Your file - Votre référence
2AM-MEL1631

October 07, 2016

Our file - Notre référence
IQALUIT-#1105736

Ida Porter
Licence Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Sent via email: licensing@nwb-oen.ca

Dear Ms. Porter,

Re: Indigenous and Northern Affairs Canada's Review of Final Construction Drawing for Berm 3 and Channel 5, Agnico Eagle Mines Limited's Meliadine Gold Project, Part D, Item 1 and 2 of Type 'A' Water Licence No. 2AM-MEL1631

Thank you for the Nunavut Water Board's September 23, 2016 notice regarding the above mentioned construction plan.

A memorandum is provided for the Nunavut Water Board's consideration. Comments and recommendations have been provided pursuant to Indigenous and Northern Affairs Canada'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 867-222-1008 or email at Amjad.Tariq@aandc-aadnc.gc.ca for further information.

Sincerely,

Amjad Tariq
Regulatory and Science Advisor
Water Resources Division
Resource Management Directorate
Nunavut Regional Office
Indigenous and Northern Affairs Canada
IQALUIT, NU X0A 0H0

cc. Scott Burgess, Acting Manager, Water Resources Division, INAC
Erik Allain, Manager, Field Operations, INAC

Memorandum

To: Ida Porter, Licensing Administrator, Nunavut Water Board

From: Amjad Tariq, Regulatory and Science Advisor, Water Resources Division, Indigenous and Northern Affairs Canada (INAC)

Date: October 07, 2016

Re: **Indigenous and Northern Affairs Canada's Review of Final Construction Drawing for Berm 3 and Channel 5, Agnico Eagle Mines Limited's Meliadine Gold Project, Part D, Item 1 and 2 of Type 'A' Water Licence No. 2AM-MEL1631**

Licence: 2AM-MEL1631
Licensee: Agnico Eagle Mines Ltd
Project: Meliadine Gold Mine
Region: Kivalliq

BACKGROUND

On September 23, 2016, the Nunavut Water Board (Board or NWB) requested that interested parties review the documents for the construction of Berm 3 and Channel 5 submitted by Agnico Eagle Mines Limited for its Meliadine Gold Mine project as a requirement of Part D, Item 1 and 2 of the Water Licence 2AM-MEL1631.

Interested parties were asked to provide comments by October 07, 2016.

RESULT OF REVIEW

The following documents for Meliadine gold project have been reviewed.

- TetraTech EBA, Design Report for Berm 3 and Channel 5, Meliadine Gold Project, NU, September 20, 2016 (CIDM, IQA # 1105848)
- Golder Associates Ltd., D 6-3 Geochemical Characterization of Waste Rock, Ore, Tailings and Overburden, Meliadine Gold Project, Nunavut, A Technical Report submitted to Agnico Eagle Mines, April 2014 (CIDM, IQA # 953932)

The following comments and recommendations have been prepared.

Regulatory Authority:	Nunavut Water Board	No. INAC 1
References:	• TetraTech EBA, Design Report for Berm 3 and Channel 5, Meliadine Gold Project, NU, September 20, 2016 Section 3.5 Geochemical Characterization of Overburden and Rock Page 5, pdf page 12 Section 6.2.1 Run-of-Mine Rock fill Page 7, pdf page 14 • Golder Associates Ltd., D 6-3 Geochemical Characterization of Waste Rock, Ore, Tailings and Overburden, Meliadine Gold Project, Nunavut, A Technical Report submitted to Agnico Eagle Mines, April 2014 Section 7.0 Mine Waste Management Consideration Section 8.0 Recommendations Page 75-76, pdf page 84-85	
Rationale:	• TetraTech EBA, Design Report for Berm 3 and Channel 5, Meliadine Gold Project, NU, September 20, 2016 In Section 3.5, the Licensee states that, 'A baseline geochemical characterization program for the project was initiated in 2008 and consisted of static and kinetic testing methods to assess the chemical composition of the mine waste and overburden, its potential to generate acid rock drainage (ARD) and its potential for metal leaching (ML) upon exposure to ambient conditions. Golder (2012c) documented the waste geochemical characterization programs carried out from 1998 to 2011 for the project. The key findings of the study included the following: • The waste rock from the Tiriganiaq deposit area is considered to be non-potentially acid generating (NPAG) and has a low potential for ML. Kinetic tests at various scales indicate that drainage water quality will meet MMER monthly mean effluent limits. • The overburden at the site will be NPAG, and that leachate concentrations are generally lower than waste rock and will meet MMER monthly mean effluent limits. Waste rock and overburden have compatible geochemical characteristics such that these materials can be managed together in the same disposal facilities. Therefore, the waste rock from the mine development, fill materials sourced from the rock, and overburden materials will be NPAG and have low potential of ML.' In Section 6.2.1, the Licensee states that,	

	'The material shall be sourced from hard, durable, non-acid generating Rock'. • Golder Associates Ltd., D 6-3 Geochemical Characterization of Waste Rock, Ore, Tailings and Overburden, Meliadine Gold Project, Nunavut, A Technical Report submitted to Agnico Eagle Mines, April 2014 Section 7.0 states that, 'The mine waste management considerations are subject to re-evaluation upon completion of additional studies, further sampling, and/or modification/finalization of the mining plan and mine waste management plans.' Section 8.0 states that, 'Upon modification or finalization of the mine plan, the geochemical characterization program results should be re-evaluated according to the chosen mining technique, development sequence and new pit outlines.' INAC is concerned that the geochemical characterization program (1998-2011) needs to be re-evaluated to fully characterize the mine waste in light of Golder's recommendations. The proposed construction materials (run-of-mine rock fill) need geochemical characterization (acid generating and metal leaching potential) in light of water licence condition, i.e., Water Licence 2AM-MEL1631, Part D, 2(c).
Recommendation:	In order to demonstrate that the run-of-mine rock fill is non-potentially acid generating (NPAG) and non-metal Leaching (ML), the Licensee should provide geochemical analysis of the materials (waste rock and fill) for the proposed construction.