Environmental Protection Operations Directorate
Prairie & Northern Region
933 Mivvik Street, 3rd Floor
P.O. Box 1870
Iqaluit, NU X0A 0H0

ECCC File: 6100 000 010/042
NWB File: 2AM-DOH1323

February 25, 2019

Via email at: licensing@nwb-oen.ca

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

Dear Ida Porter:

RE: 2AM-DOH1323 – TMAC Resources Inc. – Hope Bay Project - Hope Bay Waste Rock Ore, and Mine Backfill (WROMB) Management Plan

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) regarding the above-mentioned WROMB management plan and is submitting comments via email. ECCC's specialist advice is provided based on our mandate, in the context of the *Canadian Environmental Protection Act* and the pollution prevention provisions of the *Fisheries Act*.

The following comments are provided:

1. Detoxified Tailings Management

References

- Waste Rock, Ore and Mine Backfill (WROMB) Management Plan - Section: 2.2.3 Detoxified Tailings

Comment

The Proponent states that, "detoxified tailings have high sulphide content and are classified as PAG [Potentially Acid Generating] (SRK 2015f and 2017d). Kinetic testing indicated that sulphate, cobalt, manganese, nickel and selenium leaching at neutral to alkaline pH conditions. The projected onset to acidity for detoxified tailings is 20 years (SRK 2015f). The residence time of detoxified tailings on surface will be

less than this period; therefore, drainage from detoxified tailings is expected to be neutral to alkaline pH during operations" (Page 10).

ECCC notes that the tailings are fine grained in nature, and have a high content of sulphide. Given these two properties, with the large surface areas for storage prior to use as mine backfill, it is unclear what will prevent oxidation of the sulphides in the tailings prior to the 20 years estimate before acidification sets in. It is also unclear if there are any contingency plans to mitigate Acid Rock Drainage and Metal Leaching (ARD/ML) in the case that the ARD/ML occurs earlier than projected.

ECCC Recommendation

ECCC recommends that the Proponent update the WROMB Management plan to provide clarification on how the onset of the acidification was determined to be 20 years and provide clarification on any contingency plans to mitigate ARD/ML should the acidification occur earlier than projected.

2. Closure Management of Waste Rock and Detoxified Tailings

References

- WROMB Management Plan - Section: 2.3.1 Management Response - Backfill

Comment

The Proponent states "at closure, there will be no all waste rock and detoxified tailings remaining on surface" (Page 13).

ECCC Recommendation

ECCC recommends the Proponent clarify that the waste rock and detoxified tailings will not remain on the surface after closure.

Should you require further information, please do not hesitate to contact me at (867) 975-4981 or Richard.Bingley@canada.ca.

Sincerely,

[original signed by]

Richard Bingley
Environmental Assessment Coordinator

cc: Bradley Summerfield, A/Head, Environmental Assessment North (NT and NU)