October 17th, 2018

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

Re: Agnico Eagle Mines – Meadowbank Division Responses to CREMP Addendum MMP ECCC Comments

Dear Mr. Dwyer,

As requested, the following information and comments are intended to address the comments made in the below letter:

- Environment and Climate Change Canada (ECCC) – August 13, 2018 - *2AM-WTP1826 – Agnico Eagle Mines Ltd. – Whale Tail Project – Mercury Monitoring Plan*

Should you have any questions or require further information, please do not hesitate to contact me.

Best regards,

Manon Turmel
manon.turmel@agnicoeagle.com
819-759-3555 x 4608172
Environmental Compliance Counselor

1) **Environment and Climate Change Canada (ECCC)**

Comment 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.

Agnico Eagle Mines response:

The utility of the mid-field station is primarily driven by study design. At present, the design is a before/after/control/ impact study design with a few downstream sampling locations to address regulatory concerns during the hearings. Although Agnico Eagle will review the 2018 Hg monitoring results with our consultants and academic partner at University of Waterloo (UofW) and determine the utility in adding a mid-field sampling station or gradient design; however, at present, Agnico Eagle believes the monitoring plan is sufficiently designed to address regulatory review comments.

Comment 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.

Agnico Eagle Mines response:

Agnico Eagle will continue to review the monitoring plan with our consultants and partners at the UofW. In collaboration with the UofW, the following specific methods related to surveillance and analysis of small bodied fish populations are planned to be included as part of this study:

- *Shoreline electrofishing and/or visual surveys, both before and after flooding. Key variable investigated: catch per unit effort (electrofishing seconds);*
- *Collection of small-bodied fishes for analysis of trophic ecology and growth parameters, both before and after flooding. Key variables investigated: sources of carbon (pelagic or benthic), trophic position, growth rates, condition; and*
- *Presence-only surveys, after flooding. Key variable investigated: fish presence in newly flooded habitats, and relationships with habitat covariates..*

Since flooding activities are planned to occur over a relatively short term (2-3 years), the UofW that will be an extension of the Hg Monitoring Plan and CREMP will include a study with a focus on small-bodied fish, which are expected to react first to changes in water quality. Changes in primary productivity, as well as growth, condition, and mercury concentrations in small-bodied fish will be related to water quality variables and changes in lake morphometry (especially area). Use of newly flooded habitats by small-bodied fish will also be assessed and related to habitat characteristics using presence-only surveys. Data will be optimized between CREMP sampling, EEM work, fishouts and Hg monitoring program.

Comment 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.

Agnico Eagle Mines response:

Agnico Eagle agrees with this recommendation and will refer to CREMP water quality results to support the Hg monitoring results.

Comment 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.

Agnico Eagle Mines response:

Agnico Eagle will review the 2018 monitoring results, consult with UofW and consider this recommendation for future sampling of sediment.

Comment 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.

Agnico Eagle Mines response:

Agnico Eagle will review the 2018 monitoring results, consult with UofW, our CREMP consultants and consider this recommendation for future sampling of water. An explanation will be provided in future annual reporting.