AGNICO EAGLE
MELIADINE

Follow Up Report: #18-409
July 23, 2018 MEL-14 Aluminum Concentration Criteria Exceeded

Description of Incident:

A sample of treated water from MEL-14 (final effluent sampling port prior to discharge to Meliadine Lake) was collected on July 23, 2018. Upon review of the laboratory analysis results, the total aluminum concentration was found to be 4.39 mg/L which exceeded the permitted discharge limit of 2 mg/L.
As per the obligations under the Nunavut Water Board License 2AM-MEL1631, Part F, item 3 pursuant to subsection 12(3) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act., samples were collected for laboratory analysis to assess the total metal concentrations and other water quality parameters during final effluent discharge at MEL-14. The laboratory results were received on August 8, 2018, however, the exceeded criteria for the total aluminum concentration was not observed at the initial time of the data review and data input. During the quarterly reporting for MDMER-EEM (RIIS) on October 1, 2018, the exceeded concentration was observed and reported immediately.

Exceedance Cause and Corrective Measures

The exceeded criteria for final effluent discharge criteria for total aluminum concentrations is assumed to be a laboratory error. When the exceeded criteria was observed, the lab was requested to re-analyze the sample to determine if the reported concentration was a result of laboratory error; however, the sample had been disposed of and re-analysis was not possible at the date of the request.

When comparing the total aluminum concentrations from a sample collected and analyzed on the same day from MEL-13 (the discharge location at Meliadine Lake), total aluminum concentrations were also elevated (6.64 mg/L). Results for total aluminum concentration were then compared to results from 2018 sampling events. The results from July 23, 2018 had the maximum concentrations for both MEL-13 and MEL-14. Table 1 presents a summary of laboratory analysis for MEL-13 and MEL-14 in 2018 and includes the minimum, maximum and average total aluminum concentrations for samples collected in 2018. Figure 1 shows the aluminum concentrations for MEL-13 and MEL-14 in 2018. No other samples collected and analyzed in 2018 have exceeded criteria concentrations for total aluminum at MEL-14.

The Environment Department at Meliadine is currently implementing a data management system for laboratory results. Once it has been fully commissioned, it should mitigate delays with reporting criteria exceedances and improve the timing for requests that may be made if re-analysis is required at the laboratory.

Table 1 Summary of MEL-13 and MEL-14 Total Aluminum Analysis:

MEL 13										
Date	**23-Jul-18**	**20-Aug-18**	**26-Aug-18**	**4-Sep-18**						
Total Aluminum (mg/L)	6.64	0.0118	0.0098	0.0083						
Average	1.6675									
Max	6.64									
Min	0.0083									
MEL 14										
Date	**24-Jun-18**	**1-Jul-18**	**10-Jul-18**	**15-Jul-18**	**23-Jul-18**	**29-Jul-18**	**5-Aug-18**	**13-Aug-18**	**19-Aug-18**	**26-Aug-18**
Total Aluminum (mg/L)	0.134	1.22	0.518	1.23	4.39	0.811	0.784	0.705	1.03	0.005
Average	1.0827									
Max	4.39									
Min	0.005									

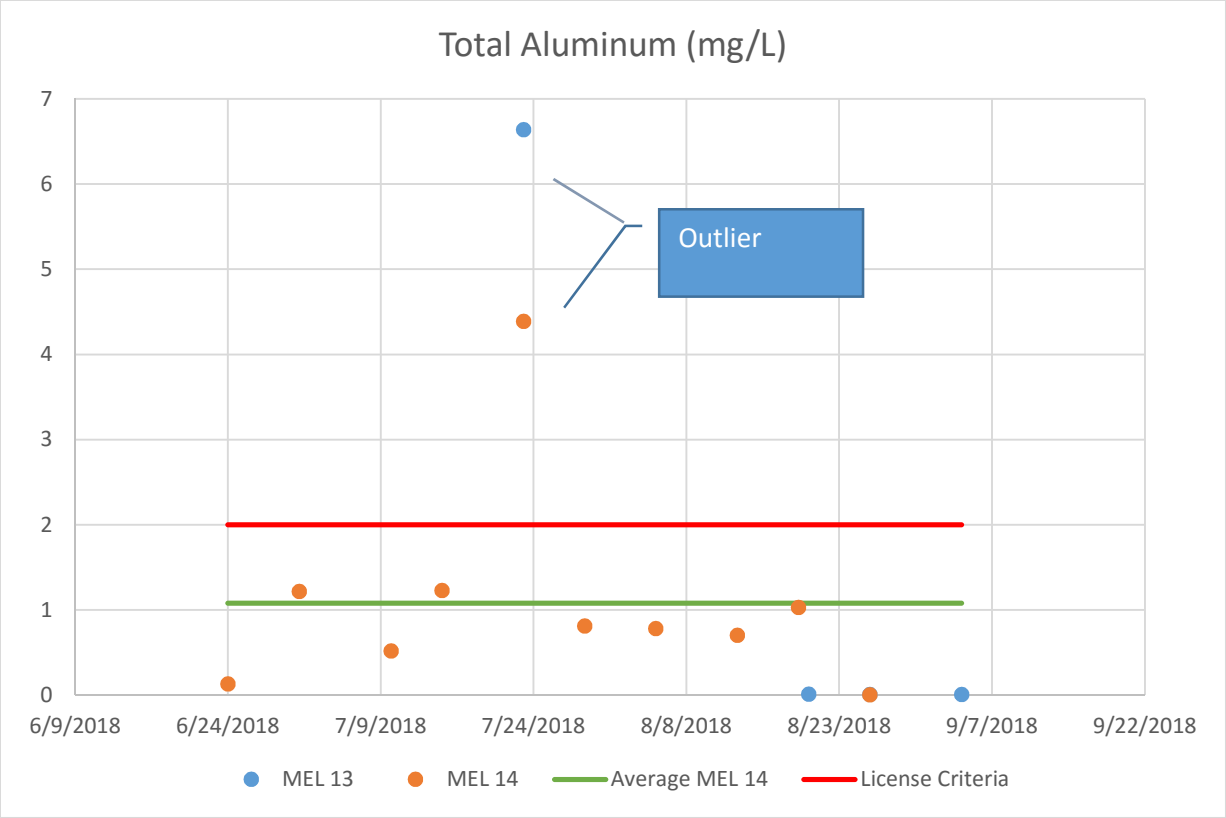

Figure 1: 2018 total aluminum concentrations at MEL-13 and MEL-14