



October 22nd, 2018

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

Re: Agnico Eagle Mine – 2AM-MEA1526 Meadowbank 2018 Updated Interim Closure and Reclamation Plan Comments

Dear Mr. Dwyer,

As requested, the following information and comments are intended to address the questions/comments from Environment and Climate Change Canada (ECCC) and the Kivalliq Inuit Association (KIA) in regards of the Meadowbank 2018 Updated Interim Closure and Reclamation Plan.

Should you have any questions or require further information, please do not hesitate to contact us at the below.

Regards,

Agnico Eagle Mines Limited – Meadowbank Division

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Table of Contents

1	Environment and Climate Change Canada (ECCC).....	4
1.1	Air Quality and Dustfall Monitoring Plan.....	4
1.2	Water Quality Closure Criteria	4
1.3	Management of Flooded Goose Pit	5
1.4	Contaminants of Concern in Flooded Pits	6
2	Kivalliq Inuit Association (KIA)	8



1 Environment and Climate Change Canada (ECCC)

1.1 Air Quality and Dustfall Monitoring Plan

Concern: ECCC notes that Agnico Eagle Mines Ltd. (the Proponent) plans to monitor air quality and dustfall during active remediation to ensure erosion and dust does not become an issue, but the Proponent has not provided any details on this monitoring and whether it will inform adaptive management. It is not clear when monitoring will stop and if the duration of the monitoring will be enough to capture all dust emissions from erosion once reclamation is complete.

Recommendation 1: ECCC recommends that the Proponent provide additional details surrounding air quality and dustfall monitoring, and whether it will inform adaptive management. The Proponent should also clarify how the duration of monitoring will be determined and whether or not this duration will be sufficient to capture all dust emissions when reclamation is complete.

Agnico Eagle's Response:

In accordance with NIRB Project Certificate Terms and Conditions No.004 and No.008, the objective of the approved Air Quality and Dustfall Monitoring Plan (AQDMP) is to monitor ambient air quality and dustfall at the Meadowbank and Whale Tail Pit mine site perimeters and roads. The main dust generation processes at Meadowbank and Whale Tail are wind erosion of site structures (e.g. the Rock Storage Facility), and fugitive sources from open pit mining, rock crushing and movement of vehicles/equipment/air traffic on site. As part of the currently approved AQDMP, dustfall is collected over monthly periods. Sampling is conducted over this period to allow for a sufficient sample size for analysis, and as a result it provides an indication of longer-term air quality trends. Agnico Eagle Mines Ltd. (the Proponent) plans to monitor air quality and dustfall during active remediation to ensure erosion and dust does not become an issue. As stated at p.5 of the currently approved AQDMP: "monitoring of the total suspended particulates (TSP) and fine particulate matter will continue throughout the operations and closure phases of the Project". A more detailed AQDMP will be submitted with the final Closure Plan and will include the duration of the monitoring and will inform adaptive management. This detailed AQDMP will integrate the methodology used during operation phase and will be adjusted with regards of results obtained historically.

1.2 Water Quality Closure Criteria

Concern: Table 5-5 indicates the following closure objectives: "meet water quality objectives for any discharge from pits" and "water quality in flooded pits is safe for humans, aquatic life, and wildlife." The corresponding closure criteria is, "prior to dike reconnection, the water quality will



meet the Water Licence Requirements.” The existing licence contains no water quality requirements for closure and there is no timeline provided in the plan for development of water quality closure criteria. Given that open pit flooding has already commenced, consideration should be made for the development of closure water quality objectives for the flooded open pits. The Proponent has committed to ensuring pit water quality either meets background, meets the Canadian Council of Ministers of the Environment guidelines for the protection of aquatic life, or meets appropriate site-specific objectives prior to reconnecting the pits to surface waters, but has not further narrowed down closure water quality criteria for the pits. These criteria would be useful for comparison through the process toward closure to assess whether treatment of water within the flooded pits will be required.

Recommendation 2: ECCC recommends that the Proponent develop a timeline for the development of water quality closure criteria for the flooded open pits.

Agnico Eagle’s Response:

Agnico Eagle is currently working developing site-specific objectives and will be providing these before the next Closure Plan amendment.

Based on the Meadowbank Water Quality Forecasting, for the 2017 Water Management Plans, the following contaminants will be considered for site-specific criteria.

- *Aluminum*
- *Arsenic*
- *Cadmium*
- *Chromium*
- *Copper*
- *Iron*
- *Nickel*
- *Selenium*
- *Fluoride*
- *Total ammonia*
- *Total N equivalent*

1.3 Management of Flooded Goose Pit

Concern: The ICRP indicates that Goose Pit flooding is anticipated to be completed in summer 2019, however, the dikes are not anticipated to be breached until 2029 at the earliest. There is no indication of how water in Goose Pit will be managed during the period between when flooding is complete and prior to dike breach. Given that there is 10 years between these two events,



water may accumulate in the Goose Pit that will need to be managed in such a way to avoid overtopping and discharge into the receiving environment.

Recommendation 3: ECCC recommends that the Proponent provide a discussion of how Goose pit water will be managed in the years between when the pit flooding is completed and prior to dike breach.

Agnico Eagle's Response:

Although not mentioned in the IRCP, Goose Pit becomes hydraulically connected to the Portage Pit at elevation 131.0 masl. The runoff from Goose Pit will contribute to the flooding of Portage Pit. Flooding will continue to the natural Portage Lake elevation of 133.6 masl is reached. This elevation is expected to be reached in 2029. In order to ensure acceptable water quality at closure (respecting the CCME guidelines or site specific criteria), annual water quality forecasts are produced to predict the water quality at closure. Treatment options will be examined and assessed in greater detail if the forecasts are indicating it is required. In the event water quality does not meet the criteria, active pit flooding can be interrupted until a remediation plan is developed. During this time, the pits will only be passively flooded.

1.4 Contaminants of Concern in Flooded Pits

Concern: Several parameters are predicted to be elevated in the water quality forecast for Goose and Portage Pits at closure, including: aluminum, arsenic, cadmium, chromium, copper, iron, nickel, selenium, and fluoride. The ICRP indicates that treatment options for their removal will need to be examined in greater detail during the preparation of the final closure and reclamation plan. While the Proponent indicates that these contaminants are originating from the Tailings Storage Facility (TSF), there is no reclaim water from the TSF to be deposited in Goose Pit, therefore the contaminant sources for Goose Pit are unclear. Given that data is available for the Goose Pit flooded water quality, a comparison to predicted water quality should be provided.

Recommendation 4: ECCC recommends the Proponent provide a comparison of measured water quality in Goose pit to predictions, to assess potential need for treatment in the partially flooded pit.

Agnico Eagle's Response:

As described in the Meadowbank Water Quality Forecasting Update for the 2017 Water Management Plan, a total of 382,608 m³ were transferred from the Central Dike downstream pond to Goose Pit in the 2015 and 2017 year. It is also mentioned that this



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water originates from the South Cell TSF, and is therefore the main cause of the contaminants present in the Goose Pit water. The table below summarizes the results of the reconciliation between the water quality forecast and the results observed in the Meadowbank Water Quality Forecasting Update for the 2017 Water Management Plan.

Contaminant	Reconciliation to Previous Water Quality Forecast
Aluminium	The forecasted concentrations are generally higher than the measured values, but do not capture the variability observed in the pit.
Arsenic	The forecasted concentrations are similar to the measured values.
Cadmium	This contaminant was not compared to the previous water quality forecast.
Chromium	The forecasted concentrations are similar to the measured values.
Copper	The forecasted concentration indicated an increase in September 2015 (i.e. when Central Dike downstream pond water was transferred) followed by a decrease in the following months. However, the measured total and dissolved concentrations are order of magnitude lower than the more conservative forecasted values.
Iron	The forecasted values are generally higher than the measured values.
Nickel	This contaminant was not compared to the previous water quality forecast.
Selenium	The forecasted concentration indicated an increase in September 2015 (i.e. when Central Dike downstream pond water was transferred) followed by a decrease in the following months. However, the measured total and dissolved concentrations are order of magnitude lower than the more conservative forecasted values.
Fluoride	The forecasted concentration indicated an increase in September 2015 (i.e. when Central Dike downstream pond water was transferred) followed by a decrease in the following month until June 2016. Once natural flooding started, the concentration increased and varied seasonally. There is not sufficient available measured data to assess if the measured concentrations followed a similar trend. However, the measured values were lower than the forecasted values.

While cadmium and nickel were not measured and compared to previous water quality forecast, the results of the latest forecast (issued in March 2018) indicated both of these contaminants were forecasted to have higher concentration than the CCME guidelines. "The higher forecast concentrations at closure for these two parameters can be attributed in part by the additional volume of pond water transferred from Central Dike Downstream



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Pond to Goose Pit between August and October 2017 and by the higher concentration value considered in the Mill Effluent for this year's model." (Meadowbank Water Quality Forecasting Update for the 2017 Water Management Plan, 2018). Part of the recommendations of the report was to perform a bench scale water treatment test to examine the contaminant removal efficiency, using various treatment options.

2 Kivalliq Inuit Association (KIA)

Concern: 1) The KivA agrees with and supports the comments and recommendations made by ECCC which are related to the following:

- Air Quality and Dustfall Monitoring,
- Water Quality Closure Criteria,
- Management of Flooded Goose Pit, and
- Contaminants of Concern in Flooded Pits.

2) The Interim Closure and Reclamation Plan (ICRP) is part of the reporting requirements for the Meadowbank Project. However, the KivA questions the timing of this report given that the Meadowbank Project open pits are currently part of a review for "in-pit tailings disposal". If approved this will dramatically change the Closure and Reclamation Plan (CRP).

Recommendation 5: In summary, the proposal from AEM relies heavily on forecast's related to monitoring, and mitigation that will be developed and evaluated during post-closure. The KivA recommends that AEM provide more detailed schedules on how the monitoring and mitigation will be developed during post closure.

Agnico Eagle's Response:

The submission of the ICRP 2018 was an agreement between Agnico and CIRNAC. Agnico was planning to submit a final closure plan in Q3 2017 as Meadowbank operations were originally supposed to be completed in Q3 2018. Agnico received an agreement to push this to early 2018, if a positive determination from NIRB for the Whale Tail project was received. This was confirmed in November 2017. Agnico does not have final approval for the Tailings In-pit deposition. Once the approval is received, Agnico will have to update the next ICRP or it may be a recommendation from NWB as part of the approval for In-pit deposition as noted in the NWB email. Between the next ICPR and the submission of the final closure plan prior to the cease of operations, further details will continue to be added regarding the monitoring and mitigation measures.