

Follow Up Report: #19-398

September 25th, 2019 – TDS Exceedance at Final Discharge Point MEL-14

The following information relates to spill 2019-398 reported by Agnico Eagle Mines Ltd. September 25th 2019, and is being provided in accordance with:

- the Nunavut Water Board License 2AM-MEL1631 Water License, part H, item 8c and;
- subsection 38(7) of the Fisheries Act
- section 31 of the Metal and Diamond Mining Effluent Regulations

Description of Incident

On September 13th, 2019, samples were taken at the MEL-14 FDP (63° 2'11.41"N, 92°12'58.95"W). Results received on September 25 2019, indicated an exceedance of NWB Water License 2AM-MEL1631, part F, item 3 criteria for Total Dissolved Solids (TDS) of 1400mg/L. The TDS of the sample was 1430mg/L. The quantity of effluent exceeding discharge criteria is estimated to be 11,131m³, based on previous probe calibration and water quality analysis.



Figure 1: Location of effluent water treatment plant and diffuser in Meliadine Lake.

Spill Response & Cleanup

Upon receipt of laboratory analysis, it was determined that the EWTP probe had been out of calibration, preventing the automatic cessation of discharge to Meliadine Lake. Review of laboratory analysis indicated TDS was the only parameter exceeding MDMER and water license requirements since previous probe calibration.

Cause of Incident and Corrective Measures

TDS is calculated based on electrical conductivity at the Effluent Water Treatment Plant. The conductivity is monitored using a fixed probe at the EWTP outflow point. When the predetermined threshold trigger level is reached, the plant automatically stops discharging to Meliadine Lake.

On the day of sampling, it was identified that the handheld probe conductivity reading was higher the EWTP probe reading. This discrepancy caused the EWTP probe to read a conductivity lower than the trigger limit, when in fact the conductivity of the effluent was greater than the trigger limit. It was determined that the discrepancy was the result of infrequent probe maintenance. The probe was cleaned and recalibrated to ensure accuracy and compliance with discharge criteria.



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