



Environmental Protection Operations Directorate
Prairie & Northern Region
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Yellowknife, NT X1A 2P7

ECCC File: 6100 000 008/015
NWB File: 2AM-WTP1826

August 13, 2018

Via email at: licensing@nwb-oen.ca

Richard Dwyer
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Mr. Dwyer:

RE: 2AM-WTP1826 – Agnico Eagle Mines Ltd. – Whale Tail Project – Mercury Monitoring Plan

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) regarding the above-mentioned Mercury Monitoring Plan and is submitting comments via email. ECCC's specialist advice is provided based on our mandate, in the context of the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*.

The following comments are provided:

1. As per Section 2.1 of the Mercury Monitoring Plan, sampling areas will include near-field and far-field locations and reference lakes. Mid-field locations have not been included in the plan.

The use of mid-field locations may provide important additional information, should near-field results exceed predictions or should near-field levels increase more rapidly than anticipated. The Whale Tail Core Receiving Environment Monitoring Program (CREMP), which includes Lake A76 as a mid-field area, describes Lake A76 as situated at the junction of the two flow paths leading to Lake DS1, which is the far-field site. The Whale Tail CREMP states that "Given its morphology and location, it represents an ideal mid-field exposure area for both flow paths".

ECCC recommends that suitable mid-field locations be added to the Mercury Monitoring Plan in order to allow for the collection of additional (i.e., tiered) monitoring data, in the event that near-field monitoring results exceed predictions and/or near-field levels increase more rapidly than anticipated. Lake A76 may provide suitable mid-field sampling locations.

2. As per Section 2.1 of the Mercury Monitoring Plan, fish sampling for tissue analysis will be conducted in deeper-water basins, targeting Lake Trout, in order to compare measurements to predicted tissue concentrations from the Final Environmental Impact Statement.

ECCC recommends that Agnico Eagle Mines Ltd. (the Proponent) clarify if and how any small-bodied fishes will be sampled and analyzed under this plan, and whether there are opportunities to use planned lethal samples from the standard Whale Tail CREMP program for lethal sampling and whole-body analysis for the Mercury Monitoring Plan.

3. The Mercury Monitoring Plan describes supplemental sampling methods that will be implemented as part of the CREMP to track concentrations of mercury in the aquatic environment. However, the Plan does not indicate whether other relevant water quality parameters (e.g., pH, temperature, dissolved organic carbon, total suspended solids, chlorophyll) will be monitored.

ECCC recommends ensuring that supporting water quality data is collected concurrently with mercury monitoring, in order to support the interpretation of mercury monitoring results.

4. The Mercury Monitoring Plan (Sections 2.2 and 5) indicates that sediment grab samples will be collected, and that measured concentrations will be compared to baseline values. It is ECCC's opinion that this sampling method is unlikely to achieve the intended goal of tracking the effects of project-related flooding on sediment mercury levels. Given the low deposition rates of northern lakes, grab samples would likely result in the sampling and mixing of both pre-flooding sediments and post-flooding sediments.

ECCC recommends using sediment core sampling as it would be better suited to the purpose of the Mercury Monitoring Plan. The sediment core sampling method allows isolation of sediment layers, which would support the analysis of pre- and post-flooding sediments as distinct samples.

5. As per Section 3 of the Plan, surface water samples will be collected as surface level grabs rather than at a 3 m depth using a pump and tubing, which is the protocol for regular CREMP samples. ECCC notes that collecting surface level grabs only will not provide data regarding vertical water quality. ECCC also notes that the goal of tracking changes in mercury flux between sediment and overlying

water (Section 5) might not be fully addressed if only surface level grabs are collected.

ECCC recommends that the Proponent provide the rationale for collecting surface level grabs only. In addition, ECCC recommends a discussion be provided to explain if and how vertical differences in mercury concentrations will be monitored. Vertical monitoring during periods of stratification should also be discussed and addressed.

Should you require further information, please do not hesitate to contact me at (867) 669-4733 or Melissa.Pinto@canada.ca.

Sincerely,

[original signed by]

Melissa Pinto
Senior Environmental Assessment Coordinator

cc: Georgina Williston, Head, Environmental Assessment North (NT and NU)