



Your file - Votre référence
2AM-DOH1323

March 21, 2017

Our file - Notre référence
IQALUIT-#1135712

Ida Porter
Licencing 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 Updated Management Plans
Submitted by TMAC Resources Inc. - Type 'A' Water Licence No. 2AM-DOH1323**

Thank you for the Nunavut Water Board's February 17, 2017 notice regarding the above mentioned.

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 for further information at 867-222-1008 or by email at Amjad.Tariq@aadnc-aadnc.gc.ca or Sarah Forté at 867-975-3876 or by email at Sarah.Forte@aadnc-aadnc.gc.ca.

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. Ian Parsons, 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, INAC
Sarah Forté, Water Management Coordinator, Water Resources Division, INAC

Date: March 21, 2017

Re: **Indigenous and Northern Affairs Canada's Review of Updated Management Plans Submitted by TMAC Resources Inc. - Type 'A' Water Licence No. 2AM-DOH1323**

Applicant: TMAC Resources Inc.
Projects: Doris North Gold Mine
Region: Kitikmeot

A. BACKGROUND

On February 17, 2017, the Nunavut Water Board (NWB or Board) provided notification for review of the following updated management plans submitted by TMAC Resources Inc.'s (the Licensee) for its Type 'A' Water Licence No. 2AM-DOH1323 (the Licence).

- Water Management Plan, Hope Bay, Nunavut, TMAC Resources, February 2017 (IQA # 1137092)
- Spill Contingency Plan, Hope Bay, Nunavut, TMAC Resources, January 2017 (IQA # 1137208)
- Domestic Wastewater Treatment Plan, Hope Bay, Nunavut, TMAC Resources, February 2017 (IQA # 1137207)
- Interim Non-Hazardous Waste Management Plan, Hope Bay, Nunavut, TMAC Resources, December 2016 (IQA # 1137094)
- Quality Assurance and Quality Control Plan, Hope Bay, Nunavut, TMAC Resources, January 2017 (IQA # 1137209)
- Quarry Management Plan and Monitoring Plan, Hope Bay, Nunavut, TMAC Resources February 2017 (IQA # 1137210 and 1137211)

Initially, the NWB requested interested parties review the documents and make representations by March 17, 2017. On March 14, 2017, the deadline was moved to March 21, 2017.



B. RESULTS OF REVIEW

On behalf of Indigenous and Northern Affairs Canada (INAC) Water Resources Division, the following comments and recommendations are provided for the Board's consideration.

1. WATER MANAGEMENT PLAN

Reference:

- Water Management Plan, , Hope Bay, Nunavut, TMAC Resources, February 2017
- Water Management Plan, , Hope Bay, Nunavut, TMAC Resources, June 2015
Table A4: Doris Creek Water Quality Limits during periods of discharges
Page 6, pdf page 23
- Interim Closure and Reclamation Plan, Doris North Mine, Hope Bay, Nunavut, June 2015
Section 5 Closure Activities
Page 19-26, pdf page 25-32
- Nunavut Water Board Type A Water Licence No. 2AM-DOH1323 amended on November 04, 2016
Part F, Item 1

Comment 1:

Part F, Item 1 (b) of the Licence requires an update of Table A4 of the 2015 Water Management Plan that takes into consideration the recommendations received during the review period and matches the closure objectives stated under the Approved 2015 Closure and Reclamation Plan, Section 5, Closure activities.

The Table A4 entitled 'Doris Creek Water Quality Limits during periods of discharge' is not available in 2017 Water Management Plan. The limits in this Table are no longer applicable because the amended licence does not allow for discharge into Doris Creek until after closure, since deposition of tailings into the tailings impoundment area has begun. Presently, the licence does not include any criteria for discharge into Doris Creek after closure. The Licensee writes in section A3.3, that "*Water quality criteria in the TIA for discharge to the Doris System will be determined in advance of final closure and in consultation with interested parties.*"



Comment 2:

Revisions 8 and 9 in the Revision Record Table at the beginning of the document are not in chronological order, or there may be a typo in the date of Revision 9.

INAC could not find a copy of the August 2018 (Version 8) Water Management Plan on the Water Board ftp site.

Recommendation:

The Revision Record Table should be corrected.

Comment 3:

Table A2 describes characterization of tailings impoundment area related water. The monitoring parameters are identified by letters which refer to groups of parameters. No description is included of the parameters which make up the different groups.

Recommendation:

A description of the monitoring parameter groups should be included in the Water Management Plan.

2. SPILL CONTINGENCY PLAN

Reference:

- Spill Contingency Plan, Hope Bay, Nunavut, TMAC Resources, January 2017
- Nunavut Water Board Type A Water Licence No. 2AM-DOH1323 amended on November 04, 2016
Part F, Item 1

INAC has no concern with the submission. INAC is satisfied with the care with which the comments INAC submitted in 2016 were integrated. Two typos were noticed:

- 1) The Doris North Tailings Operations, Management and Surveillance Plan referenced in Table 2 on page 2 was submitted in 2016.
- 2) An acronym no longer in use for INAC is used in sections 2.3.6. and 2.3.7., where the Department is referred to as AANDC.



3. DOMESTIC WASTE WATER MANAGEMENT PLAN

Reference:

- Domestic Wastewater Treatment Plan, Hope Bay, Nunavut, TMAC Resources, February 2017
- Nunavut Water Board Type A Water Licence No. 2AM-DOH1323 amended on November 04, 2016
Part G, Item 3

INAC has no concern with the submission. However, INAC notes that during discussions on the amendment to type A licence 2AM-DOH1323 in June 2016 workshop, the Licensee requested that the units for reporting Fecal Coliform tests be changed to include both CFU/100mL (colony forming units) to MPN/100mL (most probable number) because the laboratory they worked with had changed methods. The laboratory certificate included with the Quality Assurance/Quality Control Plan confirms that laboratory reports biological results in MPN/100 mL. The amended licence does not contain the additional measurement unit requested for Fecal Coliform. INAC seeks clarification as to whether MPN/100 mL is an acceptable reporting unit for Fecal Coliform results.

4. INTERM NON-HAZARDOUS WASTE MANAGEMENT PLAN

Reference:

- Interim Non-Hazardous Waste Management Plan, Hope Bay, Nunavut, TMAC Resources, December 2016
Section 4 Legislation, Guidelines and Approval
Page 2, pdf page 6
- Nunavut Water Board Type A Water Licence No. 2AM-DOH1323 amended on November 04, 2016
Part G

Comment 1:

The provided updated management plan includes expired Type A Water Licence number and associated part G of the expired licence (2AM-DOH0713).



The Licensee should include current Type A Water Licence (2AM-DOH1323) and relevant items of Part G of the current licence.

Recommendation:

INAC recommends that Licensee include current Type A Water Licence (2AM-DOH1323) and relevant items of Part G of the current licence.

5. QUARY MANAGEMENT PLAN

Reference:

- Quarry Management Plan and Monitoring Plan, Hope Bay, Nunavut, TMAC Resources February 2017
- Nunavut Water Board Type A Water Licence No. 2AM-DOH1323 amended on November 04, 2016
Part G, Item 10

INAC has no concern with the submission.

6. QUALITY ASSURANCE AND QUALITY CONTROL PLAN

Reference:

- Quality Assurance and Quality Control Plan, Hope Bay, Nunavut, TMAC Resources, January 2017
- Protocols Manual for Water Quality Sampling in Canada, Canadian Council of Ministers of the Environment, 2011, Section 1.3

Comment 1:

Section 4 of the Quality Assurance and Quality Control Plan does a good job of describing six different types of quality control (QC) samples. However it is not clear that how they should be collected and how they can be used. The Plan does not specify how many quality control samples should be collected and when to do so.



Standard procedures, as suggested by the Canadian Council of Ministers of the Environment, are to collect at least 10% of samples as QC samples, typically primarily as replicate samples.

Recommendation:

The quality control sampling requirements should be made explicit in the QA/QC Quality Assurance and Quality Control Plan.

Comment 2:

A letter from ALS Environmental is included as Appendix A, stating that they have the capability of conducting all the analyses listed in Appendix A. This is a circular reference and does not make sense.

Presumably, the list ALS is referring to is that included in Appendix B. We were able to find almost all the required analysis parameters from Appendix B in Appendix D, the ALS CALA certificate and scope, which confirms that ALS does have the capacity for these analyses. The only parameters which we did not find were some of the total metals (Cu, Fe, Ni, Pb, Zn), and this looks like it may be a part missing from the CALA certificate because the list of total metals analyzed in water beginning on page 42 only has two metals listed.

Recommendation:

In a subsequent version, the circular reference should be corrected and if a page of the ALS CALA certificate is missing, it should be included.

Comment 3:

INAC's remark in Part 3 (Domestic Waste Water Management Plan) regarding reporting units for Fecal Coliform would apply here.