	-	0.00064	0.00291	<0.00050	<0.00050
Zinc, dissolved (D-Zn)	mg/L	-	-	0.0020	0.0088	<0.0020	<0.0020
Polycyclic Aromatic Hydrocarbons (PAHs)							
Acenaphthene	mg/L	0.006	-	0.000014	0.000060	<0.000010	<0.000010
Acridine	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010
Anthracene	mg/L	-	-	<0.000010	0.000034	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	<0.000010	0.000096	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	<0.0000050	***0.0000734***	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	<0.000010	0.000090	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	0.000017	0.000233	0.000011	0.000012
Fluorene	mg/L	0.012	-	<0.000010	0.000050	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	<0.000010	0.000016	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	<0.000010	0.000023	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	<0.000050	<0.000050	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	0.000022	0.000171	<0.000020	<0.000020
Pyrene	mg/L	-	-	0.000012	0.000213	<0.000010	<0.000010
Quinoline	mg/L	-	-	<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
Ethylbenzene	mg/L	0.25	-	<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
Styrene	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Toluene	mg/L	0.215	-	<0.00040	<0.00040	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	<0.00050	<0.00050	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	<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. The water quality data presented in the table were collected when the site was discharging, therefore the guidelines were evaluated. Turbidity and TSS BC WQG are evaluated using Station WQR2 at 0.5 m below the water surface on October 19 as the background station.
[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.
[6] Field measurement for salinity was not recorded.

Table H-9: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline	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
			VA24C6989-001	VA24C6989-002	VA24C6989-003	VA24C6989-004	VA24C6989-005	VA24C6989-006
			2024-10-09	2024-10-09	2024-10-09	2024-10-09	2024-10-09	2024-10-09
Methylmercury	**µg/L**	**-**	<0.000080	<0.000020	<0.000080	<0.000020	<0.000020	<0.000020
Total Mercury	**µg/L**	0.00625 [1,2]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] CCME guideline for total mercury = 0.016 µg/L.
[3] 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).
Non-detect results are screened using the detection limit value.

Table H-10: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline	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
			VA24C7163-001	VA24C7163-002	VA24C7163-003	VA24C7163-004	VA24C7163-005	VA24C7163-006
			2024-10-10	2024-10-10	2024-10-10	2024-10-10	2024-10-10	2024-10-10
Methylmercury	**µg/L**	**-**	<0.000020	<0.000020	<0.000020	0.000028	0.000021	<0.000020
Total Mercury	**µg/L**	0.016 [1,2]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] CCME guideline for total mercury = 0.016 µg/L.
[3] 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).
Non-detect results are screened using the detection limit value.

Table H-11: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline	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
			VA24C7379-001	VA24C7379-002	VA24C7379-003	VA24C7379-004	VA24C7379-005	VA24C7379-006
			2024-10-12	2024-10-12	2024-10-12	2024-10-12	2024-10-12	2024-10-12
Methylmercury	**µg/L**	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000080
Total Mercury	**µg/L**	0.00625 [1,2]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] CCME guideline for total mercury = 0.016 µg/L.
[3] 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).
Non-detect results are screened using the detection limit value.

Table H-12: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline	Station WQR1			Station WQR2		
			0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor	0.5 m Below Surface	2 m Below Surface	2 m Above Seafloor
			WQR1-0.5	WQR1-2m	WQR1-SF	WQR2-0.5	WQR2-2m	WQR2-SF
			VA24C7408-001	VA24C7408-002	VA24C7408-003	VA24C7408-004	VA24C7408-005	VA24C7408-006
			2024-10-13	2024-10-13	2024-10-13	2024-10-13	2024-10-13	2024-10-13
Methylmercury	**µg/L**	-	<0.000020	<0.000020	<0.000020	<0.000020	0.000049	<0.000020
Total Mercury	**µg/L**	0.0102 [1,2]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] CCME guideline for total mercury = 0.016 µg/L.
[3] 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).
Non-detect results are screened using the detection limit value.

Table H-13: Summary of Marine Water Quality Results for Methylmercury Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline	Howe Sound at OUT-02	Howe Sound at West Floatel Gangway
			RE-2	**W-G-RE**
			VA24C7983-003	**VA24C7983-002**
			2024-10-19 12:30	**2024-10-19 11:00**
Methylmercury	**µg/L**	**-**	0.000051	0.000238
Total Mercury	**µg/L**	0.0102 [1,2]	0.0051	***0.0651***

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] CCME guideline for total mercury = 0.016 µg/L.
[3] 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).
Non-detect results are screened using the detection limit value