February 24th, 2020

RE: 2AM-MEL1631 ICRP

Dear Mr. Dwyer,

Following your January 18th email, please find below Agnico Eagle's response to the recommendations on Agnico Eagle's Interim Closure and Reclamation Plan.

I remain available should you have any questions or require further information.

With my best regards,

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Environment and Climate Change Canada (ECCC) Recommendations

1.0 ECCC Recommendation(s)

ECCC recommends that:

- The ICRP specify water quality objectives for closure that represent baseline conditions or national water quality objectives such as the CCME or site-specific water quality objectives.
- A map showing closure drainage conditions, with connectivity between surface waters and water management structures identified, including potential for fish passage is included in the ICRP.

Response:

The ICRP will be modified to specify that the water quality objectives for closure will represent baseline conditions or national water quality objectives such as the CCME or site-specific water quality objectives (SSWQO). The final SSWQO that will be applied for closure will be developed prior to closure.

Agnico Eagle will include a map in the next Interim Closure and Reclamation Plan illustrating post-closure drainage conditions to and from the pit lakes. This map will also identify connectivity between surface waters and remnant water management structures in post-closure, and highlight connecting streams with potential for fish passage.

2.0 ECCC Recommendation(s)

ECCC recommends that:

- The proponent review water quality objectives for pits and water management structures in the context of environmental quality, based on the eventual colonization by aquatic life.
- Predictions be updated periodically for pit and pond water quality; and
- Total arsenic is used for comparisons rather than dissolved arsenic.

Response:

During the next water quality update, parameters that do not have receiving environment guidelines or site-specific objectives will be identified if required and included in the water quality post-closure monitoring program. This program will be defined with water quality data obtained during operations and based on the water quality forecast. The Final Reclamation and Closure Plan will include the water quality post-closure monitoring program.

The review and update of the onsite water quality forecast for Meliadine will be done throughout operations to foresee water quality during operations, closure and post-closure, as per the Water License 2AM-MEL1631, part E, condition 12: ''The Licensee shall submit a revised Water Management Plan on an annual basis to the Board for review, following the commencement of Operations. The Plan shall include a Water Balance and Water Quality Model updated at a minimum of every two (2) years following commencement of Operations.'' The results of the water quality forecast will be discussed in the next versions of the Meliadine ICRP. Pond and pit water quality will be included in the water quality forecasts once they become operational.

The water quality forecast will include total arsenic in its analysis, in addition to dissolved arsenic.

3.0 ECCC Recommendation(s)

ECCC recommends that the proponent confirm the capacity to address erosion or instability in the ICRP.

Response:

Both WRSFs and TSF have been designed to ensure long-term stability. For the WRSFs, the results of the stability analysis indicate that the calculated minimum factors of safety meet or exceed the acceptable factors of safety. As mentioned in the Mine Waste Management Plan (AEM, 2019a), all three WRSFs were designed to be stable in operations and closure, in consideration of both frozen and unfrozen foundation conditions. Thus, the stability of the facilities does not rely on the presence of permafrost foundations even though permafrost foundation conditions are expected to be present over long term based on the geothermal analyses that consider long-term climate change, waste rock placement schedule, and annual thaw of the active layer.

As detailed in the Tailings Storage Facility Design Report approved by the Nunavut Water Board on December 3rd 2018, the TSF design does not rely on freezeback of the tailings to meet the design intent of the structure. However, the freeze-back of the TSF and the foundations will provide additional benefits such as increasing stability and inhibiting seepage from the TSF during operations and closure. The stability analysis of the TSF indicates that the calculated minimum factors of safety meet or exceed the acceptable factors of safety.

Monitoring will be carried out during all stages of the mine life, including closure and post-closure, to demonstrate geotechnical stability and the safe environmental performance of the facilities. If any non-compliant conditions are identified throughout the process, corrective measures will be completed to ensure stability of the structures.

As specified in the Meliadine ICRP, some equipment used for earthwork will remain on site during active closure to complete closure work. Selected equipment will also remain on site until the end of post-closure, in order to complete corrective work if required. The equipment selected to be left on site for the post-closure period will be reviewed with qualified personnel, to ensure adequate equipment is available for corrective work. Mobile equipment and local contractors may also be

available in the municipality of Rankin Inlet located near the Meliadine site; equipment could be mobilized on site by the All Weather Access Road (AWAR) as the road will remain open during post-closure.

4.0 ECCC Recommendation(s)

ECCC recommends that in future versions of the ICRP the proponent clarify closure of the landfarm with respect to the removal of the liner and clarify the subsequent implications for drainage in the active layer.

Response:

The geomembrane liner located at the base of the landfarm is covered by a layer of granular fill material and rockfill. The closure activities planned for the landfarm presented in the ICRP are taken from the Landfarm Management Plan (AEM, 2019b). After removal of all remediated soil and prior to closure and reclamation of the landfarm, the berm and base will be sampled on a 10 metre grid, to determine if these soils are free from PHC contamination. Results of this analysis will be compared to GN criteria. No excavation will be necessary if agricultural/wildlife criteria are met. If industrial criteria are used, the landfarm will be covered with 2 metre of waste rock or other material used for reclamation. The surrounding berm will be breached to avoid water accumulation on the landfarm. The liner put in place at the base of the landfarm during construction will therefore be left in place and covered with additional material if required.

5.0 ECCC Comments

The proponent states:

"*geochemical testing indicates that the waste rock and overburden from the Project is non-potentially acid generating (NPAG) and non-metal leaching (NML). Kinetic tests completed on all waste rock type and at various scales show that drainage water quality is expected to meet MDMER monthly mean effluent limits, including results for arsenic. Therefore, a closure cover system is not proposed for the WRSFs" (AEM, 2019b)*."

And that:

"*The contact water management system for the WRSFs will remain in place until mine closure activities are completed and that monitoring results demonstrate that water quality conditions from the WRSFs are acceptable for discharge to the environment with no further treatment required. Once water quality meets the discharge criteria, diversion channels/berms/dikes will be decommissioned to allow the surface runoff and seepage water from the WRSFs to naturally flow to the outside environment*."

In Section 5.2.5.8 the proponent states that:

> "*Thermistor data will be monitored where required to determine thermal conditions within the WRSFs to confirm predicted permafrost aggradation/encapsulation and to verify that the thickness of the active zone is less than the design thickness of the cover;*".

This is a contradiction, as there is no cover, and should be corrected/clarified.

In addition, the proponent indicates that "*Once water quality meets the discharge criteria, diversion channels/berms/dikes will be decommissioned to allow the surface runoff and seepage water from the WRSFs to naturally flow to the outside environment*." As long as Meliadine Mine is subject to the MDMER, all effluents – including contact surface runoff and seepage water – are discharged through a final discharge point, and monitoring results reported through the MERS. Seepage should not be allowed to naturally flow to the environment. The requirement to manage seepage under MDMER will continue until the mine acquires the Recognized Closed Mine (RCM) status and will then be subject to the general prohibition of the Fisheries Act.

Response:

> *In section 5.2.5.8 of the Meliadine ICRP, it should be written: ''Thermistors will be installed in each WRSF to monitor the rate of freeze-back and permafrost development progress in the facilities during closure''.*
>
> *The contact water management system for the WRSFs will remain in place until mine closure activities are completed, and monitoring results demonstrate that water quality conditions from the WRSFs are acceptable for the discharge of all contact water to the environment with no further treatment required.*

6.0 ECCC Recommendation(s)

- ECCC recommends that the proponent be aware of the new discharge limits of the amended MDMER.

Response:

> *Agnico Eagle understands that the discharge limits in the amended Regulations for MDMER come into force June 1, 2021.*

7.0 ECCC Recommendation(s)

ECCC recommends the proponent clarify:

- The distance between the toe of the WRSFs and adjacent lakes

- Whether the quality of leachates from each of the WRSFs is being considered/assessed separately or as a mixture of all the leachates from all the WRSFs.

Response:

The closest lake to WRSF1 is located at approximately 180 m (Lake B7) from the facility, the closest pond to WRSF3 is located at approximately at 170 m (Pond J5), while the closest lake is at approximately 390 m (Meliadine Lake) and the closest pond to WRSF2 is located at approximately at 300 m (Pond H5) while the closest lake is at approximately 700m (Lake B7).

As presented in the Mine Waste Management Plan (AEM, 2019a), WRSF1 will straddle three catchment areas (catchment of CP1, catchment of Pond CP5, and catchment of Lake B7). WRSF2 will straddle two catchment areas (catchment of CP1 and catchment of CP5), and WRSF3 will be located within the basin of Pond H20. Seepage and runoff from the WRSFs during construction and operation phases will be managed using the water management system described below:

- *Seepage and runoff from WRSF1 within the catchment of CP1 will be diverted to CP1 via Channels 1, 7 and 8;*
- *Seepage and runoff from WRSF1 within the catchment of CP5 will be diverted to CP5 via Channels 5 and 6;*
- *Seepage and runoff from WRSF1 within the catchment of Lake B7 will be diverted and collected in CP4 via Channel 4;*
- *Seepage water and runoff from WRSF2 within the catchment of CP1 will be diverted to CP1 via Channel 1 and Channel 7 or flow directly into CP1;*
- *Seepage water and runoff from WRSF2 within the catchment of CP5 will be diverted to CP5 via Channel 6;*
- *Seepage and runoff from WRSF3 will directly report to CP6; and*
- *The water collected in CP4, CP5, and CP6 will be pumped to CP1, where the contact water will be treated by the EWTP prior to discharging to outside environment.*

The WRSFs water management infrastructure will remain in place until mine closure activities are completed and monitoring results demonstrate that the contact water quality from the WRSFs meets discharge criteria as per the Water License 2AM-MEL1631.

Water quality monitoring stations are specified for the containment ponds CP4, CP5 and CP6 (respectively MEL-21, MEL-22 and MEL-23).

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) Recommendations

1.0 Recommendation:

CIRNAC recommends that further opportunity to review the cost estimate be provided by the Nunavut Water Board following its approval of the ICRP.

Agnico plans to review the cost estimate with CIRNAC and KIA in Q2 2020.

2.0 Recommendation:

CIRNAC recommends the timeframe of post-closure monitoring be extended to 25 years, and the timeframe of interim care and maintenance be extended to 5 years, until AEM's predictions can be demonstrated through operational data.

Response:

The Meliadine ICRP presents a closure schedule based on three (3) years of active closure (Year 9 to 11), followed by seven (7) years of post-closure monitoring (Year 12 to 18). This monitoring schedule was developed specifically for the site in consideration of the necessary timeframe for physical and chemical stability to be demonstrated and it is the same schedule as accepted in the Meliadine Preliminary Closure Plan and Reclamation Plan (AEM, 2015). Provision for three (3) years of care and maintenance are provided in the closure cost estimate.

Agnico Eagle does not agree with extending monitoring out to 25 years and there has been no technical justification for the change since the project certificate and water license was issued.

Agnico Eagle believes that a period of three (3) years for interim care and maintenance is adequate for the Meliadine ICRP. The closure cost estimate is completed with the tool Reclaim 7.0, as per the Water License 2AM-MEL1631, part C, condition 7. The interim care and maintenance is the period considered for the transfer of ownership of an abandoned site to the authorities, before to initiate closure work. Based on the Reclaim User Manual Guide (GNWT, 2017), it is assumed that a minimum period of time of two (2) to three (3) years is required to transfer ownership of the site to the authorities, finalize a Closure and Reclamation Plan, retain a water licence for closure, mobilize equipment to the site, and conduct procurement activities to retain reclamation contractors.

3.0 Recommendation:

CIRNAC recommends that AEM provide the parameters, schedules and overall timeframes for post closure monitoring, as is required in the licence.

Response:

Table 2 of the Water License 2AM-MEL1631 presents the location, the phase of monitoring (including closure), the parameters (according to the monitoring groups presented in Table 1 of the Water License 2AM-MEL1631) and the frequency. This table is considered as the base for the closure and post-closure monitoring program. Table 2 of the Water License 2AM-MEL1631 is considered in the closure cost estimate. The location of the monitoring stations is presented in Appendix G of the ICRP.

Further details on the closure and post-closure water quality monitoring program will be included in the final version of the closure plan, due one year prior to closure. The water quality forecast completed during operations will also support the closure and post-closure water quality monitoring program.

The future versions of the Meliadine ICRP will include additional details on the closure and post-closure water quality monitoring program within the plan, as information becomes available from operational data. The final closure and post-closure water quality monitoring program will be included in the Final Closure and Reclamation Plan.

The groundwater quality monitoring plan will be further defined as the operations advance. During operations and in closure, the underground work area will be backfilled. Underground water quality will be monitored throughout operations. Passive flooding of the Tiriganiaq Underground Mine will occur following the completion of mining. Groundwater quality monitoring plan for closure will be elaborated according to backfill and flooding rate, as well as safe accessible area availability for monitoring.

4.0 Recommendation:

CIRNAC recommends that AEM provide clarification regarding how arsenic, if detected, will be removed from runoff water on site during all phases of the project, and how the arsenic impacted sludge will be stored and disposed. If the EWTP does not currently provide sufficient arsenic removal, an increased cost for water treatment/arsenic removal should be reflected in the closure cost estimate.

Response:

The approved monitoring plan was developed specifically for the site as the risk of leaching contaminants is primarily related to tailings porewater or oxidation of tailings. The rate of freeze back of the TSF is predicted to occur before the approved monitoring program is completed and as a result, continued monitoring will not reduce any risk to water quality. Freeze-back and cover placement are the management actions being taken to ensure water from tailings does not impact the receiving environment. Monitoring will continue until freeze-back has been achieved.

The main source of arsenic in CP3 would be from the tailings porewater or oxidation of tailings. This risk is being mitigated by the approved TSF design report, which promotes freeze-back of the

tailings thus inhibiting any seepage of arsenic, as well as the progressive and final closure cover. Monitoring of the effectiveness of the freeze-back of the tailings will be ongoing throughout the operations and into closure. Monitoring will continue until freeze back is achieved. To date, after nearly nine (9) months of operations (commercial operation started in May 2019), arsenic levels below MDMER, Water License 2AM-MEL1631 and CCME criteria have been measured in the collection pond CP1 (Station MEL-14). Arsenic levels below MDMER and Water License 2AM-MEL1631 criteria have been measured in the collection pond CP3 (Station MEL-20).

Monitoring of the water quality at CP3 and CP1 (respectively station MEL-20 and MEL-14) will be ongoing throughout operations as per the Water License 2AM-MEL1631 requirements. The water quality model forecast will be completed during operations and will include the water quality results in CP3 and CP1.

In the eventuality that arsenic levels above MDMER and Water License 2AM-MEL1631 criteria are measured during operations, an appropriate water treatment system would be implemented to meet the effluent discharge criteria (from CP1) as per the Water License 2AM-MEL1631 requirement. A complementary system to the existing effluent water treatment plant (EWTP) could be added in order to treat arsenic within CP1 if required. A sludge management program would also be elaborated in accordance with the current guidelines and the requirement of the Water License, which would include sludge deposition locations on site. Options such as the TSF would be evaluated. As the main source of arsenic in CP3 is predicted to be from residual process water that is assumed to be present in the filtered tailings, if arsenic level would be measured within CP3 and CP1, it will likely occur during the operation stage of the mine. Therefore, the treatment system for arsenic, if required, would be expected to be installed during the period of operations, rather than in the closure phase.

In the closure cost calculations completed with RECLAIM, the annual operational cost for the interim water treatment is estimated at $561,460 and is considered for three (3) years of treatment, for a total of $1,684,380, included in the "Interim Care and Maintenance" portion of the cost estimate. As for all direct costs, a contingency of 20% is added; representing an additional $336,876 for the water treatment plant. This provision is considered sufficient at this stage of the project, as no arsenic levels above applicable criteria have been measured in the collection ponds to date.

5.0 Applicable Regulatory Guidelines

AEM lists the applicable regulatory guidelines for the Meliadine Project in Section 2.5.1 of the ICRP. This list includes the Acts and Regulations applicable to the project but does not include the Metal and Diamond Mining Effluent Regulations (MDMER).

The Metal and Diamond Mining Effluent Regulations (MDMER) should be included in the regulatory guidelines for the Meliadine Project.

Response:

The Metal and Diamond Mining Effluent Regulations (MDMER) will be included in the regulatory guidelines list for the Meliadine Project in the next version of the ICRP.

AGNICO EAGLE
MELIADINE

Nunavut Water Board (NWB) Questions

1.0 Question

The previously submitted Water Management Plan (Section 3.9.3) mentioned that the SWTP discharge point was moved to CP5 in February 2019. However, this inflow is not reflected in the Water Balance Table of the ICRP, as it shows all zeros for inputs and a constant CP5 Volume until June 2019.

Response:

When the ICRP was developed, the last approved Water Management Plan was from Q1 2019, which included simulated projection model of the 2019 water balance on site. Since the submission of the ICRP, a new water management plan was submitted and approved (most recent update is from November 2019, version 8), which is more reflective of the actual water movement volumes and management strategies that took place in 2019. In essence, the discrepancy is due to the ICRP water balance providing a prediction, and the Water Management Plan(s) providing an update of realized activities.

2.0 Question

The input capacity of the solid mode is 66 m3/day (at 95%). How did you get such high numbers in the month July through September? 4000m3/ per month would require a 60 day month.

Response:

For clarification, the SWTP encompasses two salt-maker units. Each unit is able to operate in one of two different modes: brine mode or solids mode. In solids mode, each unit is rated for an input capacity of 66 m3/day at 95% availability. Therefore, both units running in salt-mode simultaneously accounts for a total available input capacity of 132 m3/day (3960 - 4092 m3/month). This full inlet capacity is thus reflected in the January 2019 projection model for some months as it was the maximum targeted treatment rate.

3.0 Question

The inflows to CP1 from the SWTP are **~4000 m3/month** from July to December, 2019. Even if the July-September volumes were combined with the solid-mode outputs, how can you explain the volumes for October-December?

Response:

In actuality (not what was predicted in the 2019 projection model) the SWTP experienced issues with solid salt production throughout the year. This impacted the volume of permeate produced,

not the quality of permeate produced (which is subsequently sent to CP1). Any co-mingling of underground water to CP1 is the result of waste rock brought to surface and placed in the CP1 catchment. Residual water in the waste rock will eventually flush out due to exposure to the elements and end up in CP1. At no point has there ever been a direct transfer of any underground water or brine to CP1, this would be very detrimental to the water management strategy on site and so the segregation of these two waters is very carefully managed.

References:

AEM (2015). Agnico Eagle Mines Limited Report No. 6513-CRP-01 (April) Meliadine Gold Project. Preliminary Closure and Reclamation Plan. Version 1.0.

AEM (2019a). Agnico Eagle Mines Limited. Report No. 6513-MPS-09 (March) Mine Waste Management Plan. Version 5.

AEM (2019b). Agnico Eagle Mines Limited. (February) Landfarm Management Plan. Version 3. 6513-MPS-15

AEM (2019c). Agnico Eagle Mines Limited. Report No. 6513-MPS-11 (August) Water Management Plan. Version 7.

(GNWT, 2017) Government of Northwest Territories. RECLAIM 7.0, User Manual, Revised November 2017.