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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No: 2BE-HOP1222

November 15, 2013

Mr. Gordon Morrison, President

Ms. Léa-Marie Bowes-Lyon

TMAC Resources Inc.

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**Subject: Licence 2BE-HOP1222 – TMAC Resources Inc.
Hope Bay Project Windy Camp and Patch Lake Facility, Final Closure Plan
Windy Camp Landfarm Closure Report**

Dear Mr. Morrison and Ms. Bowes-Lyon:

The Nunavut Water Board (“NWB” or “Board”) received on July 25, 2012 from Hope Bay Mining Ltd. (HBML) the submission entitled “Hope Bay Project Windy Camp and Patch Lake Facility Final Closure Plan” (Final Closure Plan or Plan) as a requirement of Part I, Item 1 of water licence 2BE-HOP1222. The Plan was distributed for a thirty (30) day comment period on August 1, 2012, which was followed by a thirty (30) day extension to the comment period as requested by Environment Canada (EC). Comments were received¹ from Aboriginal Affairs and Northern Development Canada (AANDC), Environment Canada (EC) and Kitikmeot Inuit Association (KIA). HBML provided responses to interveners’ comments on February 14, 2013.

In addition to the above referenced Plan, the NWB received the following documents from HBML under separate submissions:

- On August 10, 2012, HBML submitted to the Board for review a document entitled “Windy Camp Landfarm Closure Report” (Report) as a requirement of Part I, Item 4.
- On January 14, 2013, HBML submitted an update by SRK Consulting (Canada) Inc. (SRK) Hope Bay Project Closure and Reclamation Cost Estimate, dated December 31, 2012. This document contained an updated Reclamation Cost Summary for the Windy and Patch Lake Areas that was different from the Cost Estimate provided within the Plan.

¹ Aboriginal Affairs and Northern Development Canada (AANDC), October 1, 2012; Environment Canada (EC), October 1, 2012, and Kitikmeot Inuit Association (KIA), October 5, 2012.

- On February 12, 2013 the Board received an application to assign the Licence 2BE-HOP1222 from HBML to TMAC Resources Inc. pursuant to Section 44 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (“Act”). On June 14, 2013, the Board assigned the Licence 2BE-HOP1222 to TMAC Resources Inc.

Windy Camp Landfarm Closure Report

HBML reports that contaminated soil from within the landfarm was removed in July 2008 to be shipped south for treatment and that the facility was taken out of service. The area was covered in coconut mat to prevent erosion. The dismantling and disposal activities were reported to the NWB in the 2008 Annual Report for 2BE-HOP0712. It is also stated that HBML will include the former land farm area in the post-closure monitoring for the entire Windy Camp facility after the reclamation is completed.

By copy of this letter the Licensee is advised that the information provided generally fulfills the requirements of Part I Item 4 of the Licence.

Final Closure Plan

Given that an Assignment application was before the Board at the time the Final Closure Plan was received, the Board did not follow up with the HBML responses to intervening parties’ comments. However, the Assignment letter included a requirement to submit **to the Board for approval, within sixty (60) days following issuance of the assignment**, an updated Abandonment and Restoration Plan. The Licensee was requested to **address the change in the Licence holder, requirements of the KIA and comments received during the review of the Plan**. The Assignment also stated that TMAC Resources Inc., in review and revision of the Plan, **shall review/revise and confirm the included Windy Camp and Patch Lake Facility Closure Cost Estimate provided by HBML**, for the purposes of the Board assessing the security requirements under the *Act*.

Although being generally satisfied with the responses provided by HBML with respect to the Final Closure Plan, the NWB requires however that the following clarifications or information be included in the updates to the plan in addition to the Items identified in the Assignment letter:

1. The AANDC identified that the Plan provides little information on what in-situ bioremediation techniques will be applied and the criteria for off-site disposal.

In its response the HBML referred to the Windy Camp Phase 3 Environmental Site (ESA) Assessment and Patch Lake Facility Phase 3 Environmental Site Assessment for details on remediation methods that will be used.

- The Section 3.2.5 Remediation of Hydrocarbon Contaminated Soils of Plan indicates that *two methods of remediation were selected for the hydrocarbon contaminated soils at Hope Bay: in situ bioremediation and excavation and off-site disposal*. Windy Camp Phase 3 ESA recommends *landfarming as the preferred remedial alternative for all the petroleum hydrocarbon affected areas at the old Windy Camp either at a purpose-built facility sited at an appropriate location, or by transporting the soils to the the Patch Laydown site and adapting the bermed and lined former tank farm area to accommodate the soils for landfarming*.

The NWB concurs with the AANDC that updated Plan should describe in-details the in situ bioremediation method and the criteria that will be followed to determine whether in-situ bioremediation or excavation will be applied. The Board advises that construction and operation of a purpose-built landfarm facility is no longer included within the 2BE-HOP1222 Licence, and if this option is chosen the necessary information should be provided for the Board's consideration through an Amendment application. The Licensee is also advised that prior to using an alternative disposal for contaminated soils (encapsulating in place) the Board's written approval must be obtained.

2. In its review the KIA indicated that Post-Closure Monitoring is inadequate, and stated that all areas where the tundra has been disturbed should be included in the monitoring program for permafrost degradation/reinstatement. Details of permafrost monitoring should clearly indicate if it is limited to visual inspections or includes instrumentation.

HBML responded that *areas with these issues have been included for reclamation and will be monitored. Long term monitoring plans will be included in the post-closure plan based on the potential predicted residual effects following completion of closure.*

- The NWB agrees with KIA that more detailed Post-Closure Monitoring information should be provided. The NWB notices that no Post-Closure Monitoring details were provided with respect to the former landfarm area as stated in the Report.

Therefore the updated Plan shall contain more detailed Post-Closure, Monitoring information with respect to permafrost monitoring, and shall also include details on post-closure monitoring of the former landfarm area as such information becomes available to be included within the updated Plan.

The Licensee is reminded that the NWB requested, as requirement of the Licence Assignment, that the Assignee submit to the Board for review within sixty (60) days following issuance, an updated Spill Contingency Plan that addresses the change in Licence holder and comments received during the review.

Should you have any questions, please contact the undersigned at (867) 360-6338 or k.kharatyan@nunavutwaterboard.org, at your earliest convenience.

Yours truly,

Original Signed By:

Karén Kharatyan
Technical Advisor

cc: Distribution List – Kitikmeot