



Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

Your file - Votre référence
2AM-MEL1631

March 5, 2019

Our file - Notre référence
CIDM# 1243577

Richard Dwyer
Manager of Licensing
Nunavut Water Board
Gjoa Haven, NU X0B 1J0

Sent via email: licensing@nwb-oen.ca

**Re: Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)
Technical Review Comments on the Water Management and Environmental
Management Protection Plans for the Meliadine Gold Project – Agnico
Eagle Mines Limited.**

Dear Mr. Dwyer,

Thank-you for the email notice, received on February 6, 2019, regarding the above mentioned management plans.

CIRNAC reviewed the applicant's management plans and comments are provided pursuant to CIRNAC's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

If you have any questions or require further information with respect to this matter, contact me at 867-222-9278 or ian.parsons@canada.ca.

Regards,

Ian Parsons
Regional Coordinator, Water Resources Division



Technical Review Memorandum

To: Richard Dwyer, Manager of Licensing, NWB

From: Ian Parsons, Regional Coordinator, Water Resources Division – CIRNAC, NRO

Date: March 5, 2019

Re: **Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)
Technical Review Comments on the Water Management and Environmental
Management Protection Plans – Agnico Eagle Mines Limited.**

Applicant:	Agnico Eagle Mines Limited
Representative:	Manon Turmel
Project:	Meliadine Gold Project
Region:	Kivalliq

RESULTS OF REVIEW

Comments and recommendations are provided by CIRNAC Water Resources Division, pursuant to the Department's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

A) Environmental Management Protection Plan (EMPP)

Background:

1. Requirements from Water Licence for Updated EMPP

Water Licence 2AM-MEL1631 states 5 requirements for the EMPP:

- a. Comprehensive Receiving Environment monitoring to identify changes to the aquatic environment associated with mine activities;
- b. Linkage between monitoring results and adaptive management response;
- c. Sampling and analysis plans;
- d. Thresholds for contaminant levels in CP1 and triggers for mitigation measures; and
- e. Monitoring under Fisheries Authorizations, NWB Licence Compliance Monitoring, Metal Mining Effluent Regulations (MMER) Environmental Effects Monitoring, and Groundwater Monitoring



Agnico Eagle Mine Limited's (AEM) Response to the water licence 5 requirements:

- a. The Comprehensive Receiving Environment Monitoring information is contained in the Aquatic Effects Monitoring Program (AEMP) report. The AEMP will also contain Environmental Effects Monitoring (EEM) as per ECCC recommendations.
- b. AEM has revised or modified most of the environmental management plans since the Water License was issued. Most are 2018 versions and some will be revised annually. Therefore, AEM claims they have demonstrated adaptive management as a strategy to prevent or mitigate any adverse environmental impact.
- c. AEM lists some of their sampling and analysis plans and refers the reader to the individual plans.
- d. Appendix B shows rating curves with $R^2 = 0.85$ for conductivity and $R^2 = 0.79$ for turbidity. Details of how these were calculated are on page 28-29. Rating curves predicting TSS concentration as a function of turbidity and TDS as a function of conductivity were developed with simple linear regressions.
- e. Groundwater quality and quantity monitoring is identified in the Groundwater management Plan. Environmental Effects Monitoring is identified in the AEMP. Regulated discharge monitoring includes parameters listed in NWB licence and MMER and results provided in AEMP.

2. Other Water Licence requirements for the EMPP

From the Water Licence: "The Licensee shall update the Environmental Management and Protection Plan for submission to the Board for approval in writing, at least ninety (90) days prior to Operations. The updates are to take into account commitments made with respect to submissions received during the technical review of the Application, as well as final submissions and issues raised during the Public Hearing Process, where applicable."

CIRNAC's recommendation from Document *RE: Indigenous and Northern Affairs Canada's Review of Management Plans for Agnico Eagle Mines Limited's Meliadine Gold Project, Part B, Item 13 of Type 'A' Water Licence No. 2AM-MEL1631 (CIDM 1086044)* dated July 28, 2016:

"The Licensee should include water monitoring parameters/sampling groups for monitoring stations MEL-D-1 to TBD and MEL-SR-1-TBD in the revised Water Management Plan and Table 4-1 of the Environmental Management and Protection Plan."

Table 4-1 in the 2015 version was the "Proposed Water Quality Regulated, General Aquatic, and Verification Monitoring for the Project during Construction, Operations, and Closure." It included Monitoring station numbers, monitoring type. This table was removed and replaced by a new Table 4-1. The current EMPP Table 4-1 was revised "as per approved new sampling location nomenclature" but does not include sampling or monitoring. Rather, it is a summary of proposed inspections. Figure 4-2 in the previous version of this plan was a map that demonstrated where the sampling locations were on site and was colour coded to show which type of monitoring stations



they were (ie. General, verification, or regulated monitoring). It corresponded to Table 4-1 water monitoring details. This figure has been removed in the new version (presumably because all of the water monitoring details have moved to the AEMP).

The current 2019 version of the EMPP document does not contain any reference to monitoring stations anymore, nor does it contain sampling groups/parameters. Agnico Eagle has stated in this plan that monitoring information is in their recently submitted Aquatic Effects Monitoring Program (AEMP) report instead of the EMPP.

3. Other Information Removed between 2015 and 2019 versions

- Table 4-2 List of Constituents in Each Parameter Group
- Table 4-4 Internal and External Record Keeping
- Numerous sections - Wordy details and descriptions/definitions removed.
 - Introduction 1.1 Details about the mine location, activities, facilities, phases, etc.
 - Section 3.2 Discussion of changing the scope of the project (and thus plans) in times of economic hardship or putting the mine in care and maintenance if faced with severe economic hardship in accordance with the provisions outlined in the Preliminary Closure and Reclamation Plan (NIRB requirement to discuss plans in times of economic hardships)
- Inspection Procedures
 - 4.2.3.3 Road Inspection Procedures
 - 4.2.3.4 Watercourse Inspections Procedures
 - Inspection frequency
 - Mine Components and Activities Inspection Procedures
 - 4.3 Incident Investigations and Corrective Actions

Recommendations/Comments:

- 1) AEM has stated that relevant information is located in their AEMP Report as well as other relevant management plans.
CIRNAC recommends that AEM input all required information into their EMPP as stipulated by their water licence. CIRNAC finds this way of reporting to be very cumbersome as now CIRNAC, other intervenors and interested parties would have to read a number of documents to validate if AEM are actually meeting the requirements of for this plan. As well AEM do not list all of the specific management plans we would have to read
- 2) Several items in the EMPP, including but not limited to, Table 4.1, 4.2, 4.4 as well as items listed in 3 above, are now either missing or have been removed from the current version of this document. CIRNAC recommends that AEM provide justification or reasoning as to why these items have been removed.



- 3) AEM also references Appendix X which CIRNAC could not find. CIRNAC recommends that AEM provide clarification as to which document they meant to reference.

B) Water Management Plan

Recommendations/Comments

- 1) After reviewing the water management plan CIRNAC could not find details on the underground sumps and stopes as it pertains to water. CIRNAC recommends that AEM provide as much detail as possible in how they are controlling and mitigating the water entering the underground workings.
- 2) CIRNAC recommends that AEM clarify/indicate the mitigation measures planned for any unexpected seepage flooding in the Underground Mine.
- 3) CIRNAC has also found that even though AEM has provided the locations of the culverts and channels within the road system of the mine, CIRNAC could not find the detailed engineered construction drawings. CIRNAC recommends that AEM provide the detailed construction drawings.