



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

Your file - Votre référence
2AM-DOH1335

September 25, 2020

Our file - Notre référence
CIDM# 1289774

Robin Ikkutisluk
Licensing Administrator
Nunavut Water Board
Gjoa Haven, NU X0B 1J0

Sent via email: licensing@nwb-oen.ca

**Re: Crown-Indigenous Relations and Northern Affairs Canada Comments on
TMAC Resources Inc. Annual Geotechnical Inspection Report for the Hope
Bay Project, Water Licence No. 2AM-DOH1335**

Dear Ms. Ikkutisluk,

Thank you for your August 26, 2020, invitation to interested parties to review the TMAC Resources Inc. 2019 Annual Geotechnical Inspection Report for the Tailings Impoundment Area at Doris and Madrid, for the Type "A" Water Licence No. 2AM-DOH1335.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the report and its attachments pursuant to CIRNAC's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. The results of our review are provided in the enclosed memo for the Nunavut Water Board's consideration.

If you have any questions or require further information with respect to this matter, please contact me at (867) 975-4282 or email bridget.campbell@canada.ca, or Godwin Okonkwo at (867) 975-4550 or godwin.okonkwo@canada.ca.

Regards,

Bridget Campbell
Water Resources Coordinator, Nunavut Regional Office



Technical Review Memorandum

Date: September 25, 2020

To: Robin Ikkutisluk – Licensing Administrator, Nunavut Water Board

From: Bridget Campbell – Water Resources Coordinator, CIRNAC

Subject: Crown-Indigenous Relations and Northern Affairs Canada Comments on TMAC Resources Inc. Annual Geotechnical Inspection Report for the Hope Bay Project, Water Licence No. 2AM-DOH1335

Region: ☒ Kitikmeot ☐ Kivalliq ☐ Qikiqtani

A. BACKGROUND

The Hope Bay Belt Project includes four gold mines with activities covered under TMAC Resources Inc. (TMAC) Type A Water Licences 2AM-DOH1323 (Doris, Madrid North, and Madrid South) and 2AM-BOS1835 (Boston), two advanced exploration sites covered under Type B Water Licences 2BB-MAE1727 (Madrid) and 2BB-BOS1727 (Boston), and surface exploration covered under the Type B Water Licence 2BE-HOP1222 for 2018 (Hope Bay Region).

Part F, Item 19, and Part I Items 9 and 10, of the Type A Water Licences 2AM-DOH1323 require the licensee to undertake a geotechnical inspection of all surface infrastructure and earthworks, annually between July and September, by a Geotechnical Engineer, and to submit a report for Nunavut Water Board (NWB) review.

The 2019 Annual Geotechnical Inspection Reports for all surface infrastructure at Doris and Madrid, including the Tailings Impoundment Area and Roberts Bay Jetty, were submitted in conjunction with a number of attachments. These documents are listed in Table 2 under Section B. Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the reports and attachments. A summary of CIRNAC recommendations can be found in Table 1. Review comments are provided in Section C.

Table 1: Summary of Recommendations

Recommendation	Subject
R-01	Implications of North Dam Hazard Re-Classification

**B. DOCUMENTS REVIEWED**

The following table (Table 2) provides a summary of the documents submitted and reviewed.

Table 2: Documents Submitted with the 2019 Annual Geotechnical Inspection Reports

Document Title	Author, File No., Date
Letter to the Nunavut Water Board Re: 2019 Annual Geotechnical Inspection for the Doris and Madrid Sites	TMAC Resources Inc., 05-06-2020
Attachment 1 - 2019 Annual Geotechnical Inspection Letter for Doris-Madrid Attachment 1: Summary Table of Recommendations – DORIS Attachment 2: Summary Table of Recommendations – MADRID	SRK Consulting, 05-06-2020
Attachment 2 - Recommendations and TMAC Responses – Doris	TMAC Resources Inc., 2020
Attachment 3 - Recommendations and TMAC Responses – Madrid	TMAC Resources Inc., 2020
Attachment 4 - 2019 Annual Geotechnical Inspection of the Roberts Bay Jetty (SRK, 2020)	SRK Consulting, 21-05-2020
Letter to the Nunavut Water Board Re: 2019 Annual Geotechnical Inspection Report for the Tailings Impoundment Area Hope Bay Project, Nunavut	TMAC Resources Inc., 06-07-2020
Attachment 1 - 2019 Annual Geotechnical Inspection Tailings Impoundment Area Hope Bay Project, Hope Bay, Nunavut Appendix A – Arctic Foundations of Canada Inspection Report Appendix B – Ground Temperature Cables Appendix C – Thermosyphons Appendix D – Datalogger Battery Levels Appendix E – Inclimeters Appendix F – Survey Monitoring Appendix G – Walk Over Surveys Appendix H – Depression Monitoring Appendix I – TIA Water Levels Appendix J – Climate Data Appendix K – 2019 Seepage Review Appendix L – South Dam Ground Temperature Cable Review Appendix M – Tailings Porewater Freezing Point Depressions Checks Appendix N – Tailings Deposition Update Appendix O – EOR Notification Letter Appendix P – OMS Updates and Training – Presentation Appendix Q – ERP and Dam Break Considerations - Presentation	SRK Consulting, 07-2020
Attachment 2 - Recommendations and TMAC Responses – TIA	TMAC Resources Inc., 2020



C. RESULTS OF REVIEW

The general impression from the CIRNAC review is that this document was well prepared, robust, and clearly addresses the recommendations provided in the previous year.

1. Implications of North Dam Hazard Re-Classification

Comment:

Table A: *Summary of 2019 AGI Recommendations* of the Report titled 2019 Annual Geotechnical Inspection Tailings Impoundment Area Hope Bay Project, Hope Bay, Nunavut, written by SRK Consulting (2020, page iii) states under Inspection Item *Third Party Dam Safety Review* that “The North Dam hazard classification was revisited and is considered HIGH. This requires an independent third-party Dam Safety Review by 2021.” CIRNAC acknowledges that the Licensee has been advised in 2018 and in 2019 to conduct an independent third-party Dam Safety Review for both the North and South Dams in the summer of 2021, and CIRNAC supports this recommendation.

Given the new hazard classification of the North Dam in 2018, this may have implications on risks of dam failure, and the associated strategy to manage those risks. It is not clear whether TMAC has identified any specific mitigation measures to be implemented at the North Dam before the indicated Dam Safety Review takes place in 2021, and if so, what those measures will entail.

Recommendation:

(R-01) CIRNAC recommends that TMAC clarify whether they have identified any specific mitigation measures that need to be implemented at the North Dam before the indicated Dam Safety Review takes place as a result of the North Dam hazard re-classification. If so, TMAC should indicate what mitigation measures are being implemented. If no specific risk mitigation measures have been identified, CIRNAC recommends clarifying the rationale for not changing the management strategy to reflect the new the hazard classification.

D. REFERENCES

Nunavut Water Board Water Licence No. 2AM-DOH1335. TMAC Resources Inc. Signed by Lootie Toomasie, Nunavut Water Board Chair, Nunavut Water Board, August 16, 2013 (Amended November 4, 2016, December 7, 2018).