November 4, 2009

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

Dear Ms. Beaulieau / Mr. Dwyer:

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."*

During 2008 and 2009, BIM retained GENIVAR Consultants (Genivar) to complete the 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.

The 2008 geotechnical report, completed by Genivar, and recommendations were submitted to the Nunavut Water Board (NWB) last November 2008. Attached, herewith, is Genivar's 2009 geotechnical report which presents the 2009 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. Recommendations for 2009 were similar to those provided for the 2008 annual geotechnical inspection report.

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 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 was implemented from May through October 2009 and will be repeated during the 2010 open water season.

2.4. Polishing/Waste Stabilization Pond Nos. 2 and 3

Recommendation MR4: 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 was implemented from May through October 2009 and will be repeated during the 2010 open water season.

3.0 Milne Inlet Camp

3.1. Bulk Fuel Storage Facility Containment

There were no recommendations made at this time.

Baffinland
Iron Mines Corporation

3.2. Polishing/Waste Stabilization Pond.

The Milne PWSP has been largely decanted. There are no further recommendations at this time.

We trust that this submittal satisfies your current requirements. Should you have any questions, please do not hesitate to contact Jim Millard, Senior Environmental Superintendent at 902-403-1337 or by e-mail at jim.millard@baffinland.com.

Best Regards,
Baffinland Iron Mines Corporation

Jim Millard, M.Sc., P.Geo.
Senior Environmental Superintendent

cc. David McCann, Dick Matthews, William Napier, BIM
Stephen Bathory, QIA
Andrew Keim, INAC

Attach: Annual Geotechnical Inspection 2009, prepared by GENIVAR Consultants for Baffinland Iron Mines Corporation, dated October 5, 2009.

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GENIVAR

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October 5, 2009

Baffinland Iron Mines Corporation
Suite 1016, 120 Adelaide Street West
Toronto, ON M5T 1T1

Attention: Mr. Jim Millard
jim.millard@baffinland.com

RE: ANNUAL GEOTECHNICAL INSPECTION 2009
BAFFINLAND IRON MINES CORPORATION
OUR REFERENCE NO. 09-190

1.0 INTRODUCTION

GENIVAR Consultants completed the 2nd annual water license geotechnical inspection of the on-site containment structures at Baffinland Iron Mines Corporation (BIM) Mary River Project. The containment structures for the operation are located at two main camp sites known as the Mary River Camp and Milne Inlet Camp.

The soil structures reviewed are as follows:

Mary River Mine Site

- Bulk Fuel Storage Facility Containment,
- Generator Fuel Storage Facility Containment,
- Polishing/Waste Stabilization Pond No. 1, and
- Polishing/Waste Stabilization Ponds No. 2 and No. 3 which are built together

Milne Inlet Site

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

This report presents the findings and recommendations with respect to the aforementioned structures. We understand that this report will be used by BIM to fulfill the requirements of the Nunavut Water Board for an annual geotechnical investigation of onsite water and fuel retaining structures under Water License 2BB-MRY0710.

2.0 METHODOLOGY FOR INSPECTION

The geotechnical inspector was Mr. Barry H. Martin P. Eng., who reviewed the sites on July 21st and 22nd, 2009. Subsequent to the visit, a GENIVAR representative attended the site to review the repair work and survey the as constructed conditions. The inspections were focused principally on the following aspects:

1. The structures were inspected for conformance with the design basis as presented in as-constructed and as-built drawings (provided in the 1st report,);
2. Specifically, the structures were inspected for signs of settlement, seepage, and cracking; and
3. The areas around the soil structures were examined for evidence of seepage.

Photographs were taken to document observations made during the inspection.(refer to Attachment A). Recommendations are provided to BIM to facilitate the ongoing operation, management, and monitoring of the facilities. The repair work was subsequently reviewed in September 2009 by a GENIVAR surveyor.

3.0 MARY RIVER CAMP

3.1 Bulk Fuel Storage Facility Containment

General Conditions

At the time of the inspection of the bulk fuel storage facility, the containment structure was completed, and bladders had been installed and were in use.

Stability

At the time of our review, there were localized shallow areas of water within the containment structure that originated from recent rain and snow/snow melt events. These localized ponds were an indication of membrane integrity.

The entire structure was visually inspected for any signs of cracking or subsidence. There was no indication of any settlements, seepage or cracking in the soil structures that formed the dykes. Also, there was no indication of seepage at the base of the soil structure dyke around the exterior. The soil containment structure is considered to be stable in its present condition and is in conformance with the design basis for the facility.

Recommendations

There are no recommendations to be made at the present time.

3.2 Generator Fuel Storage Facility Containment

General Conditions

The Generator Fuel Storage Facility containment was constructed utilizing the same principles used in the design and construction of the large fuel containment facilities at the Mary River Camp and the Milne Inlet Camp.

Stability

The entire structure was visually inspected for any signs of cracking or subsidence. There was no indication of any settlements, seepage or cracking in the soil structures that formed the dykes. Also there was no indication of seepage at the base of the soil structure dyke around the exterior. The soil containment structure is considered to be stable in its present condition and is in conformance with our design principles.

An as constructed review was carried out on this structure with respect to the height of cover over the base and minimum height of membrane in the dyke.

Recommendations

- 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.

3.3 Polishing/Waste Stabilization Pond (PWSP) No. 1

General Conditions

PWSP No. 1 was originally designed as storage for sewage effluent during the start-up phase of the sewage treatment plants at the Mary River Camp. Once the treated sewage effluent meets water license effluent quality criteria, the plan is to release treated effluent directly to the receiving environment (Sheardown Lake). The residual treated effluent left in the ponds would be treated as necessary and released to the receiving environment once effluent quality criteria are met.

It is our understanding that the release of effluent from the holding ponds shall be released shortly

The structure currently conforms to its design intent.

Stability

Our inspection of the area around the pond at the base of the slopes showed no signs of water (treated sewage effluent) and hence we conclude that there are probably no tears or ruptures in the membrane below the water table.

A review of the exterior and top of the dykes showed no indication of settlement or cracking which would be indicative of overstress on the structure.

A review of the exposed liner on the upper edge of the dyke showed a number of tears in the upper edge of the liner caused by vehicular traffic on the top of the dyke and generally

within a distance of 30 m of the ramp access to the top of the dyke. These tears have been repaired since our last review in 2008.

Monitoring points have been established on the berm and monitoring has commenced, to monitor settlement, in June 2009. This monitoring was done between June and September. Minor settlements in the order of 3 to 8 cm were found. This variation would include settlements within the dykes and within the soils beneath them.

The structure is considered to be stable in its present condition.

Recommendations

- It is recommended that the exterior slopes on the dykes be built out to a 4:1 slope if the effluent level exceeds the levels measured on September 4, 2008 (175.90). GENIVAR representative reviewed the conditions and repairs to the exterior berms were completed in accordance with the recommendations

- In consideration of the potential for the thawing of permafrost regime under the PWSP, it is recommended that monitoring points be established on the dyke structure and an elevation monitoring program be implemented to measure any potential settlement. It is recommended that a monthly monitoring be implemented from May through October 2009.

3.3 Polishing/Waste Stabilization Pond #2 and #3

General Conditions

PWSP #2 and PWSP #3 were originally designed as a two-cell pond structure with a liner.

The bottom of the PWSP #2 structure liner was set at approximately 174.7 m elev. and the top of the liner was built to approximately 177.97 m elev. The slope of the interior of the dyke upon which the membrane was installed was at a slope of 3:1. The exterior slopes of the dyke are at a slope of 4:1. The structure currently conforms to its design intent.

Stability

Our review of the area around the pond at the base of the slopes showed no signs of water (sewage) and hence we conclude that the liner has been effective in containing the sewage and there are no tears or ruptures in the membrane.

A review of the exterior and top of the dykes showed no indication of seepage.

There were minor longitudinal cracks under the west berm of PWSP #3 near to the base of the exterior 4:1 slope. These cracks are minor in nature and are not due to ice lensing in permafrost. The structure is to be considered stable in its present condition.

Recommendations

- Based on the current 4:1 backslope the level of sewage in the cell should not exceed a height of 1.8 m.
- In consideration of the potential for the thawing of permafrost regime under the PWSP, it was recommended that monitoring which started in June, be continued on the dyke structure and that the elevation monitoring program be to measure any potential settlement.
  This was done between June and September. Minor settlements in the order of 1 to 8 cm were found. This variation would include settlements within the dykes and in the soils beneath them.

4.0 MILNE INLET

4.1 Bulk Fuel Containment Facility Containment

General Conditions

The structure around the fuel farm currently conforms to the design basis of the facility. A review of the interior of the dyke indicated a water depth averaging approximately 300 mm depth in the central portion of the facility. This depth is the same as last year. Water treatment and discharge utilizing an oil/water separation/filtration/batch process was underway. The ponding of water helps to confirm the integrity of the liner.

Stability

Our review of the area around the pond at the base of the slopes showed no signs of water or oil/water mixture and hence we conclude that the integrity of the liner has been maintained. Tears or ruptures in the membrane were not observed.

There was no indication of any settlements, seepage, or cracking at the soil structures forming the dykes.

The structure is considered to be stable at its present condition.

Recommendations

The performance of the structure has been recently tested with ponded water within the enclosure. The observations noted during our recent site visit support the conservative design of the structure. We have no recommendations at this time.

4.2 POLISHING/WASTE STABILIZATION POND

General Conditions

PWSP was originally designed as storage for sewage effluent from the RBC sewage plant installed at the site during the start-up phase of the operation. At the time of the inspection, the camp was shut down and the water in the PWSP had been released as it had met release criteria.

The exterior slopes of the dykes were observed to be at 4:1. The interior slope of the dykes appeared to be 2:1.

Currently, the Milne PWSP structure conforms to the design basis of the facility.

Stability

With the interior slope at 2:1 and the exterior slope at 4:1 we find the dykes to be stable for long term use.

Based on the observed 4:1 dyke exterior slopes, the structure appears stable at current conditions. There was no sign of effluent break-out or seepage at any location along the bottom of the dyke. The high effluent levels which levels which were observed at the time of the 2008 visit had been lowered to less than design criteria.

Recommendations

Currently the Milne PWSP conforms to the design intent and we have no recommendation.

We hope that the above report is satisfactory to BIM for inclusion into the annual geotechnical report for Nunavut Water Board. If you have any questions, please do not hesitate to contact the undersigned.

Respectfully submitted,

GENIVAR

Barry H. Martin, P. Eng., MRAIC
BHM/jw

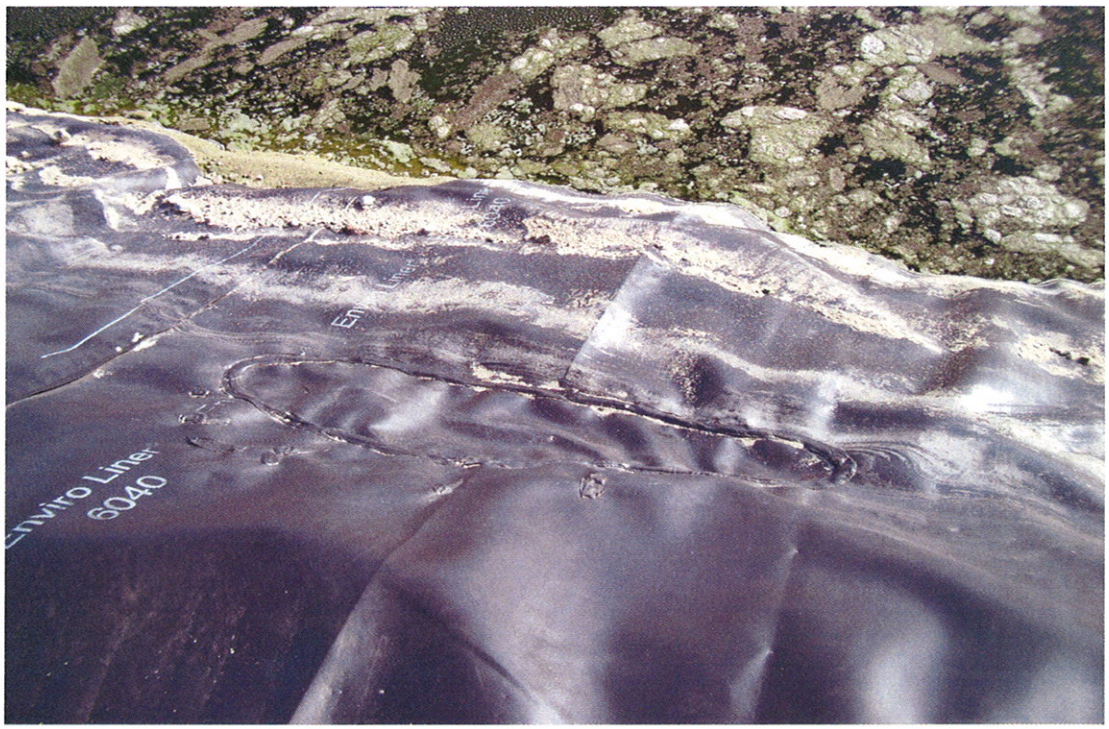
Attach: A-Photos

ATTACHMENT A: PHOTOS

PWSP #2 with PWSP #3 in background on right- Mary River

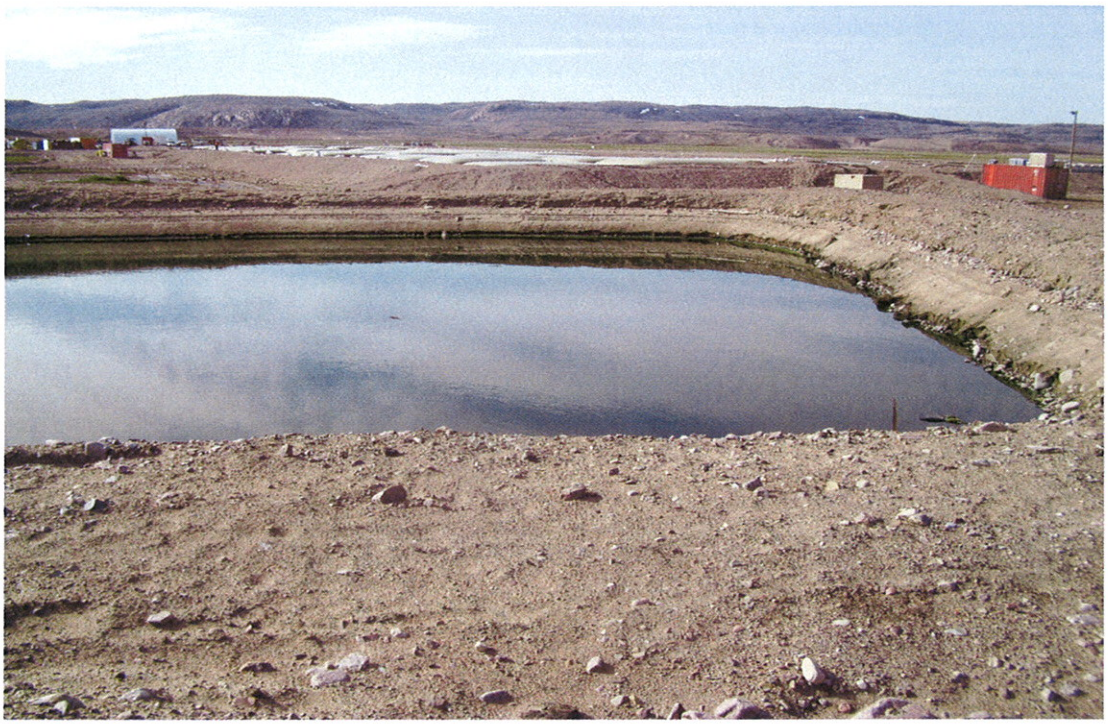
PWSP #2 with PWSP #3 in background – Mary River

Bulk fuel storage facility – Milne Inlet



Repairs made to liner at PWSP #1 – Mary River

PWSP #1 – Mary River



Milne Inlet PWSP