

November 19, 2008

Phyllis Beaulieu Manager of Licensing Nunavut Water Board P.O. Box 119, Gjoa Haven NU X0B 1J0

Dear Ms. Beaulieau:

Re: Baffinland Iron Mines Corporation (BIM) - Submission of an Annual Geotechnical Inspection, NWB File: 2BB-MRY0710

#### 1.0 INTRODUCTION

Under Part D, Item 16, of Baffinland Iron Mines Corporation (BIM) Water Licence 2BB-MRY0710, there is a requirement to ensure the proper function of earthworks associated with waste disposal facilities at its Mary River Project. This requirement is detailed in Part D, Item 16, which states that:

"An inspection of the earthworks, geological regime, and the hydrological regime of the Project is to be carried out during the summer of 2008, by a Geotechnical Engineer. The Geotechnical Engineer's report shall be submitted to the Board within sixty (60) days of the inspection, with a covering letter from the Licensee outlining an implementation plan to respond to the Engineer's recommendations."

BIM retained GENIVAR Consultants (Genivar) to complete the 2008 annual water license geotechnical inspection of the on-site waste containment structures located at its two main camp sites, known as the Mary River Camp and Milne Inlet Camp. The water and fuel containment structures reviewed at the respective camps included the following:

#### Mary River Mine Camp

- Bulk Fuel Storage Facility Containment,
- Generator Fuel Storage Facility Containment,
- Polishing/Waste Stabilization Pond No. 1, and
- Polishing/Waste Stabilization Pond No. 2.

### Milne Inlet Site

- Bulk Fuel Storage Facility Containment, and
- Polishing/Waste Stabilization Pond.

Attached, herewith, is Genivar's geotechnical report which presents the findings and recommendations for the aforementioned structures. Sections 2.0 and 3.0 of this letter summarize BIM's plan for implementing Genivar's recommendations.



### 2.0 MARY RIVER MINE CAMP RECOMMENDATIONS

### 2.1. Bulk Fuel Storage Facility Containment

There were no recommendations made at this time.

# 2.2. Generator Fuel Storage Facility Containment

*Recommendation MR1:* Based on the need to contain 110 % of the bladder volume in the event of a fuel spill, the maximum volume of fuel permitted to be stored in the bladder in this facility as it is constructed, is 77,376 litres.

*BIM Response*: This recommendation has been implemented.

# 2.3. Polishing/Waste Stabilization Pond No. 1

*Recommendation MR2*: It is recommended that the exterior slopes on the dykes be built out to a 4:1 slope if the effluent level exceeds an elevation of 175.90 m.

**BIM Response:** If effluent level exceeds this elevation, dykes will be built out to a 4:1 backslope.

Recommendation MR4: The liner rips should be repaired as soon as practicable.

BIM Response: The rips to the liner have been repaired.

Recommendation MR3: An elevation monitoring program should be established on the exterior dyke structure to measure the potential for settlement due to permafrost melting.

BIM Response: A monthly elevation monitoring program will be implemented from May through October 2009.

### 2.4. Polishing/Waste Stabilization Pond No. 2

*Recommendation MR5:* Based on the current 4:1 dyke backslope, the level of treated effluent in the cell shall not exceed a height of 1.8 m.

*BIM Response*: The recommended maximum effluent height has been adopted as a working operational limit.

Recommendation MR6: An elevation monitoring program should be established on the exterior dyke structure to measure the potential for settlement due to permafrost melting.

BIM Response: A monthly elevation monitoring program will be implemented from May through October 2009.

# 3.0 Milne Inlet Camp

# 3.1. Bulk Fuel Storage Facility Containment

There were no recommendations made at this time.



# 3.2. Polishing/Waste Stabilization Pond.

<u>Recommendation MI1:</u> The treated effluent level should be decanted to a depth 600 mm below the top of the liner. The effluent can be transported to the Mary River PWSP via tanker truck for disposal. The long term use of this structure for the storage of effluent is acceptable so long as effluent levels are kept to the aforementioned design levels.

<u>BIM Response</u>: The recommended maximum effluent height has been adopted as a working operational limit.

<u>Recommendation MR3:</u> An elevation monitoring program should be established on the exterior dyke structure to measure the potential for settlement due to permafrost melting. <u>BIM Response</u>: A monthly elevation monitoring program will be implemented from May through October 2009.

We trust that this submittal satisfies your current requirements. Should you have any questions, please do not hesitate to contact Cheryl Wray or Jim Millard, Environmental Superintendents at 403-450-8843 or by e-mail at cheryl.wray@bafffinland.com or jim.millard@baffinland.com.

Best Regards, Baffinland Iron Mines Corporation

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Dave McCann, P.Eng.

**Assistant Manager Operations** 

cc. J. Millard, C. Wray, D. Putnam BIM, A. Keim, INAC

Attach: Annual Geotechnical Inspection 2008, prepared by GENIVAR Consultants for Baffinland Iron Mines Corporation, dated November 19, 2008.