



Water Resources
Nunavut Regional Office
P.O. Box 100
Iqaluit, NU, X0A 0H0

August 17, 2015

AANDC reference
CIDM# 937271

NWB reference
#8BC-MEL----

Phyliss Beaulieu
Manager of Licencing
Nunavut Water Board
Gjoa Haven, NU, X0E 1J0

Re: AANDC's Review of Agnico Eagle Mine Ltd.'s Application for a New Type B Water Licence for Pre-Development Work for its Proposed Meliadine Gold Mine. Licence No. 8BC- MEL

Dear Ms. Beaulieu,

Thank you for your email on July 17, 2015, concerning the above mentioned water licence application process.

A memorandum is provided for the Nunavut Water Board's (Board or NWB) consideration. Comments have been provided 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*.

Please do not hesitate to contact me by telephone at 867-975-4282 or email at ian.parsons@aandc-aadnc.gc.ca for further comments or any questions.

Sincerely,

Ian Parsons
Regional Coordinator, B.Sc.
Aboriginal Affairs and Northern Development Canada
P.O. Box 100
Iqaluit, NU, X0A 0H0

c.c.: Andrew Keim, A/Manager Water Resources, Nunavut Regional Office (NRO),
AANDC
Erik Allain, Manager of Field Operations, NRO, AANDC



Memorandum

To: Phyllis Beaulieu, Nunavut Water Board

From: Sarah Forte, Regional Coordinator, Water Resources Division, AANDC
Ian Parsons, Regional Coordinator, Water Resources Division, AANDC

CC: Andrew Keim (AANDC), Erik Allain (AANDC), Christine Wilson Water Resource Officer (AANDC)

Date: August 17, 2015

Re: **AANDC's Review of Agnico Eagle Mine Ltd.'s Application for a New Type B Water Licence for Pre-Development Work for its Proposed Meliadine Gold Mine. Licence No. 8BC- MEL**

Applicant:	Agnico Eagle Mine Ltd.
Project:	Meliadine Gold Project
Region:	Kivalliq

A. BACKGROUND

On July 17, 2015 the Nunavut Water Board (NWB or Board) provided notification to interested parties that Agnico Eagle Mines Limited Partnership (Agnico Eagle or the applicant) had completed submission of an application for a Type "B" water licence # 8BC-MEL---- for development work related to the mining of the Meliadine Gold Project.

The licence is for water use associated with construction labeled as pre-development and is intended to allow construction to begin whilst the entire project undergoes a Type "A" water licence review. It does not request the permission for use of water or deposit of waste to water. The specific activities for which the Type "B" licence is being requested are:

- construction of fuel storage tanks farm in Rankin Inlet;
- preparation of the laydown area in Rankin Inlet;
- construction of a pad for the permanent camp;
- installation of pilings for the permanent camp and infrastructure;
- start of work on concrete foundations;
- construction of necessary service roads to undertake the other pre-development activities;



- new portal and conveyor ramp, including ventilation infrastructure to the underground mine;
- construction of the access roads; and
- pre-delivery of material (i.e., equipment, material, and fuel).

These activities were identified as pre-development in Volume 2, section 2.2.1 of the Final Environmental Impact Statement (FEIS). Additional activities identified in the FEIS but which are not part of this application are:

- installation of the spud barge; and
- stripping of open pit(s) (overburden and waste rock) and ore/waste rock stockpiling.

The project application does not include direct water use, as Agnico Eagle proposes to use water permitted under its water licences 2BB-MEL1424 and 2BW-MEL1525 for camp and industrial purposes. The water use requested is for crossing a watercourse and modifying the bed or bank of a watercourse. The applicant also proposes to dispose of the waste produced under its present licence 2BB-MEL1424 and expects to produce minimal quantities of the following wastes: domestic waste, solid domestic waste, hazardous material, bulky metal, waste oil, contaminated soil and or water. The licence application requests a term that lasts until the approval of the Type “A” licence.

Interested parties were asked to review the information and provide comments by August 17, 2015

B. RESULTS OF REVIEW

The following comments and recommendations are provided for the consideration of the Water Board :

1. Project executive summary

Reference:

- Main Application Supporting Document, May 2015 >> Executive summary
- Golder correspondence regarding Meliadine Gold Pre-development Type B WL application, Dionne Filiatrault, June 26, 2015

Comment:

The executive summary of the proposed work, presented in the Main Application Supporting Document, has not been translated into inuktitut.

Additionally, according to correspondence provided by Golder, the executive summary was not updated following some last minute changes.

Recommendation:



Aboriginal Affairs and Northern Development Canada (AANDC) recommends that the applicant be requested to provide an inuktitut version of the project's executive summary. This opportunity could be taken to update the summary.

2. Water use for camp purposes

Reference:

- General Water Licence Application – Pre-development of Meliadine Gold Project, June 16, 2015 >> boxes 12 & 13
- Water licence 2BB-MEL1424 – Advanced Exploration, Bulk Sample - issued July 22, 2014 >> Part C, Item 1
- Main Application Supporting Document, May 2015 >> Sections 1.4 & 3.4
- Annual Report 2014, Licence 2BB-MEL1424, March 2015

Comment:

The application states that no direct water use is requested as water use for domestic purposes is authorised under water licence 2BB-MEL1424. This licence permits the use of 45 m³/day of water for camp or domestic uses.

The existing site infrastructure includes an exploration camp, located on a peninsula in Meliadine Lake, which can accommodate 200 people. Fifty rooms will be added to the camp in order to accommodate 250 construction personnel. Since no increase in water for camp purposes has been requested, the available water per person per day will decrease by 25%. The 2014 Annual Report indicates use of 39 m³ of water per day for domestic purposes in June 2014 so it is not clear how there will be sufficient water for the camp if its size is increased by 25%.

3. Use of ramp rock to construct pad

Reference:

- Main Application Supporting Document, May 2015 >> Section 3.3

Comment:

The application states that approximately 200 000 m³ of material will be needed to construct the infrastructure pad. The material is to come from two main sources: the ramp development waste rock and borrow pits B5 and B6A.

In Section 3.2, when discussing source materials for satellite infrastructure construction, Agnico Eagle states that the quarries and borrow pits selected showed no potential to generate acid drainage, and that visual examinations as well as Acid Rock Drainage/Metal Leaching (ARD/ML) testing would be conducted to confirm the best available building materials were used. No such commitments were made in Section 3.3 when discussing mine site infrastructure construction.

Recommendation:

AANDC recommends that the applicant be required to apply the same ARD/ML standards for construction materials at the mine site as is used for satellite infrastructure



or demonstrate how using potentially acid generating rock to construct the infrastructure pad will not adversely affect water quality.

4. Water use - Installation of culvert #2 and channel #2

Reference:

- General Water Licence Application – Pre-development of Meliadine Gold Project, June 16, 2015 >> box 12
- Main Application Supporting Document, May 2015 >> Sections 3.3 & 5.1

Comment:

In constructing a portion of the infrastructure pad, two water management structures will have to be constructed as well in order to manage contact water. The structures are culvert #2 and diversion channel #2 and are described in the Water Management Plan submitted with the Type “A” water licence application.

The following two statements are made regarding channel #2 in Section 5.1:

- *begin construction of diversion channel 2 to divert non-contact water away from the industrial site pad.*
- *the contact water from the plant site area will naturally flow or be diverted via channel 2 into ponds ...*

These statements seem contradictory because in the first, channel 2 serves for non-contact water and in the second, it is for contact water.

Evaluating separate components of the Water Management Plan makes it difficult to judge their relevance and appropriateness because the bigger picture is incomplete. It is not clear why it is necessary to install culvert #2 before the entire Water Management Plan is approved. Some structure will be necessary to collect contact water from the infrastructure pad being constructed, which might possibly be channel 2, as it is located next to the planned pad in Figure 1.4.

Recommendation:

AANDC recommends that the applicant:

- explain the necessity of constructing the two water diversion structures before the Water Management Plan can be evaluated as a whole;
- clarify the intended purpose of culvert #2; and
- provide plans of the proposed pad and drainage structures for review.

5. Tank farm construction at Itivia

Reference:

- Main Application Supporting Document, May 2015 >> Sections 2.4.3 & 5.1 and Table 2.3

Comment:



The construction of a fuel tank farm with a containment berm is planned and may be included in pre-development construction. No plans have been provided for the containment structure.

Recommendation:

AANDC recommends that the applicant provide the plans for the fuel tank farm for review before construction.

6. Contact water discharge

Reference:

- Main Application Supporting Document, May 2015 >> Section 5.1
- General Water Licence Application – Pre-development of Meliadine Gold Project, June 16, 2015 >> box 15

Comment:

The Main Application Supporting document states that if the fuel tank farm containment area is constructed as part of pre-development, inspections will be done to ensure no water overflows into the environment and *“prior to discharge, accumulated water in the secondary containment area will be tested.”*

There is no request to discharge water in the application and the discharges locations included in licence 2BB-MEL1424 are not in Itivia, where the new tank farm would be built.

Recommendation:

AANDC recommends that if the licence includes the possibility of constructing the tank farm containment area planned in Itivia, it include a discharge location, a monitoring program station and discharge criteria for the water discharged from the containment area.

7. Landfill

Reference:

- Main Application Supporting Document, May 2015 >> Section 3.6
- Landfill and Waste Management Plan, Version 1, April 2012
- Landfill and Waste Management Plan, Version 4, 6512-MPS-06, April 2015
- Water licence 2BB-MEL1424 – Advanced Exploration, Bulk Sample - issued July 22, 2014 >> Part D, Item 14 & Part J, Item 1

Comment:

Agnico Eagle will not construct two landfills and *“proposes to relocate the landfill authorized under 2BB-MEL1424 and construct the temporary landfill in the location proposed in the Type A Water Licence.”* The term temporary is not defined.

If the term temporary means that the material will be moved at a later date, this can be problematic if waste asbestos is to be landfilled, as described the management plans.



According to the management plan, *“leachate from the landfill is anticipated to be of very low ionic strength ... , and as a result site-specific landfill leachate management is not considered to be required.”* Additionally, the landfill will be located in a future tailing/waste rock area, which will *“allow any leachate that may be generated to be collected, monitored and managed.”*

The timing of construction of the landfill relative to the remainder of the waste storage area is not clear, therefore it is not possible to determine if the leachate and runoff collection systems will be in place when needed.

AANDC believes the “typical design section” presented in Figure 1-2 of Version 4 of the Landfill and Waste Management Plan is an improvement over that presented in Version 2, Figure 4-1, because it includes a layer of liner bedding till which will impede the flow of leachate.

Recommendation:

AANDC recommends that the applicant be requested to clarify what a temporary landfill is, specifically, if the material will be moved at a later date and what construction design is planned. Timing of landfill construction and the leachate and runoff collection system for the waste storage area should be specified.

AANDC also recommends that the applicant be required to test the leachate and runoff to demonstrate that it is of the anticipated low ionic strength and that the monitoring station MEL-8 be relocated appropriately.

8. Spill contingency plan

Reference:

- Meliadine Gold Project Spill Contingency Plan, February 2014
- Main Application Supporting Document, May 2015 >> Section 5.4
- Golder correspondence regarding Meliadine Gold Pre-development Type B WL application, Dionne Filiatrault, June 26, 2015

Comment:

Some of the contact names and numbers are out of date, as is the inventory in appendix B.

Recommendation:

AANDC recommends that Spill Contingency Plan include the following modifications:

- p. iii: Change contact information for AANDC personnel
 - from Henry Kablalik to Christine Wilson
 - from Peter Kusugak to Erik Allain: Erik.Allain@aadnc-gc.ca, phone (867) 975-4295, fax (867) 975-6445
- p. 13: Only two contacts are required under Aboriginal Affairs and Northern Development Canada and they are the same as on page iii.



- Nunavut Field Operations (867) 975-4295
 - Water Resource Officer, Rankin Inlet (867) 645-2830
- p. 19 & p. 21: the 24-hour NWT/NU Spill Report Line phone number is (867) 920-8130 rather than the (403) number found in the document
- Update the response equipment inventory in appendix B so that it is current.

9. Borrow pits and quarries management plan

Reference:

- Borrow Pits and Quarries Management Plan, April 2015
- Main Application Supporting Document, May 2015 >> Section 3.2

Comment:

Both the Management Plan and the Main Application Supporting Document state that *“the reclaimed quarries and borrow pits will have gently sloping walls and positive drainage wherever possible.”*

If the drainage at a reclaimed quarry is not positive, a pit lake will likely form, which could lead to permafrost degradation and thermokarsting.

Recommendation:

AANDC recommends that the applicant be required to ensure reclaimed quarries have positive drainage.

10. Project specific information requests

Reference:

- Concordance Assessment, Supplemental Information Guide for Mineral Exploration / Remote Camp Modified for Pre-Development Works, May 2015 >> tab 9.0 PSIR NIRB

Comment:

According to the comments presented in the table of project specific information requirements (PSIR) in the concordance assessment, the applicant believes several of the Nunavut Impact Review Board (NIRB) conditions are not yet applicable at this stage of pre-development. AANDC does not agree in all cases. The following table lists those conditions which we believe should be considered for this Type “B” licence.

NIRB condition: 1	Project phase: pre-construction
Applicant’s comment: n/a for pre-development stage as presented in this Application	
AANDC comment: The term and condition f. is baseline data collected prior to significant construction activity, so updating a plan and initiating monitoring seems appropriate.	



NIRB condition: 3	Project phase: pre-construction
Applicant's comment: Should dust be generated for any roads associated with pre-development, water for dust suppression will be sourced under existing AWAR water licence.	
AANDC comment: The term and condition begins with " <i>prior to commencing construction activities</i> " so this early construction stage seems appropriate for defining plans to monitor dust deposition arising from the road.	
NIRB conditions: 12 & 17	Project phase: pre-construction
Applicant's comment: n/a for pre-development stage as presented in this Application	
AANDC comment: Condition 12 requires further permafrost mapping in the Project development area, and some of this data will have to be gathered before building the infrastructure pad and beginning to divert watercourses, as proposed in this licence application. Condition 17 also relates to permafrost and requests monitoring the effects of the Project, including all-weather access road and quarries. Since these project components are already in use, it would be appropriate to monitor their effect.	
NIRB condition: 27	Project phase: pre-construction
Applicant's comment: n/a for pre-development stage as presented in this Application	
AANDC comment: The term and condition a. requires collection of adequate baseline data at Meliadine Lake prior to and during construction activities, so the pre-development stage would be an appropriate time to update the Aquatic Effects Monitoring Plan and begin data collection.	
NIRB condition: 32	Project phase: pre-construction
Applicant's comment: Refer to the Road Management Plan submitted in support of this Application	
AANDC comment: The Road Management Plan does not address site drainage and silt control. As the applicant is proposing to construct diversion channel #2 and culvert #2 to control drainage around the infrastructure pad they will construct, they should provide the requested Site Drainage and Silt Control Plan.	
NIRB condition: 33	Project phase: pre-construction
Applicant's comment: n/a for pre-development stage as presented in this Application	
AANDC comment: There will be blasting in the quarries and the ramp, and it should meet the appropriate guidelines.	



Recommendation:

AANDC recommends that the applicant be required to fulfil the NIRB certificate conditions relevant to the work they propose to begin with this Type “B” licence application.

11. Security

Reference:

- Main Application Supporting Document, May 2015 >> Appendix F: Closure and Reclamation Strategy and Security Estimate for the Pre-development Works

Comment:

The applicant proposes that “*the NWB defer full consideration of security of project liability to the Type A Water Licence*”, but has included an estimate of financial liability for pre-development works and site preparation. The total estimated reclamation cost is of 1 052 718\$.

In Section 3.0, the scope of development works includes stripping of open pits (overburden and waste rock) and ore/waste rock stockpiling. This work is not included in either the general application document or the main application supporting document so it is not logical to include it in this reclamation document.

The closure and reclamation activities in Section 5.0 do not include the dismantling of the fuel storage facility to be constructed in Itivia. In Section 3.0, the applicant states that it does not anticipate constructing the facility at this stage but wants it included in the licence for flexibility. AANDC believes that if it is included in the licence, it should be included in the reclamation cost estimate.

The closure and reclamation activities include the disposal of inert non-hazardous material in the landfill area. Since there is no landfill presently constructed on the project site, and the landfill proposed in this application is to be temporary, it seems as if the reclamation work would have to include construction of a permanent landfill.

It is not clear how the costs of several of the closure and reclamation activities listed in Section 5.0 are included in the cost estimate. These include:

- *An assessment will be carried out to identify areas where soils may be contaminated by hydrocarbons. Contaminated soils will be excavated and hauled off site or managed as described under the authorized water license 2BB-MEL1424 which authorizes the use of an existing landfarm.*
- *Hazardous wastes will be removed for disposal by a licensed handler.*
- *Fuel not required during the closure and reclamation activities will be will be sold, returned to suppliers, disposed by a licensed handler, or incinerated.*

The cost estimate does not include any care and maintenance between the abandonment of the site and its reclamation. This period typically lasts several years as parties sort out responsibilities and AANDC believes 3 years of care and maintenance should be added to the reclamation cost estimate.



AANDC agrees with the applicant that if a Type “A” water licence is issued in the future, the Board should incorporate the security required for this Type “B” licence application to avoid double bonding.

Recommendation:

AANDC recommends that security be held for the Type “B” licence. We recommend that the applicant clarify how all the reclamation activities and all project components are adequately covered in the security cost estimate, revising it if necessary.

C. CONCLUSION

With consideration of the comments submitted, AANDC deems this application to be receivable. The most significant outstanding points are the security cost estimate and avoiding project parcellation when considering project water and drainage structures.