



Our reference
File #9545-2-1.2BE.HOPA
CIDMS #414833

July 23, 2010

Richard Dwyer
Licensing Administrator
Nunavut Water Board
Gjoa Haven, Nunavut X0E 1J0

Your reference
2AM-HOP0712

Sent Via Email

Dear Richard,

**Subject Water License #2BE-HOP0712, Hope Bay Mining Ltd., Hope
Bay Regional Exploration Project, Kitikmeot Region,
Amendment Application to Permit Discharge from Quarries A,
B, and D**

Please be advised that on behalf of Indian and Northern Affairs Canada, I have completed a review of the above referenced Hope Bay Mining Ltd. submission to the Nunavut Water Board.

A Technical Review Memorandum (attached) is provided for the Board's consideration.

Should you have any questions regarding this submission, feel free to contact me at 867 975-4555 or david.abernethy@inac-ainc.gc.ca.

Regards,

David W. Abernethy

Water Resources Regional Coordinator
Operations Directorate, Nunavut Regional Office
Indian and Northern Affairs Canada
Iqaluit, Nunavut X0A 0H0

Attached.

Cc: Lou-Ann Cornacchio, INAC Water Resources Manager
Peter Kusugak, INAC Field Operations Manager
Melissa Joy, INAC Water Resource Officer
Bryan Rayner, INAC Water Resource Officer

TECHNICAL REVIEW MEMORANDUM

Date: July 23/10

To: Richard Dwyer, Nunavut Water Board

From: David Abernethy, Indian and Northern Affairs Canada

Re: **Water License #2BE-HOP0712, Hope Bay Mining Ltd., Hope Bay Regional Exploration Project, Kitikmeot Region, Amendment Application to Permit Discharge from Quarries A, B, and D**

A. PROJECT DESCRIPTION

On June 23/10 the Nunavut Water Board (NWB or Board) distributed Hope Bay Mining Ltd.'s Apr. 23/10 application to amend their Type B exploration license, #2BE-HOP0712, to allow for the discharge of water from three (3) quarries associated with their Hope Bay Regional Exploration Project. These quarries are being used for the construction of an all-weather access road that connects the Doris and Windy camps. Interested parties were requested to provide representations by July 23/10.

HBML included the following documents in their application,

- SRK Consulting. *Geochemical Characterization of Quarry Materials for the Doris-Windy All-weather Road Project*. Prepared for Hope Bay Mining Ltd., August 2008; and,
- SRK Consulting. *Quarry A, B, and D Management and Monitoring Plan*. Prepared for Hope Bay Mining Ltd., April 2010.

B. RESULTS OF REVIEW

On behalf of Indian and Northern Affairs Canada (INAC), I am providing the following comments / recommendations for the Board's consideration,

1. Quarry A, B, and D Management and Monitoring Plan

In HBML's June 3/10 letter to the NWB it was requested that the above referenced April 2010 Quarry Management and Monitoring Plan be approved by the Board. In general, this plan is considered to be acceptable but the following revisions are recommended,

a. Inclusion of Construction and Quarry License Conditions

This submitted plan recommends that license conditions applicable to construction and quarry operations in HBML's Doris North Project's Type A license, #2AM-DOH-0713, be applied to the Hope Bay Regional Exploration Project. Conditions identified as being relevant are Part D: Conditions Applying to Construction, Items 9, 9b, 10, 21, and 22 and Schedule D, Conditions Applying to Construction, Items a, k, and n. INAC is not opposed to applying these conditions through a license amendment. Additional license terms and conditions from the Doris North Project Type A license that can be considered for inclusion in an amended license are Schedule D, Items b, c, and f.

b. Discharge Criteria for Quarry Water During Operations

The proposed discharge criteria for water that collects within quarries during operations appear to be reasonable (pH between 6 and 9, electrical conductivity below 500 $\mu\text{S}/\text{cm}$, and ammonia concentrations below 2 mg/L). However, HBML's proposal to remove water that does not meet these criteria by vacuum truck and use it to water down the road in areas away from stream crossings and fish bearing waters should require Board approval. Furthermore, it is recommended that if quarry water does not meet the proposed discharge criteria HBML investigate the cause of the noted exceedance and report any findings to the Board along with planned mitigation measures prior to any discharge.

2. Notification of Discharge

HBML should notify the Inspector (as defined in license) and the Board at least ten (10 days) prior to any planned discharge of water from Quarries A, B, and D. Monitoring results demonstrating that the effluent is suitable for discharge, the estimated volume of water that will be extracted, and the sediment and erosion control measures that will be applied during discharge should be communicated in such notifications.

3. Monitoring Watercourse Crossings

Provisions for the monitoring of watercourse crossings along the all-weather road throughout the annual ice-free period should be included in the license amendment. This would allow for confirmation of their structural integrity, confirm soil and permafrost stability in their immediate areas, and confirm that the crossings have been located adequately with respect to the watercourses.

Inspection findings and the remediation of any detected problems should be provided to the Board in annual monitoring report submissions.

4. Water Use

As discussed in the submitted quarry management and monitoring plan, crushing operations at Quarry D will be a major source of dust generation and require the use of water for dust suppression purposes. Part C – Conditions Applying to Water Use, Item #1 of the license allows for the use of 20 m³ of water per day for domestic purposes and 80 m³ of water per day for drilling purposes. Water use for dust suppression purposes is not addressed in the license. HBML should provide the maximum daily amount of water that will be required for dust suppression purposes and source water bodies. If this information is acceptable to the Board, Part C, Item #1 should be amended accordingly.

5. Spill Contingency Planning

HBML should revise their project's Spill Contingency Plan to take into account the refueling and operation of equipment associated with the quarry use and the all-weather road's construction.

6. Abandonment and Restoration

HBML should revise their Abandonment and Restoration Plan to address the reclamation measures associated with quarry sites and the all-weather road. The INAC 1994 *Environmental Guidelines for Pits and Quarries* should be reviewed when completing this task (attached).

Prepared by David W. Abernethy