

TMAC Resources Inc.

# Revisions to TMAC Resources Inc. Amendment Application No. 1 of Project Certificate No. 003 and Water Licence 2AM-DOH1323



## Package 1: Project Summary and Submission Outline

Revisions to TMAC Resources Inc. - Amendment Application No. 1  
of Project Certificate No. 003 and Water Licence 2AM-DOH1323

## Regulatory Submission Outline

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# Package 1

## Project Summary and Submission Outline



**Package 1**  
**Project Summary and Submission Outline**

**P1-1 Plain Language Summary  
(translated)**

## Plain Language Summary (English, Inuktitut, Inuinnaqtun, French)

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This submission describes the changes that TMAC Resources Inc. (TMAC) would like to make to the Doris North Mine (the Mine). As support for making these changes, the submission also includes memos and drawings that give more details about the changes and confirms that the changes will not have significant negative impacts. The current Nunavut Impact Review Board (NIRB) Project Certificate No. 003 (the Project Certificate) and the Nunavut Water Board (NWB) Type A Water Licence No. 2AM-DOH1323 (the Type A Water Licence) will need to be amended to allow TMAC go forward with the changes.

The main Mine changes are:

- TMAC plans to mine the entire Doris Deposit which includes all mineralized zones that can be accessed through the existing Doris North Mine Portal. Miramar Hope Bay (Miramar) had indicated that it would only mine the Doris North Zone through the Doris North Mine Portal for 2 years. TMAC has found more mineralization that can be mined via the Doris North Mine Portal, and therefore now expects to add about 4 years to the overall Doris mine life. To support the cost of building and running the mine, TMAC needs to mine longer, for 6 years. This change will extend the benefits of the Mine for a longer period to Inuit, Nunavut, and Canada.
- The initial mining and milling rates will be approximately 1,000 tonnes per day (tpd). TMAC plans to increase the mining rate to approximately 2,000 tpd over time. These rates are daily averages. The current water licence authorizes a mining rate of 720 tpd of ore and a milling rate of 800 tpd.
- Because the Doris Deposit extends south and encompasses the Doris Central and Doris Connector Zones, which are under Doris Lake, TMAC now expects to encounter groundwater during mining. Testing shows it may be salty. This water will be collected and sent through a new pipeline directly to Roberts Bay, instead of Doris Creek as Miramar originally planned. TMAC also plans to collect the excess water from the tailings impoundment area (TIA), mix this with the salty water from underground, and send it, by pipeline, directly to Roberts Bay as well. TMAC believes that discharging directly to Roberts Bay will be a better environmental water management plan than the original plan to discharge to Doris Creek. Before the water is put into Roberts Bay, TMAC will test it to make sure that it will not harm the environment and will comply with all laws. The water is expected to meet regulations before leaving the mill, however, if needed, TMAC will install equipment to treat the water before discharge. Therefore, TMAC does not plan to build the water laboratory on site that Miramar originally permitted when it was proposed to discharge without treatment.
- TMAC now expects to encounter groundwater while mining under Doris Lake. During mining, a small amount of this groundwater could flow from Doris Lake, through cracks in the rock at the bottom of the lake, into the mine. Managing the water in the mine can be done by plugging holes in the rock and pumping the water out of the mine. There is a possibility that the water level in Doris Lake could change temporarily, during mining; however any changes are expected to be similar to the changes that occur naturally throughout the seasons. If changes are greater than expected, TMAC will offset impacts to fisheries.

- Miramar originally planned to place tailings under water within the TIA, so that water remains on top of the tailings after the mine has closed. TMAC still plans to put the tailings into the TIA, with some of the tailings being placed within the original lake area and some of the tailings placed on the ground around the original lake area. The tailings, which haven't been exposed to chemicals, will be placed behind a new dike in the middle of the TIA. Water will drain off of the tailings and through the dike. The water on the other side of the dike, in the tailings pond, will be used as process water in the mill or will be treated and pumped to Roberts Bay. The tailings will become dry and will be covered with ice or sprayed with a material that will prevent the tailings from becoming dusty. Once the mine is closed, the tailings will be covered with a layer of rock, and will freeze under the rock. Placing the tailings in this way will allow for more tailings to be placed in the TIA so the mine can operate longer.
- The remaining tailings, which have been exposed to chemicals used to extract gold, will be treated and placed underground as mine backfill.
- TMAC will need bigger laydown areas for ore than Miramar planned because more ore will be mined.
- TMAC plans to increase the camp size to accommodate more people needed to work on site because TMAC will be mining at a faster rate and the mill will be processing more tonnes of ore. Careful planning and use of people and companies located in towns, to help with work that can be done from off site, allows TMAC to keep the camp and mine site as small as possible.

Other minor changes will be made to the Mine, including some small site changes and minor changes to the current water licence to make the language clearer.

**Package 1**  
**Project Summary and Submission Outline**

**P1-2 Maps**

**Figure 1**  
**Location Map, Doris North**  
**and the Hope Bay Belt**





Figure 2  
Doris North Permitted Footprint and Proposed Changes, Sitewide

