2023-12-15 MBK Seepage – Contaminated Water

GN reference #: 2023-524

Please find the following information as a follow up to the spill report, #2023-524 submitted December 15th, 2023, 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.

Description

During a site assessment, evidence of water flow was observed on the west side of the assay lab road. Upon further investigation an inflow of water was found to be contained within existing water management infrastructure previously constructed.

Figure 1. Water/Snow mixture contained upstream of the seepage collection trench.

Spill Location: 65° 1'10.86"N 96° 4'20.61"W on IOL

There were no off-site impacts or discharges. Distance to the closest water body is 145 m to Third Portage Lake.

Figure 2. Site aerial image with water management infrastructure identified

Cause

The exact source of the spill is still currently under investigation and dye testing has been utilized to eliminate areas of potential release. There has been no visual water inflow observed since December 26th, 2023.

Remediation Actions

Upon the discovery of the water inflow an investigation was launched to identify potential sources of the water. The investigation process and current findings are presented in the section below.

The existing retention berm of Assay Road South were raised, prior to excavating the contaminated snow and ice to increase retention capacity in the event water inflow was more than expected. A total of 270m^3 of contaminated snow/ice have been removed from the area and brought to the Meadowbank Tailings Storage Facility; this total includes snow from the excavation area following snowfall and blowing snow events. It is estimated that ~20m^3 of contaminated water flowed into the containment area.

Figure 3. Snow removal from the Mill Seepage intercer trench Dec. 16th, 2023

Figure 4. Containment berms being raised prior to excavation of snow/ice.

Figure 5. Continued berm repairs and excavation activities on Dec.19th, 2023

Figure 6. Water inflow on Dec. 20th, 2023

Figure 7. Snow/Ice removal Dec.26th

Figure 8. Water Inflow investigation Jan 1, 2024

Figure 9. Water inflow investigation Jan 11th, 2024

Investigation Actions

Internal samples were collected processed on site for CN WAD, Cu, Fe, As and field parameters. Samples were collected from locations around site which included: MW-202, MW-203, Third Portage Lake, Raw Drinking Water, Carbon-in-Pulp (CIP) sump for comparison to the water flowing into the Assay South Retention Berm. Additional samples were also collected for the downstream environment (Third Portage Lake), Raw Drinking Water and the CIP sump and sent to external labs for RUSH analysis. Preliminary results are presented below in Table 1. Snow accumulation in the mill seepage interception trench was excavated to confirm the absence of water and all existing monitoring wells were assessed for the presence of water. The monitoring wells have been installed since 2014, following Spill Report 13-379, and are monitored during summer months. All sumps, tanks, secondary containments within the mill along with freshwater pipes and lift stations upstream of the seep were inspected for any abnormalities. A section of sealant within the CIP sump was found to be loose. This area was isolated using sandbags and the sump was kept as dry as possible. The frequency of visual inspections of all sumps in the mill was increased. Dye testing has been utilized within the CIP sump to validate the integrity of the sump. Following the dye test within the mill, no dye was observed in the retention berm.

Table 1 – Preliminary result of samples collected on December 17th, 2023.

	pH	Conductivity µS/cm	Cyanide mg/L	Arsenic mg/L	Copper mg/L	Lead mg/L	Nickel mg/L	Zinc mg/L
Water Inflow	7.26	1810	0.0421	0.111	0.00656	0.0015	0.0226	0.0105
Carbon-in-Pulp Sump	9.06	4726	0.583	0.1919	1.1	0.14352	0.5641	0.02
Third Portage Lake	7.62	127.5	<0.00050	0.00064	0.00073	<0.00020	<0.0010	<0.0050
Drinking Water Raw	6.19	24.7	<0.00050	0.00019	<0.00050	<0.00020	<0.0010	<0.0050

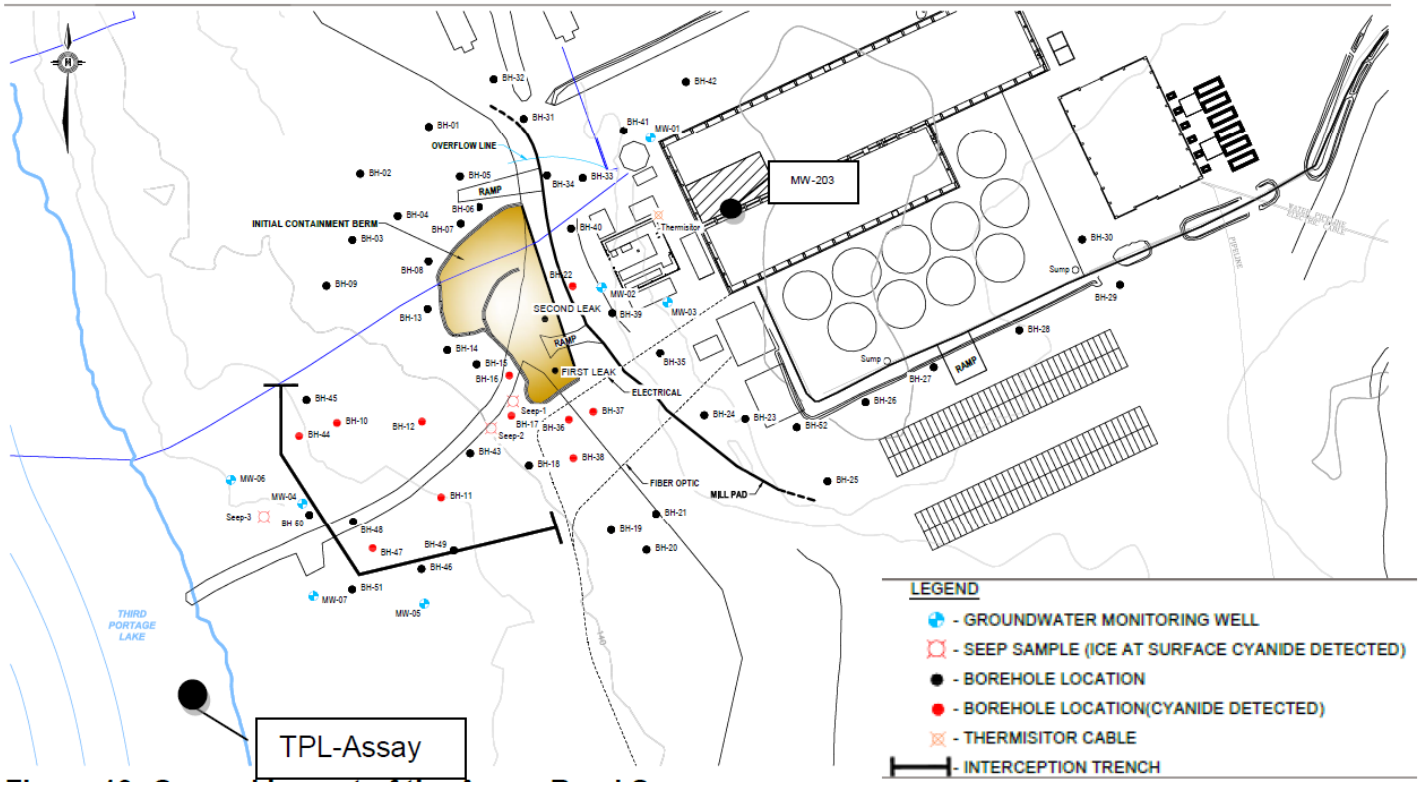

Figure 10. General Layout of the Assay Road Seepage monitoring wells as presented in the Meadowbank Complex's 2022 Annual Report

Corrective Measures

Continued monitoring of the area will continue a routine basis throughout Freshet. Continued investigation work within the Mill utilizing dye within different sumps, tanks, and containments to identify the seepage origin, should water inflow resume. As a precaution Agnico will be bringing in an expert to inspect and repair, if needed, all foundation sealants, within the mill sumps.

Closure

We trust that the above details described appropriately the spill incident that occurred at the Meadowbank site on December 15th, 2023, and the cleanup activities and on-going monitoring efforts. Please contact the undersigned should you have any questions.

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