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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File: 2AM-DOH1335

November 5, 2019

Oliver Curran
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Subject: Meeting Minutes regarding Water License 2AM-DOH1335 – Naartok East Crown Pillar Recovery at Madrid North – Proposed Site-Specific Geochemical Criteria for use of Non-Mineralized Waste Rock for Construction; Hope Bay Phase 2 Project, TMAC Resources Inc.

Dear Mr. Curran

The Nunavut Water Board (NWB or Board) held a conference call on November 1, 2019, regarding the Naartok East Crown Pillar Recovery (Naartok East CPR) at Madrid North, Proposed Site-Specific Geochemical Criteria for use of Non-Mineralized Waste Rock for Construction. The intent of the conference call was to have an informal discussion between TMAC, the Kitikmeot Inuit Association (KIA), Crown-Indigenous Relations and Northern Affairs (CIRNA), Environment and Climate Change Canada (ECCC), and the NWB, to discuss the ML/ARD potential associated with these activities and associated monitoring and management program. Specifically, to ensure that appropriate provisions are in place to monitor leachate chemistry and ensure environmental protection following placement of waste rock from the Naartok East Crown Pillar Recovery. The following is a written summary of this meeting.

August 7, 2019

Meeting Time 10:30 to 11:10 am MST/ 12:30 pm to 1:10 pm CST

In attendance:

TMAC: Ashley Mathai, Oliver Curran, Adam Grzegorzczuk, Shelley Potter, Kyle Conway
KIA: John Roesch, BGC Engineering Inc. consultants Geoff and Sharon
CIRNA: Bridget Campbell, David Zhong
ECCC: Eva Walker, Russell Wykes

Initiating Party	Item	Discussion
KIA	All three interveners brought up concerns regarding the suitability of waste rock for use in construction. From the data provided, it is possible that arsenic could be flushed from the waste rock used for construction. Will there be monitoring and how will it be managed if guidelines are exceeded?	TMAC briefly described and referenced the “seep survey” that is conducted every year following freshet as part of the approved Hope Bay Project, Waste Rock, Ore and Mine Backfill Management Plan, dated January 2019. For the newly placed waste rock, locations will be incorporated into this plan and all future seep surveys as described in section 3.2.1 of this management plan. Depending on the results of the seep survey, waste rock and surface runoff will be managed on site in a manner specific to each situation.
CIRNA	<p>Commented on the use of average values for presenting barrel test results and that some initial arsenic test results were relatively high (i.e. >70 ppm).</p> <p>Commented on the use of the handheld XRF.</p>	<p>TMAC emphasized that Table 2.1 of the SRK Consulting MEMO: <i>Criteria and pXRF Calibration Factors in Support of Classifying Waste Rock as Construction Rock, NE-CPR</i>, has been revised to include average concentrations for appropriate analytical tests, and reiterated that they won’t be using any rock that is >70 ppm arsenic content.</p> <p>TMAC stated their confidence in the use of this device and noted <i>Figure 4-11: Comparison of Arsenic Content by Aqua Regia Digestion and pXRF, Pulp Samples</i>, of SRK report, <i>Classification of Waste Rock - Naartok East Crown Pillar Recovery, Madrid North, Hope Bay Project</i>. It was discussed that as expected, we see good correlation at high arsenic concentrations, and a poorer correlation only at low arsenic concentrations where precision and accuracy of the detection method are more limited.</p>
NWB	Commented on the lack of specific mitigation plans for situations if arsenic leaching is identified from waste rock following its use for construction.	TMAC emphasized that mitigation plans will ultimately have to be site specific in order to deal with every possible scenario. The first step is that waste rock from the Naartok East-CRP will be placed strategically to minimize contact with surface runoff.
ECCC	Questioned if drainage from waste rock will be collected and/or controlled.	It was discussed that surface drainage samples will be collected during the annual “seep survey” and monitored following freshet. It was recommended to also include sampling after a large rain events.

CIRNA	Will there be follow up from this call.	Follow up will be in the form of a Memorandum of Meeting Minutes (this document), and these activities will ultimately be reviewed by the Board prior to providing a written decision and recommendations.
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Commitments:

1. For TMAC to follow up with the KIA separately to discuss any additional sampling that may be warranted following the placement of Naartok East CRP waste rock, and to capture surface runoff following large rain events.
2. For TMAC to incorporate locations with newly placed waste rock into all future seep surveys and into the next update to the Hope Bay Project, Waste Rock, Ore and Mine Backfill Management Plan.

Should you have any questions or comments with respect to the above, please feel free to contact the undersigned via email at Derek.Donald@nwb-oen.ca or phone (867) 360-6338 (Ext. 32).

Sincerely,

NUNAVUT WATER BOARD



Derek Donald
Technical Advisor

Cc: Distribution list – Doris North