

November 18th, 2021

Sergey Kuflevskiy Technical Advisor Nunavut Water Board P.O. Box 119, Gjoa Haven Nunavut, X0B 1J0

RE: Meliadine Mine Interim Closure and Reclamation Plan for Water Licence 2AM-MEL1631

Dear Mr. Kuflevskiy,

Agnico Eagle Mines Limited thanks the Nunavut Water Board (NWB) for the opportunity to address comments received for Agnico Eagle Mines Limited's Meliadine Gold Mine 2020 Interim Closure and Reclamation Plan for Water Licence 2AM-MEL1631.

The following information and comments are intended to address comments outlined in the below referenced letters.

211001 2AM-MEL1631 KIA Review of Updated Meliadine 2020 ICRP Rev03 date 7 April 2021-IMLE;

211029 2AM-MEL1631 CIRNAC Review of Updated Meliadine 2020 ICRP Rev03 date 7 April 2021-IMLE.

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

With my best regards,

Sara Savoie

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RMMS & Compliance Coordinator



## **Kivalliq Inuit Association (KivIA)**

#### **KivIA - Comment 1**

### Comment

In section 1.2.1 it is stated that "The Company anticipates that mining will be carried out through several underground mining operations and open pits over a 14-year mine life".

However, in section 1.2.2, it is stated that "Meliadine operations started after commissioning was completed at the end of Q2 2019 and will span approximately 8.5 years (Q2 2019 to 2027).

### Question

Can AEM confirm if the mine life will be 8.5 or 14 years.

## Agnico Eagle Answer

The current Mine Plan includes one underground mine (Tiriganiaq Underground Mine) and two open pits (Tiriganiaq Open Pit 1 and Tiriganiaq Open Pit 2) for the development of the Tiriganiaq gold deposit. It includes 8.5 years for Mine Operations, beginning in 2019 until 2027, as stated in section 1.2.2 of the ICRP.

As for the statement in section 1.2.1: "The Company anticipates that mining will be carried out through several underground mining operations and open pits over a 14-year mine life", that would include the other deposits in addition to Tiriganiaq. Mining of these additional deposits is approved under NIRB Project Certificate No.006 and will require a water licence amendment prior to commencing mining.

### KivIA - Comment 2

#### Comment

Given that AEM has been operating in the Kivalliq Region since 2010 would it be possible to add in lessons learned related to how permafrost is responding in areas of the WRSFs and TSF on the Meadowbank Project. In particular, is there a progression of permafrost into the WRSF and/or TSF.

### Question

The KivIA would request that comments on permafrost based on the above comment be included in the 2021 ICRP update.

## Agnico Eagle Answer

Agnico Eagle thanks KivlA for their comment and wishes to clarify that Meliadine permafrost conditions are monitored and mapped through its thermal monitoring program, results of which



are reported yearly in the Annual Report, as part of the Annual Geotechnical Inspection Report Appendix.

As per Lessons Learned from Other Projects, including from the Meadowbank Complex presented in Appendix D, Agnico Eagle wishes to clarify that this section will be reviewed and updated as applicable in the next version of the ICRP.

### KivIA - Comment 3

### Comment

There is no reference to any reclamation research related to the cover designs for WRSF and TSF.

## **Question**

The KivIA would request that any research based on the above comment be included in the 2021 ICRP update.

## Agnico Eagle Answer

Agnico Eagle thanks the KivlA for their comments and refers KivlA to Design and As-Built Reports for the WRSFs and TSF infrastructures as well as to the Annual Geotechnical Inspection Report for information on cover design.

### KivIA - Comment 4

### Comment

Though it is suggested there is minimal exchange between deep and active groundwater reservoirs, the possibility of deep groundwater contamination should be addressed.

#### Question

What volume of paste backfill is expected to be used? Is there a possibility of significant contamination leaching into the deep groundwater?

#### Agnico Eagle Answer

As presented in Table 5.1 of the Mine Waste Management Plan (Agnico Eagle 2021), it is expected to use approximately 4,072,219 tonnes of tailings solids as underground backfill over the life of mine (until 2027). This corresponds to an approximate total paste volume of 2.9 million m<sup>3</sup>.

During the operations phase, the underground mine acts as a groundwater discharge area in which the net saturated flow of groundwater is upward towards the water table. Due to the underground excavations residing below the natural groundwater table, this upwelling occurs across the entire underground mine with the highest groundwater discharge pressures typically observed at the lowest mined elevation. Thus, during operations contamination, leaching into the



deep groundwater is not expected as the direction of groundwater flow is expected to be from the aquifer towards the mine excavation.

#### **KivIA - Comment 5**

## Comment

Saline water can have significant adverse impacts on soil and vegetation. After discharge to Melvin Bay is completed, saline groundwater will be present along the pipeline, and should not be deposited on the tundra.

# Question

What precautions will AEM take to minimize the amount of spilled saline during pipeline decommissioning?

## Agnico Eagle Answer

Agnico Eagle wishes to clarify that the waterline will be emptied prior to decommissioning, similar to other water piping infrastructures on site. This will be clarified in the next version of the ICRP.



## **Crown-Indigenous Relations and Norther Affairs Canada (CIRNAC)**

#### CIRNAC - Comment 1

Agnico Eagle thanks CIRNAC for their comment and notes there is no related recommendation or question from CIRNAC on this comment.

#### CIRNAC - Comment 2

#### Comment

Section 4.4.1 - the ten post-closure monitoring events were not intended to occur consecutively but rather over a period of 25 years, instead of over a 10-year period as stated by AEM. Section 8 - the ten post-closure monitoring events were not intended to occur consecutively but rather over a period of 25 years, instead of over a 10-year period as stated by AEM. Section 5.2.1.4 - does not explicitly reference the decommissioning of the waterline (the two saline water pipelines) between the mine site and Melvin Bay at Itivia.

#### Recommendation

CIRNAC recommends going forward that a specific bullet stating the need for the waterline decommissioning be added to this part of the ICRP.

### Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment and as stated in Agnico Eagle's answer to KivlA's Comment 5, clarifications will be added to the next version of the ICRP on this matter.

#### **CIRNAC – Comment 3**

Appendix A to C: No issues or concerns.

Appendix D: No issues or concerns with information provided. CIRNAC would suggest AEM ensure that the "lessons learned" were researched or captured to generate the table.

## Agnico Eagle Answer

As stated in Agnico Eagle's answer to KivlA's Comment 2, lessons Learned from Other Projects will be reviewed and updated as applicable in the next version of the ICRP.

Appendix E: While CIRNAC has no issues or concerns with the information provided, CIRNAC note that the information is quite dated. CIRNAC expects that more recent information could be provided on the research items identified and would like to know if there are any more areas of research that have been undertaken or committed to by AEM.



### Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment and will update the information in Appendix E within the next version of the ICRP.

Appendix F: The inclusion of photographs are positive but lack context. AEM should:

- Provide recent 2020 or 2021 photographs.
- Label phots to orient reader to the site.
- Add photographs of primary features that will be of special interest to closure such as the waste rock storage areas, the mill tailings area, pits and portals, etc.
- Include a site plan as a cross reference to illustrate where the photos are being taken from and the field of view of each photo.

### Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment and will take these points into consideration for the next version of the ICRP.

Appendix G: Monitoring stations do not appear to have changed from the latest water licence locations. A figure should be included to show where station MEL-SR12 is located along the Bypass Road and another figure to show the location of MEL-26 at Melvin Bay. Station MEL-25 should be added to Figure 7.

## Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment and will update Appendix G accordingly in the next version of the ICRP.

Appendix H to L: No issues or concerns.

Appendix M: The schedule is consistent with the discussion of Section 8.0 and Table 8.1. No issues or concerns with information as provided other than to note that the schedule does not reflect a 25-year post-closure monitoring period as recommended by CIRNAC.

## Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment and refers CIRNAC to the Meliadine Security Management Agreement signed between CIRNAC and Agnico Eagle for the Meliadine Project. This agreement refers to a 10 years post-closure period.

Appendix N: No issues or concerns.

Appendix O: No concerns with the plans provided. Recognizing continued evaluation of those work elements remaining to be constructed will be required. For example, the design plans for the water line between the mine and Itivia Bay will need to be reviewed once the issued for construction set is available. Note that for some of the design plans, the implementation phase will be over the life of the mine and as such will be subject to annual or more frequent inspections per the conditions outlined in the existing water licence amendment (for example the construction of the waste rock storage facility).



# Agnico Eagle Answer

Agnico Eagle thanks CIRNAC for their comment. Agnico Eagle will continue to submit Design and As-Built reports and to conduct inspections of infrastructures as applicable under Type A Amended Water Licence 2AM-MEL1631.