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March 18, 2019

Derek Donald
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Sent via Email: derek.donald@nwb-oen.ca

Re: TMAC Resources Inc. response to agency comments on the Hope Bay Project, Waste Rock, Ore and Mine Backfill Management Plan for implementation under 2AM-DOH1335, 2AM-BOS1835, and 2BB-MAE1727.

Dear Mr. Donald,

TMAC Resources Inc. (TMAC) is providing this letter in response to comments received from Crown Indigenous-Relations and Northern Affairs Canada (CIRNAC) on March 14, 2019 regarding the Hope Bay Project, Waste Rock, Ore and Mine Backfill Management Plan for implementation under 2AM-DOH1335, 2AM-BOS1835, and 2BB-MAE1727. CIRNAC's comment and TMAC's response is detailed below and an updated flowchart is provided in Attachment A.

CIRNAC Comment

A. Process for Determining Suitability of Waste Rock for Construction

The process for determining suitability of waste rock as a construction material is found in Appendix A. In Step 2 of this process, a volume of waste rock is to be classified as NPAG if the sample contains less than 0.1% sulphur. A percent sulphur (% S) cut-off criterion is not appropriate without sufficient data to determine the neutralization potential (NP) of the material. MEND (2009, pg. 14-13) states, "It is important to note that a % S cut-off should not be used as the only means of assessing ARD potential unless the minimum NP value is known. Even low levels of sulphide can lead to ARD if the NP is insufficient to neutralize the resulting acid."

Alternatively, a sample with a total inorganic carbon/acid generation potential ratio or a neutralization potential/acid generation potential ratio (TIC/AP or NP/AP ratio) greater than 3 with a total sulphur content of less than 0.5% will be considered to be

NPAG material. This second criterion on its own is sufficient for determination of suitability.

***Recommendation**: CIRNAC recommends that the criterion of a 0.1% S cut-off be used in conjunction with a TIC/AP or NP/AP ratio greater than 2, or that the criterion of "TIC/AP or NP/AP ratios greater than 3 (as defined by Table 2) and total sulphur content of less than 0.5%" be used to assess potential for acid generation.*

TMAC Response

TMAC thanks CIRNAC for their comment. TMAC has revised the NPAG criterion considering sulphur content and neutralizing potential as suggested by CIRNAC in their recommendation. The criteria used to classify waste rock as NPAG is now "TIC/AP and NP/AP ratios greater than 2 (as defined by Table 2) and total sulphur content of less than 0.1% or TIC/AP and NP/AP ratios greater than 3 (Table 2) and total sulphur content of less than 0.5%." The amended flowchart is provided in Attachment-A.

Should you have any questions please feel free to contact me at Oliver.curran@tmacresources.com

Sincerely,

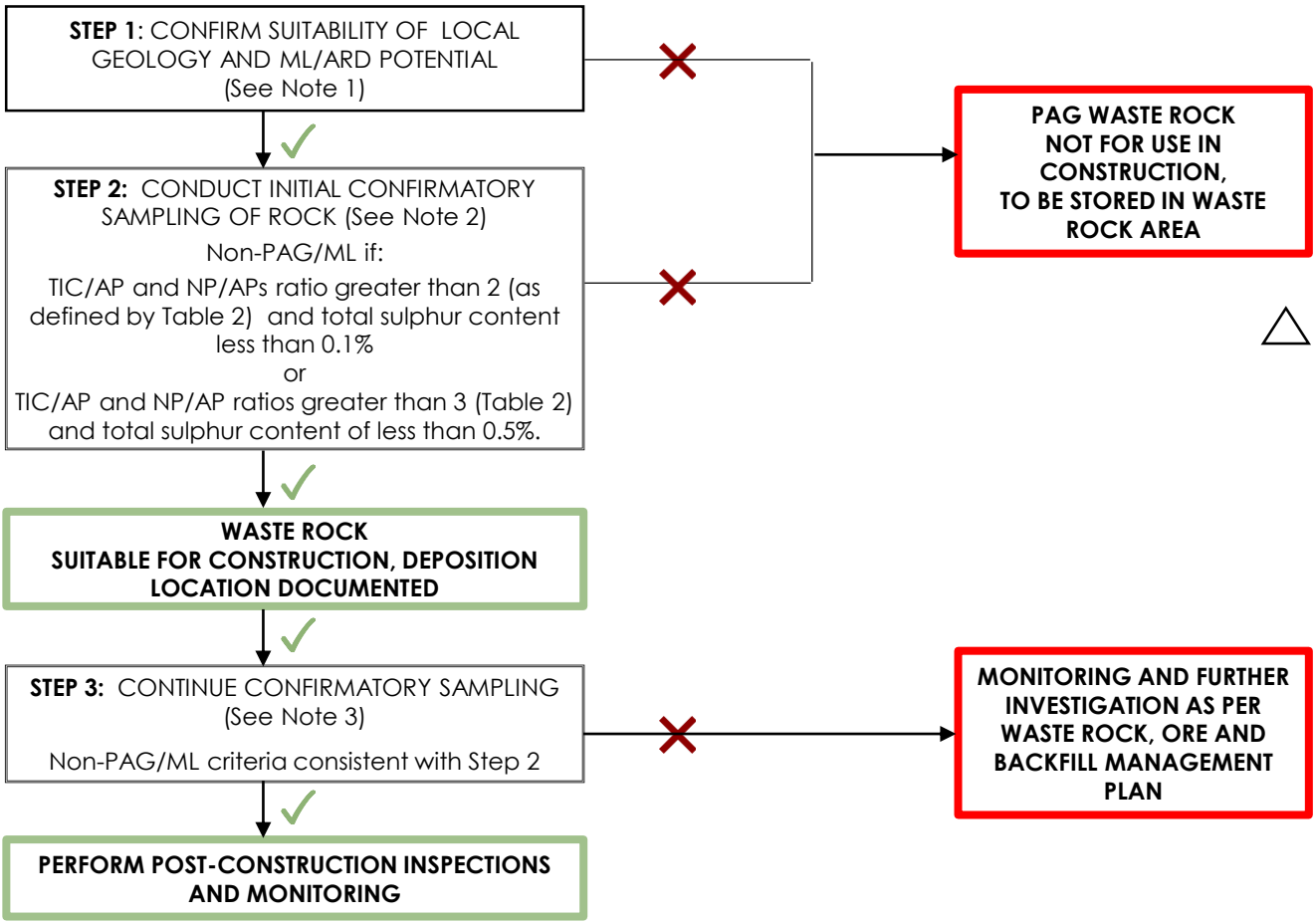
Oliver Curran
Vice-President, Environmental Affairs TMAC Resources Inc.
Cc:
Licencing (NWB)
Kyle Conway / Sarah Warnock (TMAC)
Ashley Mathai (TMAC)
Shelley Potter (TMAC)
Adam Grzegorczyk (TMAC)

Attachments:

Attachment A: Waste Rock for Construction: Process for Suitability Determination – Process Flow Chart (TMAC, 2019)

Waste Rock for Construction
PROCESS FOR SUITABILITY DETERMINATION

PURPOSE: Testing is required to demonstrate the geochemical suitability of waste rock for construction (low risk of ARD and/or metal leaching). The following process shall be used, across the Hope Bay Belt, to asses whether waste rock is suitable for construction. See notes below for additional details regarding each of the process steps.



NOTES:

1. A qualified geochemist and/or geologist has determined that rock within the requested footprint has potential to be used in construction. Local suitable rock types and rock types considered to be ML or have high ARD potential will be documented as part of a Geological and Geochemical Review Memo (or equivalent).

2. Collect representative rock samples for testing of total sulphur and ABA. For blasted rock samples, two sample size fractions (<1 cm and <2 mm) will be collected and shake flask extraction tests will also be conducted. Following proper sample collection, the sample shall be submitted to an accredited laboratory (i.e. SGS, ALS or Maxxam).
    - ABA to include: Paste pH, sulphate by HCl leach, total inorganic carbon, modified NP (MEND 1991) and trace elemental content by aqua regia digestion followed by ICP finish
    - Shake Flask Leachate analysis to include pH, EC, SO4, acidity, alkalinity, chloride, ammonia, and low level dissolved metals

If rock is determined to be PAG/ML, store in waste rock area. Subject to professional judgement, waste rock suitability is re-assessed at the next blast round, and Step 2 can be repeated prior to use.

3. During blasting, the waste rock will be inspected every 5,000 tonnes for underground development or every 20,000 tonnes otherwise (i.e when waste rock is generated for the construction of infrastructure by way of surface excavations or cut and fill activities). At these intervals, a representative sample is collected and tested as described above.

Laboratory Data and Unit Conversions for Determination of ARD Potential

Table 1.

ARD Parameter	Lab Data	Unit Conversion
AP (Acid Potential)	Total S	AP (kgCaCO3/t) = Total S (%S) * 31.25
TIC (Total Inorganic Carbon)	TIC	TIC (kgCaCO3/t) = TIC (%C) * 83.3
NP (Neutralization Potential)	Modified NP (MEND 1991)	None. NP presented in units of kgCaCO3/t

ARD/ML Classification Criteria

Table 2.

ARD Criteria	% S	Classification
NP/AP and TIC/AP ≥ 2	≤ 0.1%	Non-PAG
NP/AP and TIC/AP ≥ 3	≤ 0.5%	Non-PAG
1 ≤ NP/AP or TIC/AP < 2	≤ 0.1%	Uncertain
1 ≤ NP/AP or TIC/AP < 3	> 0.1%	Uncertain
NP/AP or TIC/AP < 1	NA	PAG