TECHNICAL MEMORANDUM

To:	**Ian McAllister, Ashleigh Crompton, Mike Champion, Mark Zan and Ryan Schucroft (Woodfibre LNG)**	**Date:**	**18 July 2025**
From:	**Holly Pelletier, Cheng Kuang and Patrick Mueller (Lorax)**	**Project #:**	**A633-9**
Subject:	**PE-111578 Weekly Discharge and Compliance Report #72 for July 6 – July 12**		

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 #72) was prepared by Lorax Environmental and summarizes WDA monitoring conducted for the period of July 6 – July 12. 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 #72 has been prepared to meet the requirements specified in Condition 4.2 of PE-111578:

> "The Permittee shall summarize the results of the discharge and compliance monitoring program in a report that shall be submitted to the BCER weekly over the term of this permit. Reports must include suitable tabulated data. The table must include any applicable regulatory limits/guidelines e.g. permit limits, BC Water Quality Guidelines etc. Any exceedances of respective regulatory limits/guidelines must be clearly highlighted. Any missed sampling events/missing data must be identified with an explanation provided. Reporting frequency may be reduced upon a history of compliance and by written confirmation from the BCER. These reports shall be submitted to Waste.Management@bc-er.ca. A copy of the reports shall be provided to each First Nation consulted with regarding this subject permit, and also made publicly available on the Woodfibre LNG Environmental Reporting webpage."

Site layout and water management figures, and site images are included in Appendix A. Monitoring results are tabulated in Appendix B through Appendix D for contact water and treated water samples.

1. Current Conditions

1.1 Water Management Infrastructure

The Construction Phase of the Woodfibre LNG Export Facility commenced in October 2023. Shoring works along the foreshore areas were initiated in December 2023, and in early 2024 construction of water management infrastructure commenced. Land-based construction occurs within two water management areas east and west of Mill Creek, referred to as the east and west catchments, respectively. Non-contact water is intercepted and diverted around the construction areas to Howe Sound and Mill Creek. Stormwater runoff collected within the east and west catchment areas (7.12 and 5.92 ha, respectively) is managed as site contact water and is conveyed to the East Wastewater Treatment Plant (WWTP) for treatment or to the East and West Sedimentation Ponds for settling of suspended particulate. Discharge to Howe Sound from the East and West Sedimentation Ponds commenced April and October 2024, respectively.

Non-contact water from the slopes above and outside the Woodfibre LNG construction area is intercepted by diversion ditches and conveyed to Howe Sound or Mill Creek. Diversion ditches for the west catchment convey water to Mill Creek at station OUT-06, or to Howe Sound at station OUT-02 (Appendix A, Figure 1). During heavy precipitation non-contact water is also conveyed to Howe Sound via station OUT-01. East of Mill Creek, non-contact water is intercepted and diverted around the east catchment along pre-existing road ditches that flow to East Creek or Mill Creek. To facilitate the replacement of the East Creek discharge culvert at OUT-12 (station SW-04), the lower reach of East Creek was temporarily diverted to an adjacent culvert, OUT-11, on September 17, 2024.

The East WWTP was commissioned in April 2024 and the West WWTP was commissioned August 2024. Operation of the West WWTP was subsequently suspended September 25, 2024 for a temporary reconfiguration to conduct pilot-scale evaluations of alternative treatment processes. The evaluations were completed April 2025 and did not yield improved treatment outcomes; therefore, the original treatment process has been maintained. Lower than expected volumes of contaminated contact water have been encountered during construction, therefore operation of the West WWTP remains suspended and all site waters that require treatment are directed to the East WWTP with treated effluent discharged to the East Sedimentation Pond.

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

Discharge from the East and West Sedimentation Ponds is controlled using pumps. Prior to water management upgrades that commenced implementation during the week of June 22 – 28, water stored in the ponds was pumped to a TSS settling system prior to discharge through the authorized outfall structures associated with each pond. Some of the TSS clarified water was recirculated back to the ponds or was re-used for construction (*e.g.*, dust suppression), and this will continue with the revised configuration. Each sedimentation pond has an associated authorized discharge location (stations SP-E-OUT and SP-W-OUT) with an initial dilution zone (IDZ) where discharged water mixes with Howe Sound surface waters. The IDZ is defined in PE-111578 and extends in a 150 m radius from each point of discharge into Howe Sound.

Flocculant-based TSS settling systems were used at the East and West Sedimentation Ponds to remove TSS from pond effluent. The first West Sedimentation Pond TSS settling system (ESC) was commissioned for use on September 25, 2024, with an 820 m^3/day installed capacity. An additional TSS settling system (W500GPM) was commissioned for use at the West Sedimentation Pond on November 28, 2024, and provided an additional 2,725 m^3/day installed capacity for clarifying water. A third TSS settling system (E500GPM) was commissioned for use at the East Sedimentation Pond on December 4, 2024, also with 2,725 m^3/day installed capacity. The E500GPM and W500GPM TSS settling systems were decommissioned during the June 22 – June 28 monitoring period, and the ESC system was decommissioned July 4. These systems are currently being replaced by a single TSS settling system (2700GPM) at the West Sedimentation Pond that will clarify all non-contaminated construction contact water prior to discharge at SP-W-OUT.

The fully built 2700GPM TSS settling system will have the installed capacity to clarify 15,000 m^3/day of contact water, with the same settling process that was used in the systems that are currently being replaced. The 2700GPM system will consist of six parallel treatment trains, each with an installed capacity of 2,450 m^3/day. The number of active trains will be matched to contact water flows. Only one train will be operated during dry conditions or when contact water flows are below approximately 2450 m^3/day, whereas at higher flows additional trains will be activated as needed to match the influent volumes. The individual treatment trains are being commissioned in stages. Commissioning and pilot testing for the first and third train of the 2700GPM system continued during the monitoring period (July 6 – July 12).

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

1.2 Weather and Water Management

Generally warm and sunny weather conditions were observed during the July 6 – July 12 monitoring period, with precipitation recorded on July 8 (16.6 mm), July 9 (9.4 mm) and July 10 (0.2 mm). The daily weather conditions are summarized in Table 1.

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

Date	Precipitation (mm)	Max. Temp (°C)	Min. Temp (°C)	Weather Description
2025-07-06	0	23.7	12.7	Mix of Sun and Cloud
2025-07-07	0	25.4	14.4	Mix of Sun and Cloud
2025-07-08	16.6	24.0	15.4	Rain
2025-07-09	9.4	22.2	15.5	Rain
2025-07-10	0.2	22.1	15.2	Mix of Sun and Cloud
2025-07-11	0	24.1	13.4	Mix of Sun and Cloud
2025-07-12	0	25.5	15.4	Mix of Sun and Cloud

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

From July 6 – July 12, the East Sedimentation Pond received recirculated effluent from the East WWTP (Appendix A, Figure 2). Recirculated effluent from the 2700GPM TSS settling system was directed to the West Sedimentation Pond (Appendix A, Figure 3). During the monitoring period (July 6 – July 12), a total of 1,191 m^3 of water from the East Sedimentation Pond was transferred to the West Sedimentation Pond (Appendix B, Table B-5). There was no discharge to Howe Sound from station SP-E-OUT during the monitoring period.

Routine operation of the East WWTP continued during the monitoring period (July 6 – July 12); however, the East WWTP was not operational on July 7 and 8. Water from the construction water baker tank was periodically directed to the East WWTP for treatment, as well as water stored in the East Sedimentation Pond (Appendix A, Figure 2 and Figure 3). East WWTP treated effluent was discharged to the East Sedimentation Pond each day from July 6 – July 12. Daily water volumes processed by the East WWTP are provided in Appendix B (Table B-5).

Commissioning and pilot testing of the 2700GPM TSS settling system continued during the monitoring period (July 6 – July 12). West Sedimentation Pond effluent was clarified through the 2700GPM system each day and was recirculated back to the West Sedimentation Pond or reclaimed and used for construction purposes (*e.g.*, road dust suppression, fill compaction, or hydrovac truck operation). There was no discharge to Howe Sound from station SP-W-OUT during the monitoring period. From July 6 – July 12, clarified effluent was not reclaimed for construction use. Daily clarified effluent volumes from the TSS settling systems and volumes of reclaimed water are provided in Appendix C (Table C-6).

2. Monitoring Summary

The locations of compliance and supplementary monitoring stations are shown on Figure 1. Monitoring is conducted by the on-site Environmental Monitors (Roe Environmental). Analytical samples are submitted by Roe Environmental to ALS Environmental in Burnaby, BC, for testing.

The following compliance and supplementary monitoring stations are currently being monitored:

- Non-contact diversion ditch outlet monitoring stations (OUT-01, OUT-02, OUT-06, and OUT-11). East Creek water was temporarily diverted to OUT-11 on September 17, 2024, and is monitored at the inlet to temporary diversion (station SW-04), therefore OUT-11 is not currently monitored.
- Creek water monitoring stations for Woodfibre, Mill and East Creek (SW-01, SW-02, SW-03, SW-04, SW-07).
- Contact water monitoring locations (SP-E-IN, E500GPM-IN, E500GPM-OUT, WWTP-E-IN, WWTP-E-OUT, SP-W-IN, 2700GPM-IN, 2700GPM-OUT, ESC-W-IN, ESC-W-OUT, W500GPM-IN and W500GPM-OUT).
- Effluent compliance stations (SP-E-OUT and SP-W-OUT).
- Howe Sound reference and IDZ monitoring stations (WQR1, WQR2, IDZ-E1, IDZ-E2, IDZ-W1, and IDZ-W2).

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

Two flocculant-based TSS settling systems are used at the West Sedimentation Pond (ESC and 2700GPM) as described in Section 1.1. The W500GPM TSS settling system was decommissioned during the June 22 – June 28 monitoring period and the ESC system was decommissioned July 4. The replacement 2700GPM TSS settling system is currently being commissioned (Section 1.1). Influent and effluent are monitored at stations 2700GPM-IN and 2700GPM-OUT, respectively. The TSS settling system (E500GPM) was also decommissioned during the June 22 – June 28 monitoring period (Section 1.1). Prior to decommissioning, influent and effluent for the W500GPM, ESC, and E500GPM systems were monitored at stations W500GPM-IN, W500GPM-OUT, ESC-W-IN, ESC-W-OUT, E500GPM-IN, and E500GPM-OUT. The TSS settling system stations are supplemental to the PE-111578 monitoring requirements and are monitored at the discretion of field staff.

Water quality was monitored at stations SW-01, SW-02, SW-03, SW-04, SW-07, IDZ-E1, IDZ-E2, WQR1, SP-E-IN, WWTP-E-IN, WWTP-E-OUT, SP-W-IN, 2700GPM-IN, and 2700GPM-OUT during the monitoring period (July 6 – July 12). Sampling dates and parameters tested are summarized in Table 2.

Overall, the PE-111578 monitoring requirements that were applicable during the monitoring period (July 6 – July 12) were met. The initial high frequency monitoring requirements outlined in effluent permit PE-111578 for the sedimentation pond, WWTP and IDZ stations have been met.

BCER has approved the implementation of low-frequency (*i.e.,* bi-monthly and monthly) monitoring requirements specified in PE-111578 for all parameters, except for metals, hexavalent chromium and methylmercury which will continue to be monitored weekly at sedimentation pond and WWTP stations.

Daily field parameters and a weekly analytical sample were not collected at the east and west catchment effluent stations (SP-E-OUT and SP-W-OUT, respectively) as there was no discharge to Howe Sound during the monitoring period (July 6 – July 12). Daily field parameters were not collected at the influent station of the East Sedimentation Pond (SP-E-IN) on July 7 and 8 as the pond water level was lowered to clean the pond liner and there was no safe access to cell 1 of the pond on these days. Daily field parameters were not collected at the influent and effluent stations (WWTP-E-IN and WWTP-E-OUT, respectively) of the East WWTP on July 6, 7, and 8 as 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 it was not operational during the monitoring period.

Table 2: Summary of PE-111578 Monitoring Samples Collected July 6 – July 12.

Sampling Date	Sample	Description	Parameters Tested	Monitoring Frequency
July 6, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field Parameters.	P
	2700GPM-OUT	2700GPM TSS settling system at the effluent meter box		
July 7, 2025	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, M, M_2, W
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, M, M_2, W
	2700GPM-OUT	2700GPM TSS settling system at the effluent meter box		
July 8, 2025	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field Parameters.	P
	2700GPM-OUT	2700GPM TSS settling system at the effluent meter box		
	SW-01	Lower Reach of Woodfibre Creek (near the mouth)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	M
	SW-04	Lower Reach of East Creek (near the outlet to the outfall culvert)		
July 9, 2025	SP-E-IN	East Sedimentation Pond monitored at cell 1 of the pond	Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field Parameters.	P
	2700GPM-OUT	2700GPM TSS settling system at the effluent meter box		
	SW-02	Lower Reach of Mill Creek (upstream of the third bridge)	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	M
	SW-03	Mill Creek Estuary		
	SW-07	Upstream Mill Creek (at the diversion inlet)		
July 10, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, M, M_2, W
	WWTP-E-IN	East WWTP at the influent meter box	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	D, M, M_2, W
	WWTP-E-OUT	East WWTP at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field Parameters.	P
	2700GPM-OUT	2700GPM TSS settling system at the effluent meter box		
July 11, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field Parameters.	P
	2700GPM-OUT	2700GPM TSS settling system at the effluent meter box		
July 12, 2025	SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	WWTP-E-IN	East WWTP at the influent meter box	Field Parameters.	D
	WWTP-E-OUT	East WWTP at the effluent meter box		
	SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	Field Parameters.	D
	2700GPM-IN	2700GPM TSS settling system at the influent meter box	Field Parameters.	P
	2700GPM-OUT	2700GPM TSS settling system at the effluent meter box		
	IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	Field, Physical & General Parameters, VH & BTEX, EPHs & PAHs, Total, Dissolved and Speciated Metals, VOCs, Methylmercury, Dioxins & Furans.	M
	IDZ-E1-2m	Howe Sound IDZ station E1; 2 m below surface		
	IDZ-E1-SF	Howe Sound IDZ station E1; 2 m above the seafloor		
	IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
	IDZ-E2-2m	Howe Sound IDZ station E2; 2 m below surface		
	IDZ-E2-SF	Howe Sound IDZ station E2; 2 m above the seafloor		
	WQR1-0.5	Reference 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		

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.
M_2 – bi-monthly monitoring for physical parameters at WWTP and sedimentation pond stations.
W – high frequency monitoring for metals, chromium speciation and methylmercury at WWTP and sedimentation pond influent and effluent stations, effective June 25, 2025.
P – periodic monitoring for targeted parameters that is supplementary to PE-111578 requirements.

3. Water Quality Results

3.1 Screening and Reporting Overview

Water quality and flow monitoring results are screened against field quality control (QC) criteria, benchmark values, operational minimum discharge objectives (MDOs) that the WWTPs are currently being operated to meet, PE-111578 discharge limits, as well as Canadian, Federal and BC water quality guidelines (WQGs). All water quality data are recorded in the Woodfibre LNG environmental monitoring database. However, for brevity, a sub-set of the results are presented in the weekly report appendices. Results are reported for parameters with a freshwater, estuarine or marine water quality guideline for the protection of aquatic life, parameters with a discharge limit, parameters of potential concern (*i.e.,* dioxins and furans) as well as other parameters that are relevant for water quality interpretation.

Canadian, Federal and BC WQGs are not specified for dioxins and furans. The general term "dioxins and furans" refers to a total of 210 polychlorinated dibenzo-*p*-dioxin (PCDD) and polychlorinated dibenzofuran (PCDF) compounds. A sub-set of 17 of the most toxic PCDDs and PCDFs are typically evaluated for toxicity by converting the individual parameter concentrations to toxic equivalent (TEQ) values that are summed and evaluated as a single PCDD/F TEQ parameter. To address uncertainties for results reported as not detected, two PCDD/F TEQ values are reported. A "lower-bound PCDD/F TEQ" is calculated assuming a concentration of zero for results reported as not detected, therefore, if all 17 of the individual compounds in the sub-set are not detected the lower-bound PCDD/F TEQ will equal zero. An "upper-bound PCDD/F TEQ" is calculated assuming a concentration equal to the detection limit for results reported as not detected. These two parameters span the range of possible TEQs if one or more of the PCDDs and PCDFs are reported as not detected.

The BC WQG for total mercury is a sample-specific calculated value that is based on the concentration of methylmercury in a sample. Although an approved BC WQG for the protection of aquatic life for methylmercury has not been explicitly established, the BC Ambient Water Quality Guidelines for Mercury Overview Report indicates the total mercury WQG is derived from a methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) that is set at a concentration that protects fish from mercury bioaccumulation to levels that could harm wildlife that consumes fish. Therefore, if methylmercury results are reported, the 0.0001 µg/L value is presented as a methylmercury WQG to support the interpretation of total mercury and methylmercury results.

3.2 Summary of Reported Results

Field measurements and analytical results included in this weekly report (Report #72) are listed below in Table 3. Testing for methylmercury, dioxins, furans and toxicity may require four weeks or longer to complete. Analytical results not reported will be included in future weekly reports. Reporting of results is pending for the following samples and parameters:

- IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, WQR1, and WQR2 collected May 27 at 0.5 m below surface (chronic toxicity)
- SW-02, SW-03 and SW-07 collected June 17 (dioxins and furans)
- IDZ-W1, IDZ-W2 and WQR2 collected June 17 (dioxins and furans)
- WWTP-E-IN, WWTP-E-OUT, 2700GPM-IN, and 2700GPM-OUT collected June 23 (dioxins and furans)
- 2700GPM-IN and 2700GPM-OUT collected June 29 (dioxins and furans)
- SP-W-IN, 2700GPM-IN, and 2700GPM-OUT collected July 7 (dioxins and furans)
- SW-01 and SW-04 collected July 8 (field and all analytical parameters)
- SW-02, SW-03 and SW-07 collected July 9 (field and all analytical parameters)
- SP-E-IN, WWTP-E-IN, and WWTP-E-OUT collected July 10 (methylmercury, dioxins and furans)
- IDZ-E1, IDZ-E2, and WQR1 collected July 12 (field and all analytical parameters)

Table 3: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #72.

Sample	Description	Sampling Date	Parameters Reported
IDZ-E1-0.5	Howe Sound IDZ station E1; 0.5 m below surface	March 25, 2025	Chronic Toxicity
IDZ-E2-0.5	Howe Sound IDZ station E2; 0.5 m below surface		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
WQR1-0.5	Reference site 1; 0.5 m below surface		
WQR2-0.5	Reference site 2; 0.5 m below surface		
SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	June 9, 2025	Dioxins and Furans.
WWTP-E-IN	East WWTP at the influent meter box		
WWTP-E-OUT	East WWTP at the effluent meter box		
SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	June 12, 2025	Dioxins and Furans.
W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box		
IDZ-W1-0.5	Howe Sound IDZ station W1; 0.5 m below surface	June 17, 2025	Methylmercury.
IDZ-W1-2m	Howe Sound IDZ station W1; 2 m below surface		
IDZ-W1-SF	Howe Sound IDZ station W1; 2 m above the seafloor		
IDZ-W2-0.5	Howe Sound IDZ station W2; 0.5 m below surface		
IDZ-W2-2m	Howe Sound IDZ station W2; 2 m below surface		
IDZ-W2-SF	Howe Sound IDZ station W2; 2 m above the seafloor		
WQR2-0.5	Reference site 2; 0.5 m below surface		
WQR2-2m	Reference site 2; 2 m below surface		
WQR2-SF	Reference site 2; 2 m above the seafloor		
SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	June 19, 2025	Dioxins and Furans.
WWTP-E-IN	East WWTP at the influent meter box		
WWTP-E-OUT	East WWTP at the effluent meter box		
SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond		
E500GPM-OUT	East Sedimentation Pond 500 GPM TSS settling system at the effluent meter box		Acute Toxicity, Dioxins and Furans.
W500GPM-OUT	West 500 GPM TSS settling system at the effluent meter box		
SP-W-IN	West Sedimentation Pond influent monitored at cell 1 of the pond	July 7, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, VOCs, and Methylmercury.
2700GPM-IN	2700 GPM TSS settling system at the influent meter box		
2700GPM-OUT	2700 GPM TSS settling system at the effluent meter box		
SP-E-IN	East Sedimentation Pond influent monitored at cell 1 of the pond	July 10, 2025	Field, Physical and General Parameters, Total and Dissolved Metals, Hexavalent Chromium, PAHs, and VOCs.
WWTP-E-IN	East WWTP at the influent meter box		
WWTP-E-OUT	East WWTP at the effluent meter box		

3.3 East Catchment

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

The east catchment did not discharge during the monitoring period (July 6 – July 12). East WWTP treated effluent volumes and discharge volumes from the east catchment are listed in Appendix B, Table B-5.

Field measurements were collected July 6 – July 12 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix B, Table B-4. Analytical samples collected July 10 (stations SP-E-IN, WWTP-E-IN, and WWTP-E-OUT) were available at the time of reporting. Screening results for east catchment contact water quality are summarized in Table B-1 and Table B-2 of Appendix B.

Dissolved oxygen was below the lower limit of the MDO in East WWTP effluent (WWTP-E-OUT) collected July 9, 10, 11, and 12 (Appendix B, Table B-4). The depletion of dissolved oxygen was also observed in contact water during dry conditions in 2024 and is speculated to be induced by warm temperatures and limited freshwater inputs (*i.e.*, from rain) to the contact water management system during dry conditions. East WWTP treated effluent was directed to the East Sedimentation Pond and there was no discharge to Howe Sound from the authorized discharge location (SP-E-OUT) during the July 6 – July 12 monitoring period.

Dioxin and furan results were reported for East Sedimentation Pond influent (SP-E-IN) and East WWTP influent and effluent (WWTP-E-IN and WWTP-E-OUT, respectively) collected June 9 and June 19 as well as for E500GPM TSS settling system effluent (E500GPM-OUT) collected June 19 (as discussed in Report #68). The lower and upper bound PCDD/F TEQ concentrations in effluent discharged from the East WWTP (WWTP-E-OUT) were 0 pg/L and 0.887 to 0.979 pg/L, respectively, in samples collected on June 9 and June 19. The lower and upper bound PCDD/F TEQ concentrations in the E500GPM samples collected on June 19 ranged from 0.00158 to 0.00171 pg/L and 1.05 to 1.18 pg/L, respectively. Results are tabulated in Appendix B, Table B-3.

Acute toxicity results for clarified effluent from the E500GPM TSS settling system collected June 19 were available at the time of reporting. The E500GPM-OUT station is located between the E500GPM system and the authorized discharge location (SP-E-OUT) and monitors the TSS clarified water sedimentation pond effluent that would be directed to SP-E-OUT if there was surplus non-contaminated contact water that required discharge. However, there was no discharge from the east catchment at the authorized discharge location (SP-E-OUT) at the time of monitoring, hence a sample was collected from station E500GPM-OUT to meet the quarterly toxicity monitoring requirement for sedimentation pond effluent.

In early 2025, the toxicity laboratory Nautilus Environmental announced the permanent closure of its Burnaby branch, effective February 28, 2025. Samples for toxicity testing have been submitted to Bureau Veritas (Burnaby) starting March 2025. The June 19 acute toxicity results showed 100% survival of rainbow trout and *Daphnia magna* after exposure to the E500GPM-OUT sample, indicating the effluent passed the acute toxicity test and the clarified effluent from the E500GPM TSS settling system was not acutely toxic to these organisms.

3.4 West Catchment

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

During the monitoring period (July 6 – July 12), commissioning and pilot testing of the replacement TSS settling system (2700GPM) continued (Section 1.1 and Section 1.2). West Sedimentation Pond effluent was directed to the 2700GPM TSS settling system each day during the monitoring period, and clarified effluent was either recirculated to the pond or reclaimed and used for construction purposes (refer to Section 1.2). There were no discharges to Howe Sound from the west catchment discharge location (SP-W-OUT) during the monitoring period. Daily clarified effluent and discharge volumes from the west catchment are summarized in Appendix C, Table C-6.

Field measurements were collected July 6 – July 12 at multiple influent and effluent locations, as outlined in Section 2, and are tabulated in Appendix C, Table C-5. Analytical samples collected July 7 (stations SP-W-IN, 2700GPM-IN and 2700GPM-OUT) were available at the time of reporting. Screening results for west catchment contact water quality are tabulated in Table C-1 and Table C-2 of Appendix C.

During the monitoring period (July 6 – July 12), field measurements and analytical results for samples collected at station 2700GPM-OUT met PE-111578 discharge limits and WQGs except for dissolved oxygen on July 7, 8 and 12. The depletion of dissolved oxygen was also observed in contact water during dry conditions in 2024 and is speculated to be induced by warm temperatures and limited freshwater inputs (*i.e.,* from rain) to the contact water management system during dry conditions. Clarified effluent from the 2700GPM system was recirculated to the West Sedimentation Pond and there was no discharge to Howe Sound from the authorized discharge location (SP-W-OUT) during the July 6 – July 12 monitoring period.

Methylmercury results were available for West Sedimentation Pond influent (SP-W-IN) and 2700GPM TSS settling system influent and effluent (2700GPM-IN and 2700GPM-OUT, respectively) collected July 7. The methylmercury concentration was 0.000527 µg/L in the 2700GPM-OUT sample collected July 7 (Appendix C, Table C-3), which is above the WQG (0.0001 µg/L). Clarified effluent from the 2700GPM system was recirculated to the West Sedimentation Pond and there was no discharge from the pond to Howe Sound on July 7. The total mercury concentration is also listed in Appendix C, Table C-3 and is above the WQG. Mercury parameters are tracked in Table 4.

Dioxin and furan results were reported for West Sedimentation Pond influent (SP-W-IN) and for W500GPM TSS settling system effluent (W500GPM-OUT) collected June 12 and June 19 (as discussed in Reports #68 and #69, respectively). The lower and upper bound PCDD/F TEQ concentrations in the W500GPM-OUT samples collected June 12 and June 19 ranged from 0 to 0.00498 pg/L and 1.21 to 1.33 pg/L, respectively. Results are tabulated in Appendix C, Table C-4.

Acute toxicity results for clarified effluent from the W500GPM TSS settling system collected June 19 were available at the time of reporting. Similar to the east catchment, the W500GPM-OUT station is located between the W500GPM system and the authorized discharge location (SP-W-OUT) and monitors the TSS clarified water sedimentation pond effluent that would be directed to SP-W-OUT if there was surplus non-contaminated contact water that required discharge. There was no discharge from the west catchment at the authorized discharge location (SP-W-OUT) at the time of monitoring, hence a sample was collected from station W500GPM-OUT to meet the quarterly toxicity monitoring requirement for sedimentation pond effluent. Results showed 100% survival of rainbow trout and *Daphnia magna* after exposure to

the W500GPM-OUT sample, indicating the effluent passed the acute toxicity test and the clarified effluent from the W500GPM TSS settling system was not acutely toxic to these organisms.

3.5 Non-Contact Water Diversion Ditch Outlets

Non-contact water diversion ditch samples are screened against Canadian, Federal and BC WQGs for the protection of freshwater aquatic life.

East Creek was temporarily diverted to OUT-11 on September 17, 2024, to facilitate replacement of the OUT-12 culvert through which East Creek previously discharged. Only East Creek water is flowing through the OUT-11 culvert. East Creek is monitored at freshwater receiving environment station SW-04 and station OUT-11 is not monitored while the diversion is in place.

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

3.6 Freshwater and Estuarine Water Receiving Environment

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

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

3.7 Marine Water Receiving Environment

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

Methylmercury analytical results were available at the time of reporting for marine samples collected from 0.5 and 2 m below the water surface and 2 m above the seafloor on June 17 at

IDZ-W1, IDZ-W2 and marine reference station WQR2 (as discussed in Report #69). For all samples, methylmercury concentrations ranged from <0.000020 to 0.000034 µg/L. Methylmercury results met the WQG and the corresponding total mercury results also met WQGs (Appendix D, Table D-1).

In early 2025, the toxicity laboratory Nautilus Environmental announced the permanent closure of its Burnaby branch, effective February 28, 2025. Samples for toxicity testing have been submitted to Bureau Veritas (Burnaby) starting March 2025. The change in toxicity laboratory in 2025 has implications to the test species for chronic testing, as the echinoderm test is only available seasonally (January – May/June), and the topsmelt test is currently under development at Bureau Veritas. Based on the availability of test species and chronic toxicity tests recommended for marine water, the mysid shrimp (invertebrate) and inland silverside (fish) are considered substitutes to echinoderm and topsmelt, respectively.

Chronic toxicity test results for the March 25 marine receiving environment samples (as discussed in Weekly Report #57) are summarized herein. Marine water samples were tested for chronic toxicity to inland silverside (fish) and echinoderm (invertebrate). All chronic toxicity tests were conducted using 100% (undiluted) marine water collected from 0.5 m below the surface at stations IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, and marine reference stations WQR1 and WQR2 in the receiving environment of Howe Sound. Salinity adjustment was made prior to testing as per standard test protocol.

The March 25 chronic toxicity test results showed no statistically significant differences between the marine samples and laboratory controls for any of the endpoints tested for inland silverside. For the echinoderm test, a statistically significant difference in fertilization rate was observed in samples collected from stations IDZ-E1, IDZ-E2, IDZ-W1, IDZ-W2, and from marine reference stations WQR1 and WQR2 relative to the laboratory controls.

Analytical results of water samples collected from the marine receiving environment in tandem with the March 25 toxicity samples show that water quality parameter concentrations met WQGs except total boron in all samples. Elevated concentrations of total boron are indicative of influence from the deeper saline waters in the northern basin of Howe Sound and are a natural condition of marine water at the marine monitoring stations. As noted in Technical Appendix of the BC Ambient Water Quality Guidelines for Boron, a study showed normal development of a sea urchin (*Anthocidaris crassispina*) exposed to 37 mg/L of boron. At the concentration range observed in the marine samples (1.34 – 1.96 mg/L), it is unlikely that total boron is the root cause of the observed inhibition on echinoderm fertilization rate.

Overall, there is no clear link between water quality and chronic effect on the echinoderm test species. Considering that the March 25 reference station results showed inhibition of echinoderm fertilization rate similar to the IDZ station results, and that some reference station samples

collected in 2024 also showed similar effects, it is inferred that there is a natural condition in the Howe Sound marine water collected at 0.5 m depth that periodically induces a chronic effect (*i.e.*, inhibition on fertilization rate) to echinoderm, that is not attributable to project influence.

4. Quality Control

This section presents the results of the quality control (QC) evaluation for the PE-111578 weekly report (Table 4). The evaluation includes a review of field and lab QC, completeness of the weekly report (*e.g.*, pending data), completeness of the monitoring program, confirmation of recordkeeping, evaluation of compliance and review of water management activities. Items flagged for follow-up in Section 3 are also tracked in Table 4. Any items flagged for follow-up are carried forward to future reports until they are closed.

Table 4: Weekly Report QC Evaluations and Ongoing Items

QC Procedure	Observation	Investigation/Resolution
Reporting Period (July 6 – July 12, Report #72)		
Authorized Works and Monitoring Program Evaluation	The authorized works and monitoring stations have not been established as described in PE-111578.	The PE-111578 authorized works for water management have been constructed, except for some of the conveyance ditches which require completion of site grading prior to installation. Sumps, pumps and hoses are used for temporary conveyance until the ditches are completed. The lower reach of East Creek has been temporarily diverted through OUT-11 outfall since September 17, 2024, to facilitate replacement of the East Creek outfall culvert (OUT-12). All monitoring stations have been established except at SP-E-IN-1, SP-E-IN-2, SP-W-IN-1 and SP-W-IN-2 where substitute stations are established in lieu of those listed in PE-111578 (refer to Section 2). This item remains open.
Pending Data	Analytical results not reported.	Field parameters and analytical results for freshwater receiving environment samples collected July 8 and 9 and marine water receiving environment samples collected July 12 were not included with Report #72. Methylmercury results for contact water and treated water samples collected July 10 and dioxins and furans results for contact water and treated water samples collected July 7 and 10 were not included with Report #72. The pending results will be included in future weekly reports when available. This item remains open.
Ongoing Items from Previous Weekly Reports		
Report #57: Pending Data	Analytical results not reported.	Chronic toxicity results for marine receiving environment samples collected March 25 are discussed in Section 3.7 of Report #72. This item is closed.
Report #62: WWTP Performance Evaluation	Total copper above the MDO.	This item was first noted in Report #46 (January 8 sample). From January 8 onwards the WWTP-E-OUT total copper concentrations were 0.00809, 0.00595, 0.00895, 0.00518, 0.00542, 0.00525, 0.00450, 0.00734, 0.00464, 0.00462, and 0.00573 mg/L in samples collected at WWTP-E-OUT on January 8, 14, 24, 28, February 24, March 8, 17, April 24, May 10, June 3, and June 9, respectively, and ranged from 0.00613 to 0.0108 mg/L in four replicate samples collected on February 15. The HSMT metal removal media was replaced on June 5 and the fresh media was expected to improve copper removal; however, the total copper result for WWTP-E-OUT collected June 9 (0.00573 mg/L) following the media replacement was above the MDO. Follow-up samples collected June 19, 23, July 2 and 10 returned total copper concentrations of 0.00264, 0.00263, 0.00181 and 0.00185 mg/L, respectively, and met the MDO. The WWTP treatment performance for total copper continues to be reviewed. This item remains open.
Report #66: Pending Data	Analytical results not reported.	Chronic toxicity results for receiving environment samples collected May 27 were not included with Report #72. The pending results will be included in future weekly reports when available. This item remains open.
Report #67: WQG Evaluation	Total mercury and methylmercury above WQG.	Report #62: methylmercury and total mercury measured at station SP-E-OUT on April 24 (0.000264 and 0.00851 µg/L, respectively) were 2.6 times greater than the calculated WQG. Report #65: methylmercury (0.000149 and 0.000158 µg/L) and total mercury (0.00821 and 0.00825 µg/L) measured in two replicate samples at station SP-W-OUT on May 19 were 1.5 to 1.6 times greater than the WQGs. Report#66: methylmercury results for marine receiving environment samples collected at 2 m below surface and at 2 m above the seafloor at IDZ-W1 on May 7 were retested by the laboratory and the original results (0.000101 and 0.000092 ug/L, respectively) were determined to be incorrect. Revised results are <0.000020 and 0.000030 ug/L, respectively, below the WQG (0.0001 µg/L). Report #67: Methylmercury and total mercury measured at non-contact water diversion ditch station OUT-02 on May 19 (0.000213 and 0.00319 µg/L, respectively) were above the WQGs and similar to or below maximum values (0.000156 and <0.010 µg/L, respectively) for diversion ditch samples, suggesting there may be background influence. The sample has been retested and the methylmercury concentration was confirmed. A review of site activities at the time of sampling indicates it is unlikely there was project influence along the ditch line. Report #71: Methylmercury ranged from 0.000505 to 0.00152 µg/L in samples collected June 23 to July 2 from contact water stations SP-E-IN, WWTP-E-IN, WWTP-OUT, SP-W-IN, 2700GPM-IN and 2700GPM-OUT, above the WQG (0.0001 µg/L). These waters are mostly recirculated within the sedimentation ponds, therefore similar concentrations at these stations are expected. In general, there has been an increased incidence of total mercury and methylmercury concentrations above the WQGs in site contact waters since late April. During this time the site conditions have been generally drier than through the winter months. Possible project related sources have been evaluated, and a point source of mercury has not been identified. There have been instances of the lab reporting falsely elevated receiving environment results (Report #66, May 7 marine water samples, see above entry) attributed to lab-based contamination. Baseline monitoring of diversion ditch water suggests there may be non-project influences on the concentration of mercury in diversion ditch waters. As of Weekly Report #72, receiving environment samples have met WQGs since May 19. However, contact water samples continue to show elevated concentrations of methylmercury. Recent upstream contact water monitoring data indicate methylmercury is elevated in the hydrovac sump with excess water from this sump directed to the East WWTP. Further investigation is underway. This item remains open.
Report #68: Pending Data	Analytical results not reported.	Dioxins and furans results for contact water and treated water samples collected June 9 and 12 are discussed in Sections 3.3 and 3.4 of Report #72. This item is closed.
Report #69: Pending Data	Analytical results not reported.	Methylmercury results for marine water receiving environment samples collected June 17 are discussed in Section 3.7 of Report #72. Dioxins and furans results for contact water and treated water samples collected June 19 are discussed in Sections 3.3 and 3.4 of Report #72. Acute toxicity results for clarified effluent from the E500GPM and W500GPM TSS settling systems are discussed in Sections 3.3 and 3.4, respectively, of Report #72. Toxicity samples were collected from the E500GPM and W500GPM stations as proxies for the SP-E-OUT and SP-W-OUT stations, respectively, to meet the quarterly toxicity monitoring requirement for sedimentation pond effluent. Dioxin and furans results for freshwater and marine water receiving environment samples collected June 17 were not included with Report #72. The pending results will be included in future weekly reports when available. This item remains open.
Report #70: Pending Data	Analytical results not reported.	Dioxins and furans results for treated water samples collected June 23 were not included with Report #72. The pending results will be included in future weekly reports when available. This item remains open.
Report #71: Pending Data	Analytical results not reported.	Dioxins and furans results for contact water and treated water samples collected June 29 were not included with Report #72. The pending results will be included in future weekly reports when available. This item remains open.

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

5. Closure

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

Regards,

LORAX ENVIRONMENTAL SERVICES LTD.

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Appendix A: Figures and Site Images

LEGEND

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

DATE SAVED:	Jul 18, 2025
DRAWN BY:	DM
REVIEWED:	PM
VERSION:	1

Coordinate System: *NAD 1983 UTM Zone 10N*
Projection: *Transverse Mercator*
Datum: *North American 1983*
Units: *Metre*

1:6,000

0 100 200 Metres

CLIENT: Woodfibre LNG

LORAX ENVIRONMENTAL

PROJECT:

Woodfibre LNG Project Construction Phase

TITLE: Water Management Facilities and Established PE-111578 Monitoring Stations (July 12, 2025)

PROJECT #: A633-7

FIGURE: 1

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

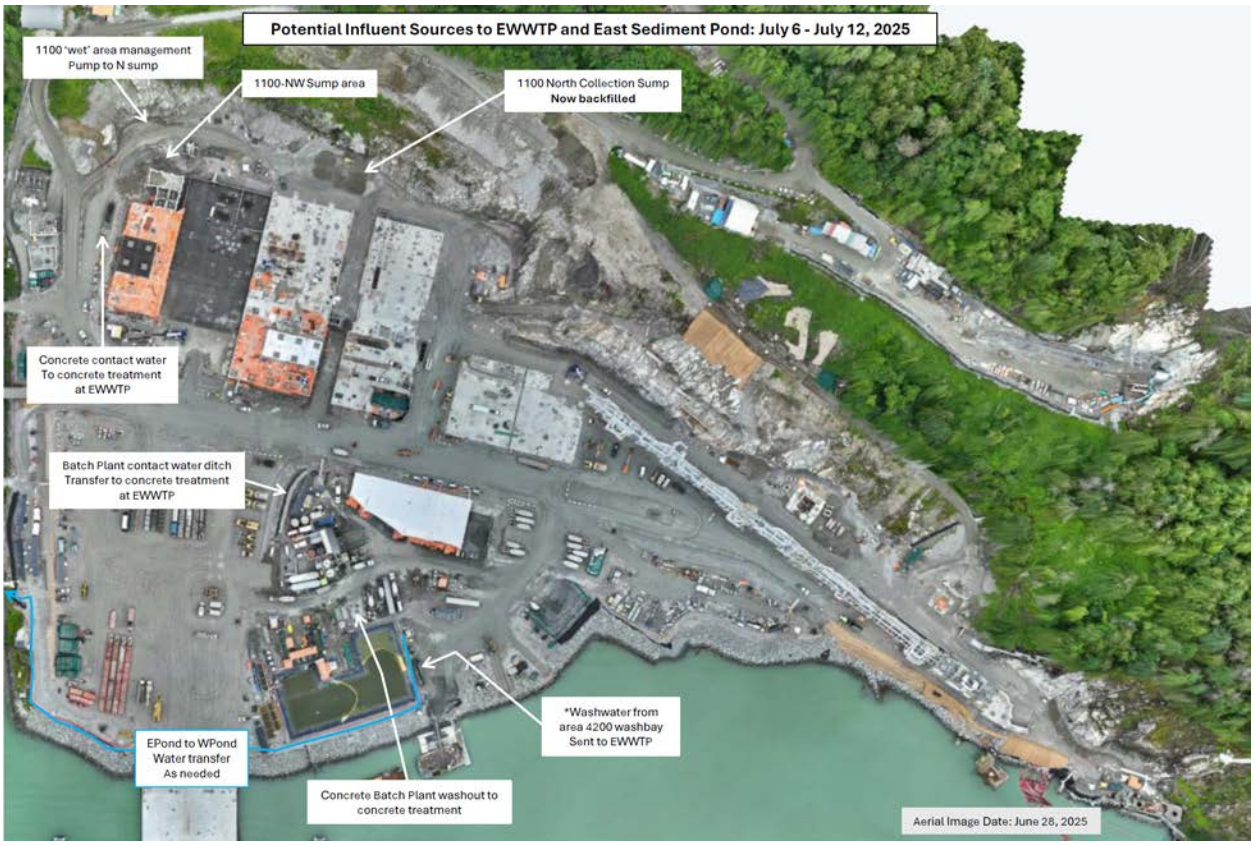

Figure 2: East Catchment contact water management facilities (July 6 – July 12).

Figure 3: West Catchment contact water management facilities (July 6 – July 12).

Figure 4: Aerial view of the East Sedimentation Pond (July 10, 2025). The East WWTP is located on the left side of the pond.

Figure 5: Aerial view of the West Sedimentation Pond (July 10, 2025). The 2700GPM TSS settling system is located to the left of the pond. Algal mats are visible in the centre and final cells of the pond.

Appendix B: East Catchment Monitoring Results

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

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station SP-E-IN Influent SP-E-IN VA25B6907-003 2025-07-10 9:48	Station WWTP-E-IN Influent WWTP-E-IN VA25B6907-001 2025-07-10 9:25
		Long Term	Short Term			
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	7.2	7.1
Specific Conductivity - Field	µS/cm	-	-	-	1799	1795
Temperature - Field	°C	-	-	-	21.7	21.0
Salinity - Field	ppt	-	-	-	0.91	0.91
Turbidity - Field	NTU	-	-	-	7.06	10.18
TSS	mg/L	-	-	25 or 75 [6]	5.7	9.1
Dissolved Oxygen - Field	mg/L	≥8	-	-	8.26	8.18
Anions and Nutrients						
Sulphate	mg/L	-	-	-	599	607
Chloride	mg/L	-	-	-	26.3	26.4
Fluoride	mg/L	-	1.5	-	0.304	0.301
Ammonia (N-NH_3)	mg/L	5.9-9.4 [3]	40-62 [3]	-	0.0149	0.0052
Nitrite (N-NO_2)	mg/L	-	-	-	<0.0100	<0.0100
Nitrate (N-NO_3)	mg/L	3.7	339	-	<0.0500	<0.0500
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	0.312	0.410
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00164	0.00161
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.0032	0.00314
Barium, total (T-Ba)	mg/L	-	-	-	0.015	0.0173
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000040	<0.000040
Boron, total (T-B)	mg/L	1.2	-	-	0.173	0.175
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000300	<0.0000350
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00100	<0.00100
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00020	<0.00020
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0016	0.00119
Iron, total (T-Fe)	mg/L	-	-	-	0.173	0.288
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000255	0.000394
Manganese, total (T-Mn)	mg/L	-	-	-	0.0408	0.0469
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000971	0.0000113
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.151	0.147
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000643	0.000606
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000020	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000073	0.000073
Uranium, total (T-U)	mg/L	-	-	-	0.0267	0.0226
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00281	0.00310
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0060	0.0093
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050	<0.00050
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000275	<0.0000300
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00081	0.00093
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.020	0.031
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000100	<0.000100
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0356	0.0348
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.394	0.384
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00246	0.00262
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0020	0.0105
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	-	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	<0.000010
Quinoline	mg/L	-	-	-	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceed the PE-111578 East Sedimentation Pond Discharge Limit.
The East Catchment did not discharge during the monitoring period (July 6 – July 12).
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions.

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

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station WWTP-E-OUT
					Effluent
					WWTP-E-OUT
					VA25B6907-002
		Long Term	Short Term		2025-07-10 9:41
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	7.5
Specific Conductivity - Field	µS/cm	-	-	-	1783
Temperature - Field	°C	-	-	-	21.5
Salinity - Field	ppt	-	-	-	0.91
Turbidity - Field	NTU	-	-	-	3.09
TSS	mg/L	-	-	25 or 75 [6]	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	***7.15***
Anions and Nutrients					
Sulphate	mg/L	-	-	-	596
Chloride	mg/L	-	-	-	26.4
Fluoride	mg/L	-	1.5	-	0.333
Ammonia (N-NH_3)	mg/L	3.7 [3]	25 [3]	-	0.0392
Nitrite (N-NO_2)	mg/L	-	-	-	<0.0100
Nitrate (N-NO_3)	mg/L	3.7	339	-	<0.0500
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.132
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00164
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00288
Barium, total (T-Ba)	mg/L	-	-	-	0.0128
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000040
Boron, total (T-B)	mg/L	1.2	-	-	0.174
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000250
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00100
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00020
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00185
Iron, total (T-Fe)	mg/L	-	-	-	0.037
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000199
Manganese, total (T-Mn)	mg/L	-	-	-	0.0325
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	0.00000805
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.146
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.0006
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000079
Uranium, total (T-U)	mg/L	-	-	-	0.0311
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00228
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0060
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000250
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00076
Iron, dissolved (D-Fe)	mg/L	-	-	-	<0.020
Lead, dissolved (D-Pb)	mg/L	-	-	-	<0.000100
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0314
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.393
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00222
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0020
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	<0.000010
Acridine	mg/L	-	-	-	<0.000010
Anthracene	mg/L	-	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020
Pyrene	mg/L	-	-	-	<0.000010
Quinoline	mg/L	-	-	-	<0.000050
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.11	-	-	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050
Styrene	mg/L	-	-	-	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceeded the PE-111578 East Sedimentation Pond Discharge Limit.
The East Catchment did not discharge during the monitoring period (July 6 – July 12).
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions.

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

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-E-IN	Influent	SP-E-IN	VA25B3617-001	2025-06-09	0.135	1.31
SP-E-IN	Influent	SP-E-IN	VA25B4823-001	2025-06-19	0.000636	1.15
WWTP-E-IN	Influent	WWTP-E-IN	VA25B3617-002	2025-06-09	0.00733	1.09
WWTP-E-IN	Influent	WWTP-E-IN	VA25B4823-006	2025-06-19	0.0209	1.03
Effluent						
WWTP-E-OUT	Effluent	WWTP-E-OUT	VA25B3617-003	2025-06-09	0	0.979
WWTP-E-OUT	Effluent	WWTP-E-OUT	VA25B4823-007	2025-06-19	0	0.887
E500GPM-OUT	Effluent	E500GPM-OUT	VA25B4823-002	2025-06-19	0.00171	1.05
E500GPM-OUT	Effluent	E500GPM-OUT-Dup	VA25B4823-004	2025-06-19	0.00158	1.18

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

Table B-4: East Catchment Field Measurements Collected During the Monitoring Period (July 6 – July 12).

Parameter			**Temp.**	**Dissolved Oxygen (DO)**	**Salinity**	**Turbidity**	**Estimated TSS [3]**	**pH**	**Specific Conductivity**	**Visibility of Sheen**
Unit			**°C**	**mg/L**	**ppt**	**NTU**	**mg/L**	**s.u.**	**µS/cm**	
PE-111578 Discharge Limit			-	-	-	-	25 or 75 [6]	5.5 - 9.0	-	-
Lowest Applicable Guideline [1]			-	≥8	-	-	- [2]	- [2]	-	-
Station ID	**Water Type**	**Date**								
Influent [4]										
SP-E-IN	Influent	2025-07-06 11:42	23.3	9.53	1.24	7.04	8.3	6.9	2415	No
SP-E-IN	Influent	2025-07-09 13:38	22.1	***7.68***	0.92	23.92	20.8	7.1	1817	No
SP-E-IN	Influent	2025-07-10 9:48	21.7	8.26	0.91	7.06	8.3	7.2	1799	No
SP-E-IN	Influent	2025-07-11 13:47	24.0	9.10	0.96	4.73	6.5	7.9	1885	No
SP-E-IN	Influent	2025-07-12 14:37	25.3	8.97	0.92	8.33	9.2	7.1	1816	No
WWTP-E-IN	Influent	2025-07-09 13:32	22.9	***7.78***	0.93	31.02	26.1	7.2	1832	No
WWTP-E-IN	Influent	2025-07-10 9:25	21.0	8.18	0.91	10.18	10.6	7.1	1795	No
WWTP-E-IN	Influent	2025-07-11 13:53	25.2	9.42	0.96	6.81	8.1	7.9	1893	No
WWTP-E-IN	Influent	2025-07-12 14:34	26.0	9.55	0.95	6.58	7.9	7.3	1874	No
Effluent [5]										
WWTP-E-OUT	Effluent	2025-07-09 13:34	22.1	***6.96*** [7]	0.92	2.92	5.2	6.6	1804	No
WWTP-E-OUT	Effluent	2025-07-10 9:41	21.5	***7.15*** [7]	0.91	3.09	5.3	7.5	1783	No
WWTP-E-OUT	Effluent	2025-07-11 13:55	23.1	***7.52*** [7]	0.96	3.69	5.8	7.7	1884	No
WWTP-E-OUT	Effluent	2025-07-12 14:32	23.6	***6.12*** [7]	0.88	7.06	8.3	6.6	1732	No

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceed the PE-111578 East Sedimentation Pond Discharge Limit.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.
[4] Daily field measurements for station SP-E-IN were collected from cell 1 of the East Sedimentation Pond. Daily field parameters for SP-E-IN were not collected on July 7 and 8 as the East Sedimentation Pond was drained for cleaning of the pond liner. Daily field parameters for WWTP-E-IN were not collected on July 6, 7, and 8 as the East WWTP was not active at the time of monitoring.
[5] There was no discharge at the authorized discharge location (SP-E-OUT) during the monitoring period (July 6 – July 12), therefore daily field measurements for SP-E-OUT were not collected on those days. Daily field parameters for WWTP-E-OUT were not collected on July 6, 7, and 8 as the East WWTP was not active at the time of monitoring.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions.
[7] East WWTP treated effluent is directed to the East Sedimentation Pond and there was no discharge from the pond to Howe Sound during the monitoring period (July 6 – July 12).

Table B-5: East Catchment Daily Discharge Volumes for the Monitoring Period (July 6 – July 12).

	East Sedimentation Pond Effluent	**Transfer to West Sedimentation Pond**	**East WWTP Treated Effluent (Station WWTP-E-OUT)[2]**	**Discharge to Howe Sound (Station SP-E-OUT)**
Unit	**m^3**	**m^3**	**m^3**	**m^3**
PE-111578 Discharge Limit	-	-	1100	- [1]
Date				
2025-07-06	0	0	144	0
2025-07-07	0	982	0	0
2025-07-08	0	0	0	0
2025-07-09	0	0	701	0
2025-07-10	0	0	691	0
2025-07-11	0	0	697	0
2025-07-12	0	209	716	0

Notes:
Results in orange text exceed the PE-111578 East Sedimentation Pond Discharge Limit.
[1] As noted in PE-111578 Condition 2.1.4, the annual average authorized discharge rate from the East Sedimentation Pond to Howe Sound was set to 650 m^3/day for the purpose of calculating discharge fees as required by the Permit and Approval Fees and Charges Regulation. Therefore, the annual average authorized discharge rate is not evaluated as a discharge limit.
[2] East WWTP treated effluent was recirculated to the East Sedimentation Pond.

Appendix C: West Catchment Monitoring Results

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

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station SP-W-IN Influent SP-W-IN VA25B6438-001 2025-07-07 11:03	Station 2700GPM-IN Influent 2700GPM-IN VA25B6438-002 2025-07-07 15:10
		Long Term	Short Term			
General Parameters						
pH - Field	pH units	- [2]	-	5.5 - 9.0	7.9	8.0
Specific Conductivity - Field	µS/cm	-	-	-	2116	2152
Temperature - Field	°C	-	-	-	23.6	25.7
Salinity - Field	ppt	-	-	-	1.08	1.10
Turbidity - Field	NTU	-	-	-	5.82	4.88
TSS	mg/L	-	-	25 or 75 [6]	6.1	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	***7.01***	8.51
Anions and Nutrients						
Sulphate	mg/L	-	-	-	714	714
Chloride	mg/L	-	-	-	24.1	24.2
Fluoride	mg/L	-	1.5	-	0.239	0.271
Ammonia (N-NH_3)	mg/L	0.97-1.5 [3]	6.4-10 [3]	-	0.0195	<0.0050
Nitrite (N-NO_2)	mg/L	-	-	-	<0.0100	<0.0100
Nitrate (N-NO_3)	mg/L	3.7	339	-	<0.0500	<0.0500
Total Metals						
Aluminum, total (T-Al)	mg/L	-	-	-	0.270	0.198
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00138	0.00136
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00344	0.00341
Barium, total (T-Ba)	mg/L	-	-	-	0.0126	0.0135
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000040	<0.000040
Boron, total (T-B)	mg/L	1.2	-	-	0.078	0.083
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000800	<0.0000800
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00100	<0.00100
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00020	<0.00020
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.00120	0.00174
Iron, total (T-Fe)	mg/L	-	-	-	0.230	0.158
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000602	0.000498
Manganese, total (T-Mn)	mg/L	-	-	-	0.0234	0.0155
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.00000444***	***0.00000491***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.150	0.148
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000667	0.000701
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000020	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000056	0.000045
Uranium, total (T-U)	mg/L	-	-	-	0.0144	0.0146
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00345	0.00334
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0060	<0.0060
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050	<0.00050
Dissolved Metals						
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000700	0.00007
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.00058	0.00319
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.036	0.025
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000104	0.000504
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0177	0.00985
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.314	0.326
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00300	0.00292
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0020	0.0038
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	mg/L	0.006	-	-	<0.000010	<0.000010
Acridine	mg/L	-	-	-	<0.000010	<0.000010
Anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020	<0.000020
Pyrene	mg/L	-	-	-	<0.000010	<0.000010
Quinoline	mg/L	-	-	-	<0.000050	<0.000050
Volatile Organic Compounds (VOCs)						
Benzene	mg/L	0.11	-	-	<0.00050	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050	<0.00050
Styrene	mg/L	-	-	-	<0.00050	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceed the PE-111578 West Sedimentation Pond Discharge Limit.
The West Catchment did not discharge during the monitoring period (July 6 – July 12).
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions.

Table C-2: West Catchment Contact Water Effluent Analytical Results Received at the Time of Reporting.

Parameter	Unit	Lowest Applicable Guideline [1]		PE-111578 Discharge Limit	Station 2700GPM-OUT Effluent 2700GPM-OUT VA25B6438-005 2025-07-07 13:40
		Long Term	Short Term		
General Parameters					
pH - Field	pH units	- [2]	-	5.5 - 9.0	7.9
Specific Conductivity - Field	µS/cm	-	-	-	2139
Temperature - Field	°C	-	-	-	25.3
Salinity - Field	ppt	-	-	-	1.09
Turbidity - Field	NTU	-	-	-	2.47
TSS	mg/L	-	-	25 or 75 [6]	<3.0
Dissolved Oxygen - Field	mg/L	≥8	-	-	***7.69***
Anions and Nutrients					
Sulphate	mg/L	-	-	-	716
Chloride	mg/L	-	-	-	23.9
Fluoride	mg/L	-	1.5	-	0.259
Ammonia (N-NH_3)	mg/L	1.5 [3]	10 [3]	-	0.0301
Nitrite (N-NO_2)	mg/L	-	-	-	<0.0100
Nitrate (N-NO_3)	mg/L	3.7	339	-	<0.0500
Total Metals					
Aluminum, total (T-Al)	mg/L	-	-	-	0.0703
Antimony, total (T-Sb)	mg/L	-	0.27 [4]	-	0.00136
Arsenic, total (T-As)	mg/L	0.0125	0.0125	-	0.00322
Barium, total (T-Ba)	mg/L	-	-	-	0.00859
Beryllium, total (T-Be)	mg/L	0.1	-	-	<0.000040
Boron, total (T-B)	mg/L	1.2	-	-	0.073
Cadmium, total (T-Cd)	mg/L	0.00012	-	-	<0.0000750
Chromium, total (T-Cr)	mg/L	-	-	-	<0.00100
Cobalt, total (T-Co)	mg/L	-	-	-	<0.00020
Copper, total (T-Cu)	mg/L	- [2]	- [2]	0.0043	0.0013
Iron, total (T-Fe)	mg/L	-	-	-	0.099
Lead, total (T-Pb)	mg/L	- [2]	- [2]	0.0035	0.000271
Manganese, total (T-Mn)	mg/L	-	-	-	0.0197
Mercury, total (T-Hg)	mg/L	0.000016 [5]	-	-	***0.00000284***
Molybdenum, total (T-Mo)	mg/L	-	-	-	0.151
Nickel, total (T-Ni)	mg/L	0.0083	-	-	<0.00100
Selenium, total (T-Se)	mg/L	0.002	-	-	0.000614
Silver, total (T-Ag)	mg/L	0.0005	0.0037	-	<0.000020
Thallium, total (T-Tl)	mg/L	-	-	-	0.000057
Uranium, total (T-U)	mg/L	-	-	-	0.0136
Vanadium, total (T-V)	mg/L	- [2]	-	0.0081	0.00312
Zinc, total (T-Zn)	mg/L	- [2]	- [2]	0.0133	<0.0060
Hexavalent Chromium, total	mg/L	0.0015	-	-	<0.00050
Dissolved Metals					
Cadmium, dissolved (D-Cd)	mg/L	-	-	-	<0.0000650
Copper, dissolved (D-Cu)	mg/L	-	-	-	0.0007
Iron, dissolved (D-Fe)	mg/L	-	-	-	0.046
Lead, dissolved (D-Pb)	mg/L	-	-	-	0.000139
Manganese, dissolved (D-Mn)	mg/L	-	-	-	0.0116
Nickel, dissolved (D-Ni)	mg/L	-	-	-	<0.00100
Strontium, dissolved (D-Sr)	mg/L	-	-	-	0.309
Vanadium, dissolved (D-V)	mg/L	-	-	-	0.00296
Zinc, dissolved (D-Zn)	mg/L	-	-	-	<0.0020
Polycyclic Aromatic Hydrocarbons (PAHs)					
Acenaphthene	mg/L	0.006	-	-	<0.000010
Acridine	mg/L	-	-	-	<0.000010
Anthracene	mg/L	-	-	-	<0.000010
Benz(a)anthracene	mg/L	-	-	-	<0.000010
Benzo(a)pyrene	mg/L	0.00001	-	-	<0.0000050
Chrysene	mg/L	0.0001	-	-	<0.000010
Fluoranthene	mg/L	-	-	-	<0.000010
Fluorene	mg/L	0.012	-	-	<0.000010
1-methylnaphthalene	mg/L	0.001	-	-	<0.000010
2-methylnaphthalene	mg/L	0.001	-	-	<0.000010
Naphthalene	mg/L	0.001	-	-	<0.000050
Phenanthrene	mg/L	-	-	-	<0.000020
Pyrene	mg/L	-	-	-	<0.000010
Quinoline	mg/L	-	-	-	<0.000050
Volatile Organic Compounds (VOCs)					
Benzene	mg/L	0.11	-	-	<0.00050
Ethylbenzene	mg/L	0.25	-	-	<0.00050
Methyl-tert-butyl-ether	mg/L	5	0.44	-	<0.00050
Styrene	mg/L	-	-	-	<0.00050
Toluene	mg/L	0.215	-	-	<0.00040
Total Xylenes	mg/L	-	-	-	<0.00050
Chlorobenzene	mg/L	0.025	-	-	<0.00050
1,2-Dichlorobenzene	mg/L	0.042	-	-	<0.00050

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceed the PE-111578 West Sedimentation Pond Discharge Limit.
The West Catchment did not discharge during the monitoring period (July 6 – July 12).
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] The BC WQG for total ammonia is salinity, pH and temperature dependent; see Tables 27E and 27F in BC WQG guidance document.
[4] The working BC WQG for trivalent antimony [SB(III)] is 0.27 mg/L and is applied to total antimony results.
[5] When MeHg ≤0.5% of total Hg, the BC WQG = 0.00002 mg/L. The Canadian WQG = 0.000016 mg/L.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions.

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

Parameter					**Total Methylmercury**	**Total Mercury**
Unit					**µg/L**	**µg/L**
Lowest Applicable Guideline[1]					0.0001 [2]	0.00042-0.00054 [3,4]
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-W-IN	Influent	SP-W-IN	VA25B6438-001	2025-07-07	***0.00106***	***0.00444***
2700GPM-IN	Influent	2700GPM-IN	VA25B6438-002	2025-07-07	***0.00117***	***0.00491***
Effluent						
2700GPM-OUT	Effluent	2700GPM-OUT	VA25B6438-003	2025-07-07	***0.000527*** [5]	***0.00284*** [5]

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine aquatic life.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] From BC Ambient Water Quality Guidelines for Mercury Overview Report. The methylmercury concentration threshold of 0.0001 µg/L (0.1 ng/L) is indicated as a WQG for the protection of wildlife and is set at a concentration that protects fish from mercury bioaccumulation to a level that may harm wildlife that consume fish.
[3] CCME guideline for total mercury = 0.016 µg/L.
[4] When MeHg ≤ 0.5% of total Hg, BC WQG = 0.02 µg/L. When MeHg > 0.5% of total Hg, BC WQG = 0.0001/(MeHg/Total Hg). Detection limit values are used to calculate the WQG for result reported as not detected.
[5] 2700GPM clarified effluent was directed to the West Sedimentation Pond and there was no discharge from the pond to Howe Sound on July 7.
Non-detect results are screened using the detection limit value.

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

Parameter					**Lower Bound PCDD/F TEQ**	**Upper Bound PCDD/F TEQ**
Unit					**pg/L**	**pg/L**
Station	**Water Type**	**Sample ID**	**Lab ID**	**Sampling Date**		
Influent						
SP-W-IN	Influent	SP-W-IN	VA25B4068-001	2025-06-12	0.815	1.98
SP-W-IN	Influent	SP-W-IN	VA25B4823-008	2025-06-19	0.0393	1.14
Effluent						
W500GPM-OUT	Effluent	W500GPM-OUT	VA25B4068-002	2025-06-12	0.00498	1.21
W500GPM-OUT	Effluent	W500GPM-OUT	VA25B4823-009	2025-06-19	0	1.33

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

Table C-5: West Catchment Field Measurements Collected During the Monitoring Period (July 6 – July 12).

Parameter			**Temperature**	**Dissolved Oxygen (DO)**	**Salinity**	**Turbidity**	**Estimated TSS [3]**	**pH**	**Specific Conductivity**	**Visibility of Sheen**
Unit			**°C**	**mg/L**	**ppt**	**NTU**	**mg/L**	**s.u.**	**µS/cm**	
PE-111578 Discharge Limit			-	-	-	-	25 or 75 [6]	5.5 - 9.0	-	-
Lowest Applicable Guideline [1]			-	≥8	-	-	- [2]	- [2]	-	-
Station ID	**Water Type**	**Date**								
Influent [4]										
SP-W-IN	Influent	2025-07-06 11:59	23.5	8.89	1.15	4.67	6.5	7.6	2245	No
SP-W-IN	Influent	2025-07-07 11:03	23.6	***7.01***	1.08	5.82	7.3	7.9	2116	No
SP-W-IN	Influent	2025-07-08 13:30	24.6	***7.46***	1.05	3.27	5.4	8.0	2052	No
SP-W-IN	Influent	2025-07-09 13:48	23.5	8.85	0.98	6.78	8.1	8.1	1935	No
SP-W-IN	Influent	2025-07-10 10:32	22.6	8.26	0.99	2.13	4.6	8.1	1942	No
SP-W-IN	Influent	2025-07-11 13:11	25.0	8.44	1.03	2.44	4.8	8.2	2026	No
SP-W-IN	Influent	2025-07-12 15:03	27.5	8.23	1.04	9.89	10.4	8.1	2155	No
2700GPM-IN	Influent	2025-07-06 11:35	23.3	8.43	0.98	2.28	4.7	8.1	1930	No
2700GPM-IN	Influent	2025-07-07 15:10	25.7	8.51	1.10	4.88	6.6	8.0	2152	No
2700GPM-IN	Influent	2025-07-08 13:39	24.5	8.18	1.03	3.59	5.7	8.1	2020	No
2700GPM-IN	Influent	2025-07-09 11:45	22.1	8.67	0.97	4.86	6.6	8.2	1914	No
2700GPM-IN	Influent	2025-07-10 10:15	22.3	***7.96***	0.98	2.91	5.2	8.1	1928	No
2700GPM-IN	Influent	2025-07-11 13:17	25.4	8.67	1.03	3.16	5.4	8.3	2035	No
2700GPM-IN	Influent	2025-07-12 0:00	28.2	9.03	1.03	3.76	5.8	8.4	2031	No
Effluent [5]										
2700GPM-OUT	Effluent	2025-07-06 10:44	22.2	8.20	0.96	1.86	4.4	8.1	1891	No
2700GPM-OUT	Effluent	2025-07-07 13:40	25.3	***7.69*** [7]	1.09	2.47	4.8	7.9	2139	No
2700GPM-OUT	Effluent	2025-07-08 13:55	24.8	***7.77*** [7]	1.04	2.55	4.9	8.0	2038	No
2700GPM-OUT	Effluent	2025-07-09 12:59	22.8	8.80	0.98	2.07	4.5	8.1	1929	No
2700GPM-OUT	Effluent	2025-07-10 10:25	22.3	8.67	0.99	2.68	5.0	8.1	1935	No
2700GPM-OUT	Effluent	2025-07-11 13:29	24.7	8.41	1.03	3.48	5.6	8.2	2025	No
2700GPM-OUT	Effluent	2025-07-12 0:00	27.2	***5.96*** [7]	1.04	1.81	4.3	8.0	2051	No

Notes:
Results ***underlined in bold italics*** exceed the applicable long-term water quality guideline for the protection of marine water aquatic life.
Shaded results exceed the applicable short-term water quality guideline for the protection of marine water aquatic life.
Results in orange text exceed the PE-111578 West Sedimentation Pond Discharge Limit.
[1] The lowest applicable guidelines from approved or working BC WQGs, Canadian (CCME) WQGs and Federal WQGs.
[2] The WQG was not evaluated for parameters with discharge limits.
[3] TSS concentration is estimated from field turbidity measurements using a site-specific relationship TSS = 0.7458 * [turbidity as NTU] + 3.
[4] Daily field measurements for station SP-W-IN were collected from cell 1 of the West Sedimentation Pond.
[5] There was no discharge at the authorized discharge location (SP-W-OUT) during the monitoring period (July 6 – July 12), therefore daily field measurements for SP-W-OUT were not collected on those days.
[6] The PE-111578 discharge limit for TSS is 25 mg/L under dry conditions and 75 mg/L for each day of Wet Conditions.
[7] 2700GPM clarified effluent is directed to the West Sedimentation Pond and there was no discharge from the pond to Howe Sound during the monitoring period (July 6 – July 12).

Table C-6: West Catchment Daily Discharge Volumes for the Monitoring Period (July 6 – July 12).

	West Sedimentation Pond Effluent	West TSS Settling System (2700GPM) Clarified Effluent (Station 2700GPM-OUT)[3]	Water Reclaimed for Construction Purposes (Station 2700GPM-OUT)	West WWTP Treated Effluent [1] (Station WWTP-W-OUT)	Discharge to Howe Sound (Station SP-W-OUT)
Unit	**m^3**		**m^3**	**m^3**	**m^3**
PE-111578 Discharge Limit	-		-	120	- [2]
Date					
2025-07-06	0	1,733	0	0	0
2025-07-07	0	3,383	0	0	0
2025-07-08	0	3,027	0	0	0
2025-07-09	0	2,406	0	0	0
2025-07-10	0	3,007	0	0	0
2025-07-11	0	3,001	0	0	0
2025-07-12	0	1,905	0	0	0

Notes:
Results in orange text exceed the PE-111578 West Sedimentation Pond Discharge Limit.
[1] The West WWTP is not being operated, therefore discharges are not expected from this facility.
[2] As noted in PE-111578 Condition 2.2.4, the annual average authorized discharge rate from the West Sedimentation Pond to Howe Sound was set to 310 m^3/day for the purpose of calculating discharge fees as required by the Permit and Approval Fees and Charges Regulation. Therefore, the annual average authorized discharge rate is not evaluated as a discharge limit.
[3] Commissioning and pilot testing of a larger TSS settling system (2700GPM) continued during the monitoring period (July 6 – July 12). Clarified effluent from the 2700GPM TSS settling system is recirculated to the West Sedimentation Pond or reclaimed for construction purposes based on operational considerations.

Appendix D: Marine Water Receiving Environment Results

Table D-1: Marine Water Methylmercury and Corresponding Total Mercury Results Received at the Time of Reporting.

Parameter					**Total Methylmercury**	**Total Mercury**
Unit					**µg/L**	**µg/L**
Lowest Applicable Guideline[1]					0.0001 [2]	0.015-0.020 [3,4]
Station	**Position in Water Column**	**Sample ID**	**Lab ID**	**Sampling Date**		
Station IDZ-W1						
IDZ-W1	0.5 m Below Surface	IDZ-W1-0.5	VA25B4487-001	2025-06-17	0.000022	<0.0050
IDZ-W1	2 m Below Surface	IDZ-W1-2m	VA25B4487-002	2025-06-17	<0.000020	<0.0050
IDZ-W1	2 m Above Seafloor	IDZ-W1-SF	VA25B4487-003	2025-06-17	0.000034	<0.0050
Station IDZ-W2						
IDZ-W2	0.5 m Below Surface	IDZ-W2-0.5	VA25B4487-004	2025-06-17	0.000023	<0.0050
IDZ-W2	2 m Below Surface	IDZ-W2-2m	VA25B4487-005	2025-06-17	<0.000020	<0.0050
IDZ-W2	2 m Above Seafloor	IDZ-W2-SF	VA25B4487-006	2025-06-17	0.000023	<0.0050
Reference Station WQR2						
WQR2	0.5 m Below Surface	WQR2-0.5	VA25B4487-007	2025-06-17	0.000023	<0.0050
WQR2	2 m Below Surface	WQR2-2m	VA25B4487-008	2025-06-17	<0.000020	<0.0050
WQR2	2 m Above Seafloor	WQR2-SF	VA25B4487-009	2025-06-17	<0.000020	<0.0050

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