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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

NWB File No: 2BB-MAE----

January 20, 2017

John Roberts
Vice President, Environmental Affairs
TMAC Resources
PO Box 44
95 Wellington St. West, Suite 1010
Toronto, ON M5J 2N7
Email: john.roberts@tmacresources.com

Re: Licence No. 2BB-MAE Application by TMAC Resources Inc. for the Madrid Project - Request for Information

Dear Mr. Roberts:

On January 14, 2015 TMAC Resources Inc. (TMAC or the Applicant) submitted to the Nunavut Water Board (NWB or the Board) an application (Application) for a new Type "B" water licence for water use and waste disposal associated with Madrid Project's bulk sample activities in the Kitikmeot region of Nunavut.

On March 24, 2015 the NWB provided notice of the Application and informed the commencement of a public technical review period inviting interested parties to make representations before the Board with a deadline on April 24, 2015. On or before the deadline, the Board received written representations from the following intervening parties: Indigenous and Northern Affairs Canada (INAC), Environment and Climate Change Canada (ECCC), Fisheries and Oceans Canada (DFO) and the Kitikmeot Inuit Association (KIA). On September 1, 2015 TMAC responded to comments from interested parties. Further to that, KIA and INAC commented on TMAC's response on September 21, 2015 and September 22, 2015 respectively.

Submissions have been placed in the Board's public registry and are available through the NWB's ftp site, at:

ftp://ftp.nwb-oen.ca/registry/2%20MINING%20MILLING/2B/2BB%20-%20Bulk%20Sampling/2BB-MAE----%20TMAC/2%20ADMIN/3%20SUBMISSIONS/

Following this, the NWB conducted a final technical review of all submissions received to date in order to ensure that any waste produced by the undertaking will be treated and disposed of according to governing regulations and the undertaking will not have adverse effects on existing water uses in the area or on the surrounding environment.

The water management strategy for the Madrid Exploration (MAE) Project is described in the Memo entitled "Water Quality Prediction" Appendix 7b of the Application submission (SRK 2014 a). The Board has completed a review of this and other documents and it has identified that the following issues require further discussion or clarification:

1. Quality of the water reused for drilling operations

According to the Application, the underground mine water management demand will be supplied from three sources[1] which are 1) reuse mine water collected in underground settling sumps 2) water from the pollution control ponds (PCP), and 3) freshwater make-up.

The Applicant has indicated that runoff / contact water at Madrid will be tested and if compliant it will be discharged to the Tundra. It has also indicated that non-compliant water from the Fuel Storage Facilities sumps, non-compliant runoff from the quarries sump[2], as well as runoff from the waste rock/ore pads which may present substantial amount of arsenic and nickel[3] will be directed to the Pollution Control Ponds (PCP)[4] and then transferred by truck or pumped to a 50,000L tank[5]. Make-up water for drilling will be drawn from this tank. The Board notes that water chemistry in the PCP has not been modelled and the level of contaminants in the water to be reused is unknown. It is unclear how the Applicant plans to prevent the possible transport of contaminants in the area while using this water in underground workings.

2. TIA's capacity and the development of the Madrid Project

Also according to the Application, excess water from the underground workings as well as excess water from the PCP will be tested, compliant water will be discharged directly to the tundra, water that does not meet discharge criteria will be hauled by trucks and disposed of in the Doris North Tailing Impoundment Area (TIA).

Wastewater management of MAE Project relies heavily on the use of Doris North Project waste management facilities. Wastewater management at Doris is regulated by the recently approved Water Licence 2AM-DOH1323 Amendment No.1. With the approval of the amended Licence the NWB has approved, among others, a revised tailings water management strategy. The revised strategy, as it was initially sought by TMAC, included the discharge of up to 7,000 cubic metres per day into the marine environment via a pipeline extending into Roberts Bay. This discharge consists of the discharge of up to 3,000 m^3/day of saline groundwater from the Doris mine year

[1] Supplemental Report Section 6.4 Site Water Managment
[2] Supplemental Report Section 10.4.5 Surface Water Quality and Sediment Quality
[3] Supplemental Report Section 8.3 Waste Rock and Ore Management Plan
[4] Section 7.2 Quarry Contact Water Management
[5] Supplemental Report Section 4.2.7 Water Management

round and the additional discharge of up to 4,000 m^3/day of effluent from the TIA during the summer months.

The discharge will be subject to the Metal Mining Effluent Regulations (MMER). MMER guidelines require that effluent released to the receiving environment must undergo toxicity testing prior to release, however there is currently no marine fish species that can be used for testing of toxicity in the marine environment and therefore neither the TIA's effluent nor the saline groundwater can be tested.

The Applicant has proposed an alternative plan to discharging in order to manage the TIA's water and the Doris saline groundwater. This plan would discharge groundwater in the TIA and retain the water until such time as the mine water salinity declines to the point it can be tested using the current MMER test method or until a new test method is developed.

The Capacity of the TIA to handle the Doris underground mine water input as well as other Doris water inputs has been thoroughly discussed during the Type A Amendment Application Review, and reviewers agreed with TMAC's approach of discharging and retaining Doris mine water in the TIA. However, the capacity of the Tailing Impoundment Area (TIA) to handle, in addition to the Doris water inputs, the Madrid water inputs requires to be re-evaluated.

It is anticipated that Madrid South underground activities would intercept groundwater when operating in areas of taliks. Estimates of the groundwater inflow ranges from 16 to 1,073 m^3/day, where an estimate of 500 m^3/day of groundwater inflow is considered the most possible approach[6]. With respect to quality, groundwater has been characterized as highly saline with a salinity content of 41,000 mg/L similar to seawater. This mine water will be reused for drilling operations and the excess non-compliant water will be hauled by trucks to be disposed of in the TIA.

The new scenario now includes the mine waters from Doris as well as Madrid are discharged and retained in the TIA in addition of others. The subsequent TIA capacity to retain all the inputs for certain amount of time has not been fully assessed by the Applicant. On the contrary, the submitted Water Quality Prediction[7] describes how water from the Madrid Advanced Exploration Project may affect the TIA water quality and evaluates the TIA ability to discharge water to Doris Creek in compliance with the pre-amended 2AM-DOH1323 Water Licence.

In other words, in the light of the recently approved changes to Type A Licence No. 2AM-DOH1323, the ability of the TIA to accept and hold for a (undetermined) time, wastewater from the Madrid Area, has not been addressed. The Board believes that TMAC should provide reasonable assurance that the TIA has the required capacity for the proposed water management required for the development of Madrid Project.

Following this, the NWB requires the following information to be submitted by TMAC:

[6] Supplemental Report, Section 6.3.2 Groundwater
[7] Appendix 7B, SRK, December 2014 Memo – Hope Bay Project: Madrid Advanced Exploration Project: Water Quality Prediction

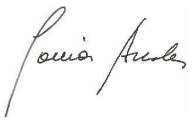
- An update of the Project milestones that includes Doris North as well as Madrid Project.
- A discussion on the capacity of the TIA to be able to retain Doris as well as Madrid waters until a solution to the toxicity testing for marine environment can be attained or the TIA water salinity declines and it can be tested under current toxicity testing methodology and discharged, if compliant to the marine environment.
- A discussion on whether water level constraints in the TIA can be met following the Madrid Water input on a regular basis, over a determined period of time.
- A discussion on TIA Water quality predictions to ensure TIA discharges met water quality criteria required under the MMER, specifically referring to the following parameters: chloride, arsenic and nickel and any other parameter with environmentally relevant concentrations in the Madrid Area, and
- A discussion on how the Applicant plans to reuse PCP's water for drilling at Madrid; and how it would prevent the Water impact on the surrounding environment, best management practices to be applied identifying any mitigation measures that will be considered for avoiding or reducing the introduction of contaminants to the environment.

The information requested should be submitted to the NWB's Acting Manager of Licensing at karen.kharatyan@nwb-oen.ca at TMAC's earliest convenience to assist in the NWB's finalization of the technical review process for the application.

The Board considers that at this time, the information requested is necessary in order to make an informed decision regarding the review of the water licence application for Madrid Advanced Exploration Project. Should issues concerning the above conditions remain unresolved, the NWB may request further clarification from the applicant before proceeding and if necessary engage parties in further public review. The NWB will advise TMAC Resources Inc. of the Board's determination at that time.

Should you have any questions or require clarification on the above, please contact the technical advisor associated with this file, Sonia Aredes at 867-979-3079 or by email at Sonia.Aredes@nwb-oen.ca, or David Hohnstein, Director of Technical Services, at 780-443-4406 or by email to David.Hohnstein@nwb-oen.ca for any technical inquiries. For any procedural inquiries, please contact Karen Kharatyan, Acting Manager of Licensing, at 867-360-6338 or by email karen.kharatyan@nwb-oen.ca.

Sincerely,



Sonia Aredes
Technical Advisor

Cc: Kitikmeot Distribution