



## TECHNICAL MEMORANDUM

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**To:** Ashleigh Crompton, Mike Champion, Jackie Boruch, Ryan Schucroft, Jamie Maxwell (Woodfibre LNG)      **Date:** 12 April 2024

**From:** Patrick Mueller and Holly Pelletier (Lorax)      **Project #:** A633-7

**Subject:** PE-111578 Weekly Discharge and Compliance Report #8 for March 31 – April 6

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Waste Discharge Authorization Effluent Permit PE-111578 was issued by the British Columbia Energy Regulator (BCER) to Woodfibre LNG on February 9, 2024. The permit specifies monitoring and reporting requirements that are required to be met by Woodfibre LNG during construction of the LNG Export Facility. Reporting is required on a weekly basis.

This technical memorandum (Report #8) summarizes the results of PE-111578 discharge and compliance monitoring conducted March 31 – April 6. Figures referenced in the report discussion are included at the end of this report. Report #8 has been prepared to meet the reporting requirements specified in Condition 4.2 of WDA Effluent Permit 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](mailto: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.”

### **1. Current Conditions**

The Construction Phase of the Woodfibre LNG Export Facility commenced in October 2023. Early stage civil works are ongoing such as site grading, levelling, and sedimentation pond and wastewater treatment plant (WWTP) construction. Shoring works along the shoreline and foreshore areas were initiated in December 2023, and in early 2024 construction of water management infrastructure was initiated and has continued through the March 31 – April 6 monitoring period. The water management facilities described in PE-111578 that are completed or that were under construction during the reporting period are shown in Figure 1.

During the reporting period (March 31 – April 6) pilot testing of the East WWTP was ongoing and processed a total 1,928 m<sup>3</sup> of contact water. Contaminated contact water stored on-site was directed to the East WWTP for treatment, and the treated effluent was discharged to the East Sedimentation Pond. The sedimentation pond waters were subsequently used as WWTP influent as the testing progressed. The East Sedimentation Pond did not discharge during the reporting period.

Construction of the remaining East Catchment conveyance ditches will commence following site preparation activities (*e.g.*, site grading, bedrock excavation) along the ditch lines. The permanent East Sedimentation Pond outfall structures are planned to be completed late May. In the interim period, a temporary discharge system (*i.e.*, pump, hosing and diffusor) may be used to convey East Sedimentation Pond effluent to the authorized discharge location if it is necessary to discharge excess water, and if the water quality meets the requirements set out in PE-111578.

Construction of the West Sedimentation Pond continued March 31 – April 6 (Figure 3). The liner and rock weir installations were completed. Completion of the sedimentation pond is anticipated for mid-April. Commissioning of the West WWTP is planned to follow shortly thereafter. There were no discharges from the West Sedimentation Pond to the receiving environment during the reporting period.

The completed non-contact water diversion ditch west of Mill Creek (Figure 1) was flushed on April 6 to remove fine sediments associated with ditch construction that are typically suspended during the initial flows of water through the ditch. The flush water was contained and managed on-site as non-contaminated contact water. After flushing was completed and the flush water was removed, the non-contact water diversion ditch was commissioned for use beginning April 7. The diversion ditch discharges to Mill Creek at OUT-06 (Figure 1). Site staff report that clear water was flowing in the diversion ditch on April 9 and this indicates flushing was effective at removing fine sediments from the ditch.

## **2. Monitoring Summary**

The authorized works were under construction during the March 31 – April 6 monitoring period. Compliance monitoring stations will be progressively established as water management infrastructure is completed. The receiving environment stations for creek water and Howe Sound reference locations have been established (Figure 1). The WDA monitoring program for established receiving environment and contact water stations will be conducted by Roe Environmental beginning in April, at the frequency specified in PE-111578.

## **3. Water Quality Results**

### **3.1 Overview**

Field measurements and analytical samples for the PE-111578 monitoring stations were not collected during the March 31 – April 6 monitoring period. Outstanding methyl mercury analytical

results for the February 15 sample at Woodfibre Creek (station SW-01) and from the March 19 freshwater samples (stations SW-01, SW-02, SW-03, SW-04 and SW-07) were available at the time of reporting and are included in this report.

**Table 1: Summary of Analytical Results Included in Weekly Discharge and Compliance Report #8.**

Sample	Description	Sampling Date	Parameters Reported
SW-01	Woodfibre Creek	February 15, 2024	
SW-01	Woodfibre Creek	March 19, 2024	Methyl mercury
SW-02	Mill Creek Estuary		
SW-03	Mill Creek Upstream		
SW-07	Mill Creek Background		
SW-04	East Creek		

### **3.2 Freshwater and Estuarine Water Receiving Environment**

Methyl mercury results for samples collected on February 15 and March 19 from Woodfibre Creek (SW-01) and on March 19 from Mill Creek (SW-02, SW-03 and SW-07) and East Creek (SW-04) ranged from <0.020 to 0.045 ng/L and are within the concentration ranges observed in the baseline monitoring program. The samples met the WQG for total mercury.

## 4. Quality Control

This section summarizes the results of the quality control (QC) evaluation for the PE-111578 weekly report. The evaluation includes a review of field and lab QC, completeness of the weekly report (*i.e.*, pending data) and an evaluation of the completeness of the monitoring program. Any items flagged for follow-up will be carried forward in future reports until they are closed.

**Table 2: Summary of Weekly Report QC Evaluations and Ongoing Items.**

QA/QC Procedure	Observation	Investigation/Resolution
<b>Reporting Period (March 31 – April 6, Report #8)</b>		
<b>Monitoring Program Evaluation</b>	Contact water, non-contact water and initial dilution zone monitoring stations have not been established.	The PE-111578 authorized works were under construction during the reporting period. Monitoring stations will be progressively established as water management infrastructure is completed. The West Sedimentation Pond and West WWTP are under construction. The East Sedimentation Pond and East WWTP are completed, and pilot testing of the East WWTP is ongoing. The completed East and West Sedimentation Ponds are not commissioned for discharge and did not discharge. The non-contact water diversion ditch that discharges at station OUT-06 was commissioned for discharge at the end of the March 31 – April 6 reporting period.
<b>Ongoing Items</b>		
<b>Report #2: Pending Data</b>	The methyl mercury for the February round of water quality monitoring have not been reported.	Methyl mercury results for all samples were included in Report #7, except results for station SW-01. The lab indicated SW-01 was not tested for methyl mercury due to an internal scheduling error. The missed test was processed on a rush basis and the outstanding result is reported in Section 3.2 of this report. This item is now closed.
<b>Report #7: Result QA/QC Screening</b>	Chloroform was detected at two to three times the detection limit in field blanks collected March 19, 20 and 21.	Chloroform was not detected (<0.0005) in all March monitoring samples. Investigation of the chloroform results reported for the March field blanks is ongoing. Preliminary findings indicate the water provided by the laboratory for field blank preparation is the likely source of the chloroform detected in the blanks. Moving forward, additional measures will be implemented by the laboratory to ensure that water supplied for field blanks is free of potential contaminants. This item remains open until field blank test results confirm that the additional measures are effective.
<b>Report #7: Pending Data</b>	Methyl mercury results for freshwater samples, and dioxin and furan data for all samples from the March round of water quality monitoring were not reported.	Outstanding methyl mercury results for freshwater samples have been reported and are summarized in Report #8, Section 3.2. Dioxin and furan testing typically requires up to 4 weeks to complete. The pending results are expected late April. 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 of modified detection limits.

Pending data are outstanding results from monitoring samples for which some data has been 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 requirements.

## 5. Closure

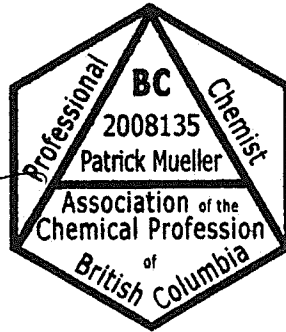
This weekly report is a desktop review by Lorax of the PE-111578 discharge and compliance monitoring program records, reports and results provided by Woodfibre LNG. The records reviewed and analyzed by Lorax include ALS Environmental laboratory test reports, site reports (from Roe Environmental, LB LNG,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

Regards,

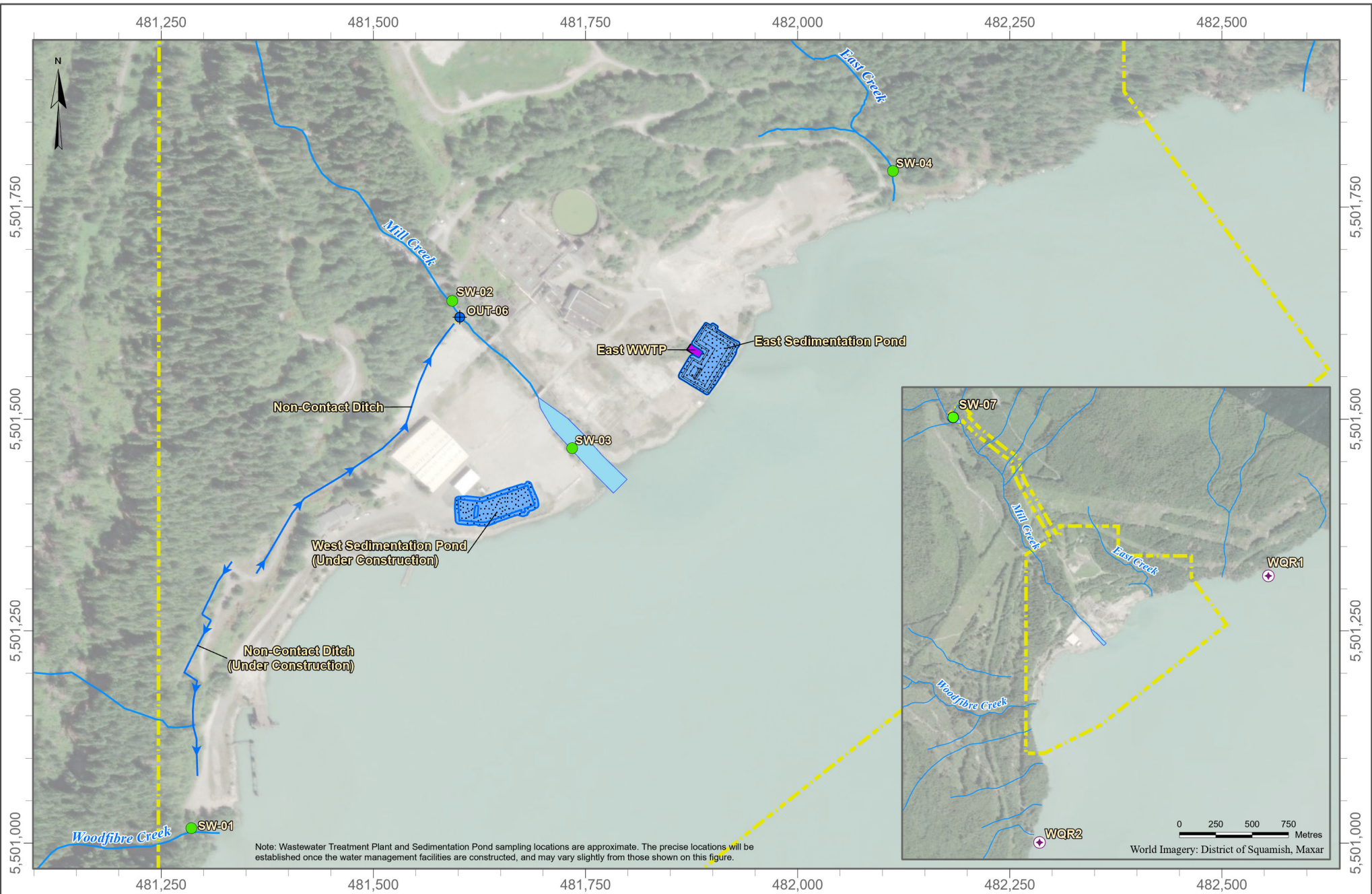
**LORAX ENVIRONMENTAL SERVICES LTD.**



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



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Environmental Geoscientist



LEGEND	
	Freshwater Monitoring Station
	Marine Water Monitoring Station
	Certified Project Area
	Waterbody
	Watercourse
	Non-Contact Diversion Ditch
	Clean Water Diversion Discharge Station
	Sediment Pond
	WWTP

DATE SAVED:	Apr 11, 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

CLIENT:

PROJECT:

### Woodfibre LNG Project Construction Phase

TITLE:  
 Completed or Under Construction Water Management Facilities and Established PE-111578 Monitoring Stations (April 6, 2024)

PROJECT #: A633-7

FIGURE: 1

## ***Appendix A: East and West Catchment Photographs***



**Figure 2. Areal View of the East WWTP and East Sedimentation Pond (April 5, 2024).**



**Figure 3: Areal view of the West Sedimentation Pond Construction Progress (April 5, 2024).**