



2024-09-20 MBK NP2 Lake TSS

GN reference #: 2024-364

Please find the following information as a follow up to the spill report, #2024-364, submitted September 21st, 2024, by Agnico Eagle Meadowbank division. This detailed report is submitted to the Inspector in compliance with the conditions under the Nunavut Water Board License 2AM-MEA1530, Part H, Item 8c and subsection 38(7) of the fisheries act.

Description

During a regular freshet inspection of the East Diversion Ditch, a turbid plume of water was observed at the exit of the diversion ditch where it connects to shore of NP2 Lake at the registered sampling point ST-5. The plume extended ~1m into the lake and ~5 m along the immediate shoreline, with no observable impact further into the lake.



Figure 1. NP2 Lake Shoreline at ST-5 Sample Location – September 20

Water samples in the lake at sample point ST-5 were taken for analysis for Water License Parameters, as well as for acute lethality to *Daphnia Magna* and *Rainbow Trout*. The lethality samples were collected on September 22nd. The TSS results for samples taken in the lake are presented in Table 1 below. All results met water license requirements for ST-5 including TSS. Due to a bottle error, no TSS results were available from September 20th.

Table 1. TSS Results of ST-5 Samples

Date	ST-5 TSS
2024-09-21	7
2024-09-22	7
2024-09-23	4
2024-09-24	9
2024-09-25	3
2024-09-26	5
2024-09-27	2

All results are from an accredited lab

Location: 65° 2'34.72"N 96° 3'9.88"W. The impacted waterbody is NP2 Lake.

Cause

The identified cause for the turbid runoff is the heavy rains received from September 20th to September 27th where above average volumes of water reported through the diversion ditch without sufficient control measures in place. The volume of water flows over the land and from the road which transported sediments into the ditch and towards the lake. On site precipitation results and general weather conditions are presented in Table 2 below.

Table 2. Precipitation and Weather Condition from Meadowbank

Date	Precipitation (mm)	Weather Conditions
2024-09-20	15.1	10°C, N 20-40km/h - Rain / Cloudy
2024-09-21	20.0	7°C, N 40-80km/h - Rain
2024-09-22	5.4	9°C, NW 20 - 60km/h - Rain
2024-09-23	7.0	8°C, N 20km/h - Rain
2024-09-24	2.3	8°C, N 30km/h - Rain
2024-09-25	5.0	8°C, N 30km/h - Rain
2024-09-26	0.8	10°C, N 30km/h – Light Rain
2024-09-27	10.5	9°C, SE 40-70km/h - Rain

Remediation Actions

Upon observation of the runoff into the lake, the environmental personnel deployed, additional woodchip-turbidity logs in areas of concerns and turbid inflows from the land to control the transportation of sediments. A silt curtain was installed along the shore of the lake to contain the plume and minimize further transportation of sediments. Over the next week, inspections and monitoring of the area was performed by environmental staff. During the monitoring, the TSS control measures were monitored, repaired and added, as needed. Samples of the water quality (total suspended solids) of the lake outside of the barrier were collected to ensure the control measure were functioning as intended. Acute Lethality sample results are attached. Sample results show no exceedance of water license parameters.



Figure 2. Mitigation Measures Upstream at ST-5 (2024/09/22)

Corrective Measures

Monitoring of the area continued and was followed closely after each rain event to ensure the mitigation measures in place were effective. Agnico eagle intends to investigate and trial alternative means for sediment and erosion control during the 2025 Freshet. A geotechnical field investigation will be conducted by Agnico Eagle to identify further areas of improvement to the structure to prevent similar events from occurring.

Closure

We trust that the above details described appropriately the event that occurred at the Meadowbank Mine on September 20th, 2024, and the remediation activities. Please contact the undersigned should you have any questions.



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