

File No.: NB102-181/4-A.07  
Cont. No.: NB06-01245

February 13, 2007

Ms. Phyllis Beaulieu  
Manager of Licensing  
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Dear Phyllis:

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**Re: 2006 Annual Report - Type B Water License #NWB2MRY0406 – Mary River Project**

This annual report summarizes water uses and waste depositions related to mineral exploration at the Mary River Project (the Project), in accordance with Part B, Item 2 of water license #NWB2MRY0406.

Baffinland Iron Mines Corporation (Baffinland) was issued water license #NWB2MRY0406 on June 11, 2004, and Amendment 1 was issued on August 4, 2005. Baffinland submitted a request to renew and amend the water license in an October 6, 2006 letter accompanied by a completed application and questionnaire. The license expired on December 31, 2006.

**Part B, Item 2 (i) Summary Report of Water Use and Waste Disposal Activities**

Water use and waste disposal activities include but are not limited to: methods of obtaining water, sewage and greywater management, drill waste management, and solid and hazardous waste management.

*Methods of Obtaining Water*

Water is used to sustain two operations: the Mary River camp and drilling operations.

Water for camp use was obtained from Camp (Robert) Lake using a screened intake placed into the lake attached to a small portable pump used to fill four 1.14 m<sup>3</sup> capacity storage tanks. Water drawn from the storage tank is treated by UV disinfection prior to distribution to taps and showers.

Water for drilling was obtained from the established water take location on the Mary River. A total of four drills operated on Deposit Nos. 1, 2, and 3 in 2006, each equipped with a 44.5 litre per minute (lpm) capacity pump. Water was pumped to mixing stations where calcium chloride salt was added, and the drill water was pumped to the various drill rigs.

For all methods of obtaining water intake hoses were equipped with screens to ensure no entrapment of fish as per Part C, Item 3.

*Waste Disposal Activities*

Latrine toilets were used at the Mary River camp in 2006, and all sewage was contained in drums and incinerated prior to treatment with lime then covered with native material to maintain the natural contours of the land. Amendment 1 (Part D, Item 5) required that commercial incineration toilet systems be used at full camp capacity, however, operational difficulties were encountered with the propane-fired incineration toilet and as a result use of the latrine toilets continued throughout the season.

Greywater generated from the kitchen and shower tents drained into two large, two by three metre excavated sumps. Sumps were dug and lined with stones to facilitate drainage then in-filled with sand. No backflow of greywater was observed during the 2006 field season.

All areas used for sewage collection, waste disposal, or greywater sumps were located more than 30 m above the ordinary high water mark of adjacent water bodies as per Part D, Items 1 and 4.

Solid waste such as domestic kitchen refuse and paper was incinerated daily. Waste oil was used to fuel the incinerator. Used batteries were backhauled and sent transported off-site, to Montreal and empty fuel drums returned to Pond Inlet for storage on a property leased from the Hamlet. All other non-combustible wastes (fibreglass, steel, etc.) were disposed of in the Pond Inlet landfill.

Part B, Item 2 (ii)            Unauthorized Discharges and Follow-up Actions

Three spills related to the Mary River Project occurred during the 2006 field season.

Spill No. 2006238 occurred on June 11, 2006 at the Mary River camp, when approximately 114 L of diesel fuel was spilled from a vehicle. Contaminated snow was collected and disposed of in the camp incinerator, and a tiger torch was used to burn fuel on the frozen ground.

Spill No. 2006276 was reported on July 9, 2006 for an all-terrain vehicle (ATV) was submerged within a tributary of Phillips Creek (latitude 71° 19' 62" north and longitude 79° 22' 16" west). The ATV was recovered, its fuel tank drained and the contents disposed of in the camp incinerator.

Spill No. 2006344 occurred on September 1, 2006 at the Mary River camp (latitude 71° 19' 6" north and longitude 79° 22' 46" west), when a 205 L drum of diesel fuel was accidentally released from a helicopter sling. A tiger torch was used to burn fuel on the ground surface, and a small volume of contaminated soil was placed in plastic pails and brought to Pond Inlet for disposal.

Part B, Item 2 (iii)            Revisions to the Spill Contingency Plan and Abandonment and Restoration Plan

A revised Spill Contingency Plan and a revised Abandonment and Restoration Plan accompanied the Baffinland's October 6, 2006 letter requesting renewal with amendments to this water license. Approval of these documents is pending.

Part B, Item 2 (iv)            Progressive Reclamation Work Undertaken

Reclamation at the Mary River site in 2006 consisted of on-going clean up of materials related to the 1960's exploration program site, predominantly metal debris such as empty drums.

Part B, Item 2 (v) Conditions Applying to the Monitoring Program (Part I, Item 5)

Part I, Item 5 of the original license outlines the conditions of the monitoring program, revised through Amendment 1.

*Item 1 (ii) Daily Quantities of Water*

The Mary River camp supported typically 80 persons up to a peak of 100 people during the 2006 field season. The average daily water consumption from Camp Lake, summarized in Table 1, ranged from 0.8 to 4.5 m<sup>3</sup> according to camp capacity. Amendment 1, Part C allows for the withdrawal of 5 m<sup>3</sup>/day.

A total of four drills operated on Deposit Nos. 1, 2, and 3 in 2006, each equipped with a 10 gallon per minute (44.5 litres per minute – lpm) capacity pump. Table 2 provides a record of the daily water takes for drilling. Water consumption for drilling were calculated from drill operating times obtained from daily drill logs and assuming the pumps for each drill operated continuously during the drilling. The maximum combined daily withdrawal from this water source was 256 m<sup>3</sup>/day based on all four drills operating at capacity. Amendment 1 (Part C, Item 1) allows for a maximum of 290 m<sup>3</sup>/day.

*Item 1, (ii) Monitoring of Latrine Pit Area*

The water license (Amendment 1) specifies that while the latrine pit system is in use, that the water body downstream of the latrine pit area (Camp Lake) is to be monitored every four weeks during the open water period and tested for 5-day biological oxygen demand (BOD<sub>5</sub>), fecal coliform and total suspended solids (TSS). Although the system is referred to as a pit latrine, the latrines do not deposit waste into pits but instead collect the waste in drums, the contents of which are incinerated in the camp incinerator.

Baffinland's intention was to replace the existing latrines with incineration toilets during the 2006 field season. The incineration toilets were operated on a limited basis in 2006, but operational difficulties resulted in the continued use of the latrine system. The monitoring program as specified in the water license was not implemented specifically, instead the monthly water quality monitoring undertaken at Camp Lake for the purpose of verifying adequate source water quality for the camp water supply. Thus testing was undertaken for the requisite fecal coliform parameter specified in the license as well as other bacteriological parameters (i.e., total coliforms, heterotrophic plate count, *Escherichia Coli* [*E. Coli*], and *Faecal Streptococcus*). Testing was not completed, however, for BOD<sub>5</sub> or TSS. Table 3 presents the results of monthly water quality monitoring undertaken.

One count of fecal coliform was detected on one of the sampling periods. Treated water at the point of use (following ultra-violet disinfection) was tested concurrently and no coliform were detected. It is expected that the measured coliform may have been derived from near shore runoff, as the distance from the latrines to the lake is over 250 m, the waste is contained in drums and not discharged to the environment, and the water supply intake (and sampling location) was situated in shallow water close to shore. Baffinland plans in 2007 to re-position the camp water intake about 60 m out into Camp Lake from a floating dock, which will likely improve source water quality and the potential effects of near-shore runoff.

*Item 2 Water Take Locations*

Water for camp use was obtained from Camp Lake at the location used in previous years and specified in Amendment 1 (latitude 71° 18' 28" and longitude 79° 12' 22").

Water for drilling was obtained from the established water take location on the Mary River, at latitude 71° 18' 28" and longitude 79° 12' 22".

*Item 3 Waste Disposal Locations*

The pit latrines are located at latitude 71° 19' 34" and longitude 79° 22' 28". Final disposal of sewage and combustible wastes was at the camp incinerator, located at latitude 71° 19' 40" and longitude 79° 22' 39".

Materials from exploration activities in the 1960s were aggregated at an existing boneyard or scrapyard, located at latitude 71° 19' 22" and longitude 79° 20' 48".

*Item 4 Additional Requested Sampling and Analysis*

No additional sampling and analysis was requested by an inspector in 2006. Baffinland undertook additional weekly and incidental testing of water both in camp and from a tap in camp using a Colisure™ testkit.

Part B, Item 2 (vi) Other Details Requested by the Board

No other details were requested by the Board in 2006.

Closure

For further information or clarification, please do not hesitate to contact either of the undersigned at (705) 476-2165.

Yours very truly,  
**KNIGHT PIÉSOLD LTD.**

*[Original signed by]*

*[Original signed by]*

Richard Cook, B.Sc.  
Senior Environmental Scientist

Steven Aiken, P.Eng.  
Manager, Environmental Services

Attachments:

- Tables 1 to 3 (5 pages)

cc: Rod Cooper, P.Eng., Baffinland

rw/RC