

June 9, 2009

Phyllis Beaulieu, Manager of Licensing
Richard Dwyer, Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Email: licensing@nunavutwaterboard.org

**Re: Polishing Wastewater Stabilization Ponds (PWSPs) Management
Milne Inlet and Mary River Camps
Schedule of Activities for Summer 2008
Type B Water License #2BB-MRY0710
Mary River Project**

Dear Ms. Beaulieu / Mr. Dwyer,

By way of this letter, Baffinland Iron Mines Corporation (BIM) is providing an update of our planned activities related to the management of our PWSPs during the 2009 open water season. Our updated *Wastewater Management Plan* provided to you in Appendix H of our Annual Water Licence Report¹, dated March 30, details our PWSP discharge strategy for the 2009 open water season. Our intention is to move forward with this plan on the basis that it is consistent with the terms and conditions of our above referenced water licence.

The PWSPs were constructed at Mary River and Milne Camps to temporarily store noncompliant effluent generated from the Mary River and Milne Camps' rotary biological contactor (RBC) sewage treatment plants (STPs). In 2007, one PWSP facility was constructed in each of our Mary River and Milne Inlet camps. Due to start-up issues related to our RBC at the Mary River Camp, a modification request was submitted to the Nunavut Water Board (NWB) in April 2008². The purpose of the requested modification was to construct additional PWSP facilities that would provide added storage capacity for non-compliant sewage effluent. After the completion of a technical review and consultation with interested parties, the NWB granted approval of the proposed modifications on May 7, 2008. Comments received by Environment Canada and INAC focussed on the need to expeditiously treat and release stored water in PWSPs. Conditions of this approval were provided in a letter to BIM from the NWB, dated May 7, 2008. The conditions of the approval state that BIM is to comply with a number of items. Two of the key items were as follows:

- *Any release of effluent shall be less than or equal to the discharge limits as set out in Part D, Items 10 and 11. All effluent is to be non-acutely toxic as required by Part D, Item 12; and,*

¹ March 2009 Annual Report to the Nunavut Water Board, (for Water Licence No. 2BB-MRY0710) for the Mary River Project, dated March 30, 2009. Submitted by Baffinland Iron Mines Corporation on March 31, 2009. Receipt of report was acknowledged by the NWB on April 20, 2009.

² Submission of Request for Modification of the Waste Disposal Facilities at the Mary River Project, Baffinland Iron Mines Corporation, dated April 8, 2008.

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- *Once the Waste Water Treatment Facilities are operational and treated effluent has met licensing criteria for discharge to the environment, the holding ponds are to be reduced in volume by further treatment and release to provide maximum holding capacity in the event of system upsets or malfunctions.*

To address the conditions of the approval and concerns brought forward by stakeholders, AMEC-Geomatrix Limited (AMEC) assisted BIM in the development of a technical strategy/plan for the management, treatment, and disposal of the wastewater and sludge solids stored in the PWSPs at Milne Inlet and the Mary River facilities. This work was described and detailed in BIMs 2008 Annual Report¹ and Waste Water Management Plan revision, submitted to the NWB in March 2009.

From a practical perspective, PWSP effluent treatment and release can only occur during the open water season and BIM intends to treat, where required, and discharge pond effluent with the technical guidance of AMEC during the spring and summer of 2009. The specific schedule / time lines for key tasks are presented below:

- **June 2009** - Conduct environmental sampling and analysis of the accumulated water and solids in each PWSP.
- **June-July 2009** - Confirm PWSP water levels and volumes of water and solids for disposal from each PWSP.
- **July – August** - Conduct bench-scale treatability testing of PWSP samples. Review and finalize details of the plans for treatment and discharge of the PWSPs in accordance to the revised Wastewater Management Plan.
- **August 2009** - Execute the technical workplan to treat and discharge effluent in each of the PWSPs. Manage and treat remaining sludge as time and weather permit.
- **September 2009** – Effluent from the PWSPs are discharged and system decommissioned for winter.

The discharge workplan, once established, will be designed so that it can be utilized during future annual open water discharge seasons, if required. The technical strategy and potential options for treatment and discharge of the PWSPs at Mary River and Milne Inlet Camps are provided in a technical memorandum entitled Technical Strategy for 2009 PWSP Treatment prepared by AMEC and presented in Appendix F of the Wastewater Management Plan, attached to the 2008 Annual Water Licence Report¹. As described in this document, planned treatment will include the following specific actions:

- Redirection of PWSP effluent through the Mary River RBC (the Milne RBC will not be operational during 2009 due to low camp occupancy).
- In situ pH adjustment that involves increasing pH to volatilize ammonia using lime, and a subsequent readjustment of pH using alum.³

³ It should be noted that pH adjustment and filtration of wastewater effluent are integral wastewater treatment processes used within the current Mary River (and Milne Inlet) RBCs.

- Filtration of Mary River PWSP effluent after treatment in the event that total phosphorus concentrations exceed target levels.³

After initial sampling of the PWSPs in June 2009, it is anticipated that stored effluent in PWSP no. 3 at Mary River and in the PWSP at Milne Inlet will likely meet effluent criteria and target levels as outlined in the Water Licence and revised Wastewater Management Plan for the project. If this is the case, further treatment of effluent in these PWSPs will not be required and direct discharge at authorized outfall locations will be initiated. Periodic monitoring during discharge will be required to ensure ongoing compliance to water licence requirements and timely discontinuation of discharge in the event criteria are exceeded.

The redirection of partially treated effluent through the Mary River RBC has only limited advantages in that there is insufficient hydraulic capacity to treat current volumes of PWSP effluent. Therefore PWSP in situ effluent treatment will be required to fully decant the PWSPs during 2009.

Once the PWSPs are decanted, and assuming there remains sufficient time before freeze-up, the remaining solids (sludge) in the ponds will be managed. Options being considered for the treatment and management of sludge in the PWSPs at Milne and Mary River include:

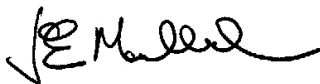
- Sludge drying beds
- Contained Passive Filtration (e.g. Geotubes)

The dewatering technologies being considered will require the addition of a dewatering aid (polymer) to optimize the treatment process and minimize the volume of solids that will need to be disposed of on-site. The dewatering aid increases the solids content resulting in a solid waste product that is acceptable for landfilling. The sludge management technical strategy is presented in the Wastewater Management Plan that forms part of the 2008 Water Licence annual report submission¹.

If you have any questions, comments, or concerns regarding our plans this summer to treat and discharge effluent from our PWSPs and to manage the remaining solids, please contact me at your earliest opportunity.

Yours sincerely,

Baffinland Iron Mines Corporation

A handwritten signature in black ink, appearing to read 'J. Millard', written in a cursive style.

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

Cc: Cheryl Wray, Matthew Pickard, Derek Chubb, BIM
Andrew Keim, INAC
Stephen Bathory, QIA