



April 10, 2011

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

Dear Ms. Beaulieu / Mr. Dwyer:

Re: *Mary River Project*
NWB License 2BB-MRY1114
Winter Geotechnical Drilling Program – Phase 1

Attention Ms. Beaulieu / Mr. Dwyer,

Baffinland Iron Mines Corporation (Baffinland) is preparing for the initiation of the first phase of its winter 2010 geotechnical drilling program, scheduled to commence in mid-April. The purpose of the program is to collect additional data to support rail route and Steensby port design detailed design requirements. Phase 1 of its winter program will consist of on-ice drilling at the proposed Raven River crossing along the proposed rail alignment and on-ice drilling at Steensby Inlet. A phase 2 of the winter drilling program will likely be submitted within the next 10 days subject to drill availability and the results of further planning/prioritization.

Specific requirements of the above noted license related to the planning of this program include:

- Part C, Items 3 and 4, which state that streams cannot be used as water sources (without the approval of the NWB) and that water use volumes can't be used such that draw down of the water source occurs;
- Part F, Item 2, which states that the Licensee may conduct geotechnical drilling within 30 metres of the high water mark of a water body provided such activities are consistent with the terms of the water licence and a request has been submitted and received by the NWB, 10 days in advance of drilling that includes a description of the proposed activities and the following:
 - A scaled map, with coordinates of planned drilling locations and associated water bodies;
 - Locations of waste deposition, consistent with Part F, Item 4, and,
 - Mitigation measures that are planned to be in place, prior to, during drilling and following if required to protect waters.
- Part F, Item 4, which states that drill waste shall be disposed in an appropriate natural depression or constructed sump a distance of 31 metres from the high water mark of any adjacent water body where direct flow into a water body is not possible and no additional impacts are created.
- Part F, Item 5, which states that drilling additives or mud shall not be used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or are demonstrated to be non-toxic.

Baffinland Iron Mines Corporation

Suite 1016 120 Adelaide Street West, Toronto, ON Canada M5H 1T1
Tel: +1 (416) 364-8820 • Fax: +1 (416) 364-0193
www.baffinland.com



- Part F, Item 8, which states that for “on-ice” drilling, return water released must be non-toxic and not result in an increase in total suspended solids in the immediate receiving waters above CCME Guidelines for the Protection of Freshwater Aquatic Life.
- Part F, Item 9, which states that water quality conditions must be established prior to and upon completion of any drilling program through lake ice.
- Part I, Item 17, which requires submission to the Inspector, the GPS locations of all water sources, prior to utilization.

Tables and figures summarizing winter drill hole locations at Raven River and Steensby Inlet as currently planned and in accordance with Part I, Item 17, are attached to this letter. The exact number and locations of drill holes are subject to adjustment based on the information obtained through the course of this program.

A Phase 2 portion of on-ice drilling as well as the open water season portion of the geotechnical drill program (ie. post June 2011) will be submitted at later dates. In accordance with the intent of Part F, Item 1, open water season drill holes will, to the extent possible, be planned for locations greater than 30 metres away from the ordinary high water mark of any adjacent water body. Approvals will be sought from the NWB at that time for any drill holes planned for locations within 30 metres of any water bodies during the open water season.

The focus of the winter portion of the geotechnical program is to advance during frozen conditions those drill holes at locations within 30 metres of the normal high water mark and on ice of the water body. These holes are required in order to evaluate ground conditions and provide the information needed for design of water crossings such as bridges and port facilities. It is expected that the Raven River will be frozen to the bottom and that there will not be any water present.

Where there may be open water below the ice at on-ice drilling locations, Baffinland has implemented standards and procedures to minimize and monitor potential effects. Baffinland has developed a geotechnical drilling standard that incorporates before drilling inspection checklists, daily drilling operational monitoring forms, and a post drilling inspection checklist that help to minimize and document potential environmental impacts due to drilling activities. In addition, a pre-drilling and post-drilling monitoring procedure has been developed for drilling locations where there is open water below ice at drilling locations. The above documents are attached for information purposes.

Baffinland's Site Water Management Plan¹ also contains guidance on how to minimize the potential effects of drilling and on the selection of appropriate environmental controls to minimize the release of suspended solids into the receiving environment.

To support the winter program, water sources to support drilling operations have been selected in concordance with Part C, Items 3 and 4 of the water license. Streams have not been selected as water sources and a desktop threshold of 5% maximum water withdrawal has been used to guide water source selection. This criterion is consistent with the Department of Fisheries and Oceans (DFO) guideline established for under-ice water use². The location of fresh water

¹ Baffinland Iron Mines Corporation, Mary River Project, Site Water Management Plan (March 2010) and update (March 2011).

² DFO Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut, current as of June 21, 2010.



sources is provided in the tables and figures attached to this letter. At Steensby Inlet, ocean water will be used to the greatest extent possible for drilling.

By copy of this letter, Baffinland is providing the Qikiqtani Inuit Association, the Water License, and INAC Lands inspectors with the requisite notice of intent to commence drilling operations during the month of April. A copy of this letter has also been forwarded to the federal Department of Fisheries and Oceans for their information and guidance, as appropriate. Should you have any comments or concerns, please do not hesitate to contact the undersigned.

Yours sincerely,

Baffinland Iron Mines Corporation

A handwritten signature in black ink, appearing to read 'J. Millard'.

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

Attachments: Tables 1 and 2, Figures 1 to 3, incl.
Geotechnical Drilling Standard and associated inspection checklists.

cc., Salamonie Shoo, QIA,
Ian Rumbolt, INAC,
Kevin Robertson, INAC,
Eric Kan, DFO

TABLE 1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

PHASE 1 OF 2011 PROPOSED DRILLING PROGRAM
PROPOSED WINTER DRILLHOLE LOCATIONS

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Drillhole Number	Northing (Estimated) (m)	Easting (Estimated) (m)	Chainage (km+mmm)	Offset (m)	Drillhole Purpose	Related Water Source	Instrumentation
RR alignment - Raven River Crossing to Mary River Camp							
BR-MN-2							
BR-MN-2-15-P	7,911,987	562,595	1+905	N/A	Mary R. Bridge	WW-1	
BR-MN-2-14-P	7,911,984	562,606	1+894	N/A	Mary R. Bridge	WW-1	
BR-MN-2-13-P	7,911,981	562,617	1+883	N/A	Mary R. Bridge	WW-1	
BR-MN-2-12-P	7,911,974	562,640	1+859	N/A	Mary R. Bridge	WW-1	
BR-MN-2-11-P	7,911,967	562,664	1+834	N/A	Mary R. Bridge	WW-1	
BR-MN-2-10-P	7,911,964	562,674	1+823	N/A	Mary R. Bridge	WW-1	
BR-MN-2-9-P	7,911,961	562,685	1+812	N/A	Mary R. Bridge	WW-1	
BR-MN-2-8-P	7,911,958	562,696	1+801	N/A	Mary R. Bridge	WW-1	
BR-MN-2-7-P	7,911,955	562,706	1+790	N/A	Mary R. Bridge	WW-1	
BR-MN-2-6-P	7,911,952	562,717	1+789	N/A	Mary R. Bridge	WW-1	
BR-MN-2-5-P	7,911,945	562,741	1+754	N/A	Mary R. Bridge	WW-1	
BR-MN-2-4-P	7,911,942	562,751	1+743	N/A	Mary R. Bridge	WW-1	
BR-MN-2-3-P	7,911,939	562,762	1+732	N/A	Mary R. Bridge	WW-1	
BR-MN-2-2-P	7,911,936	562,772	1+721	N/A	Mary R. Bridge	WW-1	
BR-MN-2-1-P	7,911,933	562,783	1+710	N/A	Mary R. Bridge	WW-1	
BR-MN-1							
BR-MN-1-15-P	7,911,978	562,593	1+905	N/A	Mary R. Bridge	WW-1	
BR-MN-1-14-P	7,911,975	562,604	1+894	N/A	Mary R. Bridge	WW-1	
BR-MN-1-13-P	7,911,972	562,614	1+883	N/A	Mary R. Bridge	WW-1	
BR-MN-1-12-P	7,911,966	562,638	1+859	N/A	Mary R. Bridge	WW-1	
BR-MN-1-11-P	7,911,959	562,661	1+834	N/A	Mary R. Bridge	WW-1	
BR-MN-1-10-P	7,911,955	562,672	1+823	N/A	Mary R. Bridge	WW-1	
BR-MN-1-9-P	7,911,952	562,682	1+812	N/A	Mary R. Bridge	WW-1	
BR-MN-1-8-P	7,911,949	562,693	1+801	N/A	Mary R. Bridge	WW-1	
BR-MN-1-7-P	7,911,946	562,703	1+790	N/A	Mary R. Bridge	WW-1	
BR-MN-1-6-P	7,911,943	562,714	1+789	N/A	Mary R. Bridge	WW-1	
BR-MN-1-5-P	7,911,936	562,738	1+754	N/A	Mary R. Bridge	WW-1	
BR-MN-1-4-P	7,911,933	562,748	1+743	N/A	Mary R. Bridge	WW-1	
BR-MN-1-3-P	7,911,930	562,759	1+732	N/A	Mary R. Bridge	WW-1	
BR-MN-1-2-P	7,911,927	562,770	1+721	N/A	Mary R. Bridge	WW-1	
BR-MN-1-1-P	7,911,924	562,780	1+710	N/A	Mary R. Bridge	WW-1	
Steensby Port Area							
On Ocean Drilling							
MSOD-A	7,799,308	593,030	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-B	7,799,314	592,963	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-C	7,799,340	592,969	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-D	7,799,294	592,959	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-E	7,799,304	592,840	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-F	7,799,324	592,849	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-G	7,799,351	592,855	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-H	7,799,366	592,749	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-I	7,799,335	592,734	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-J	7,799,253	592,696	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-K	7,799,172	592,658	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-L	7,799,090	592,620	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-M	7,799,009	592,581	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-N	7,798,935	592,549	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-O	7,798,903	592,661	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-P	7,798,960	592,687	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-Q	7,799,042	592,723	N/A	N/A	Steensby Inlet	Steensby Inlet	

TABLE 1

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PROPOSED WINTER DRILLHOLE LOCATIONS

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Drillhole Number	Northing (Estimated) (m)	Easting (Estimated) (m)	Chainage (km+mmm)	Offset (m)	Drillhole Purpose	Related Water Source	Instrumentation
MSOD-R	7,799,124	592,760	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-S	7,799,207	592,797	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-T	7,799,151	592,710	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-U	7,799,208	592,734	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-V	7,799,156	592,567	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-W	7,799,184	592,560	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSOD-X	7,799,195	592,586	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-1	7,799,202	592,530	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-2	7,799,030	592,536	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-3	7,799,077	592,558	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-4	7,799,112	592,574	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-5	7,799,241	592,634	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-6	7,799,292	592,657	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-7	7,799,339	592,679	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-8	7,799,390	592,703	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-9	7,798,971	592,564	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-10	7,799,051	592,604	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-11	7,799,139	592,644	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-12	7,799,214	592,679	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-13	7,799,294	592,716	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-14	7,798,986	592,631	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-15	7,799,071	592,670	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-16	7,799,253	592,754	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-17	7,799,280	592,766	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-18	7,799,331	592,780	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-19	7,799,382	592,794	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-20	7,799,268	592,901	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-21	7,799,319	592,905	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-22	7,799,371	592,910	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-23	7,799,258	593,013	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSODP-24	7,799,361	593,023	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-A	7,798,935	595,580	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-B	7,798,914	595,532	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-C	7,798,975	595,552	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-D	7,798,914	595,490	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-E	7,798,941	595,502	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-F	7,798,969	595,514	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-G	7,798,996	595,527	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-H	7,798,860	595,430	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-I	7,798,913	595,454	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-J	7,798,969	595,478	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-K	7,799,027	595,504	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFD-L	7,799,082	595,528	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-1	7,798,890	595,411	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-2	7,798,948	595,537	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-3	7,799,005	595,462	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-4	7,799,063	595,488	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-5	7,798,882	595,449	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-6	7,799,053	595,540	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-7	7,799,042	595,590	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-8	7,799,032	595,641	N/A	N/A	Steensby Inlet	Steensby Inlet	

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PROPOSED WINTER DRILLHOLE LOCATIONS

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Drillhole Number	Northing (Estimated) (m)	Easting (Estimated) (m)	Chainage (km+mmm)	Offset (m)	Drillhole Purpose	Related Water Source	Instrumentation
MSFDP-9	7,799,021	595,692	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-10	7,798,873	595,493	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-11	7,798,863	595,544	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSFDP-12	7,798,853	595,591	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSIB-A	7,800,341	594,349	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSIB-B	7,800,366	594,390	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSIB-C	7,800,389	594,430	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSIB-D	7,800,408	594,411	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSIBP-1	7,800,359	594,329	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSIBP-2	7,800,376	594,357	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSIBP-3	7,800,393	594,385	N/A	N/A	Steensby Inlet	Steensby Inlet	
MSIBP-4	7,800,371	594,437	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICD-A	7,799,776	594,343	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICD-B	7,799,791	594,465	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICD-C	7,799,835	594,490	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICD-D	7,799,795	594,495	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICD-E	7,799,755	594,500	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICD-F	7,799,800	594,536	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICDP-1	7,799,812	594,310	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICDP-2	7,799,791	594,465	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICDP-3	7,799,841	594,538	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICDP-4	7,799,761	594,547	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICDP-5	7,799,747	594,431	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMICDP-6	7,799,733	594,319	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMLCD-G	7,799,792	595,136	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMLCD-H	7,799,831	595,105	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMLCD-I	7,799,829	595,145	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMLCDP-1	7,799,811	595,078	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMLCDP-2	7,799,790	595,094	N/A	N/A	Steensby Inlet	Steensby Inlet	
SMLCDP-3	7,799,771	595,109	N/A	N/A	Steensby Inlet	Steensby Inlet	

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NOTES:

- COORDINATES ARE FROM UTM (NAD 83) ZONE 17 AND ARE IN METRES.
- COORDINATES AND CHAINAGES PROVIDED BY BAFFINLAND IRON MINES CORPORATION.
- DRILLHOLE LOCATIONS MAY CHANGE BASED ON ACTUAL SITE CONDITIONS.

0	08APR11	ISSUED WITH TRANSMITTAL NB11-00194	DO	RDE	RDE
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

TABLE 2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
PHASE 1 OF 2011 PROPOSED DRILLING PROGRAM
PROPOSED WINTER WATER SOURCES FOR EACH DRILLHOLE

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Drillhole Number	Related Water Source	Water Source Northing (Estimated) (m)	Water Source Easting (Estimated) (m)	Estimated Water Source Area ⁽¹⁾ (m ²)	Estimated Water Source Depth (m)	Estimated Water Source Volume ⁽²⁾ (m ³)	Estimated Ice Volume ⁽³⁾ (m ³)	Estimated Under-Ice Water Volume ⁽⁴⁾ (m ³)	Estimated Water Volume Available for Drilling ⁽⁵⁾ (m ³)
RR alignment - Raven River Crossing to Mary River Camp									
BR-MN-2 and BR-MN-1									
Various	WW-1	7,911,278	563,108	22,882	4.5	74,673	40,175	34,498	3,450
Steensby Port Area									
On Ocean Drilling									
Various	Steensby Inlet	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

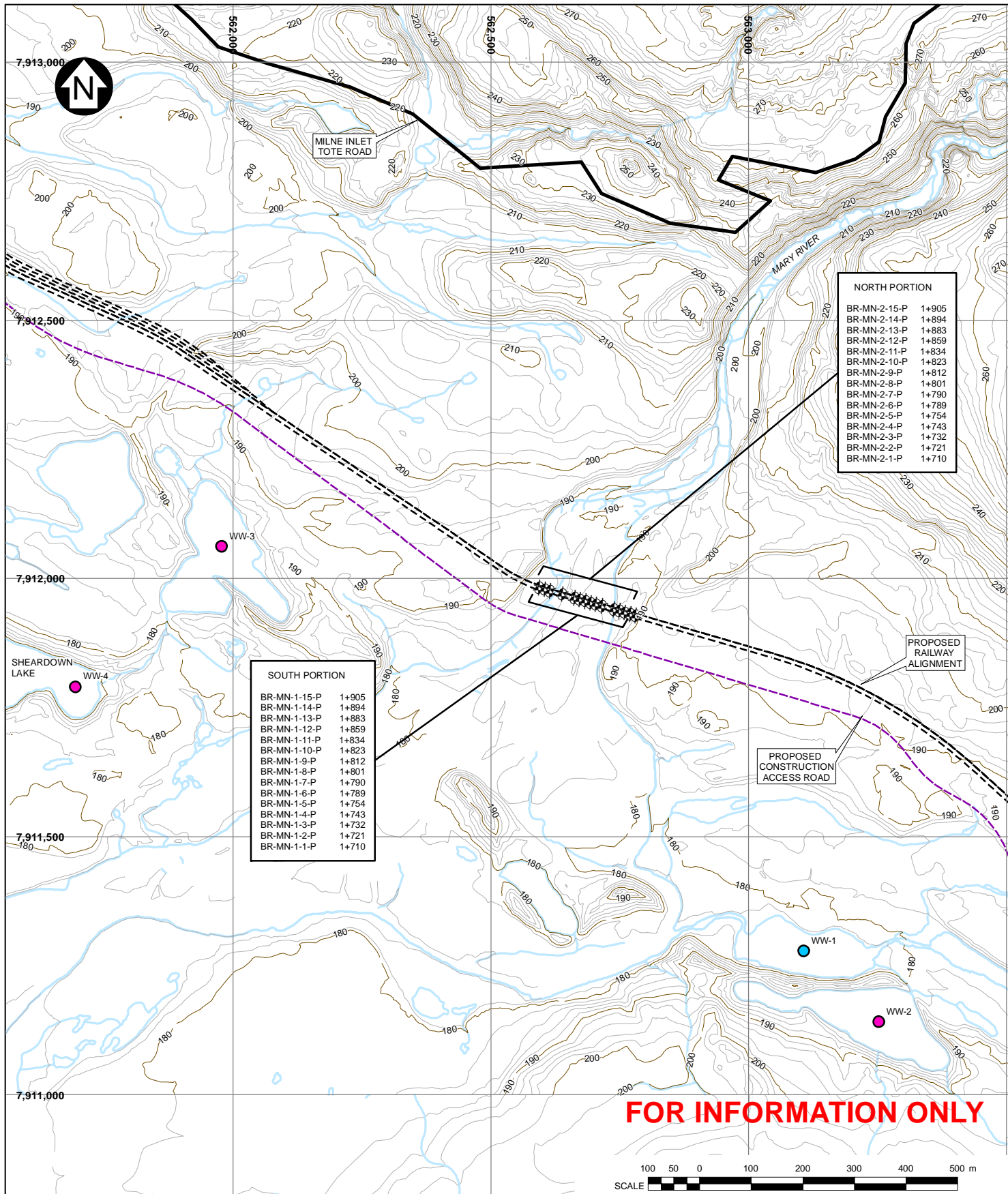
Water Source Label	Estimated Under-Ice Water Volume (m ³)	Estimated Water Volume Available for Drilling (m ³)	Estimated Volume of Water Required per Drillhole ⁽⁶⁾ (m ³ /24 hr)	Number of Holes To Be Drilled Using this Source	Total Estimated Volume of Water To Be Used for Drilling ⁽⁷⁾ (m ³)	Estimated Percentage of Under-Ice Water To Be Used for Drilling ⁽⁸⁾ (%)	Estimated Percentage of Available Water To Be Used for Drilling ⁽⁹⁾ (%)
RR alignment - Raven River Crossing to Mary River Camp							
BR-MN-2 and BR-MN-1							
WW-1	34,498	3,450	54.5	30	1,635	5	47
Steensby Port Area							
On Ocean Drilling							
Steensby Inlet	N/A	N/A	54.5	98	5,341	N/A	N/A

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NOTES:

1. WATER SOURCE AREAS WERE CALCULATED USING AUTOCAD AND ARCVIEW (GIS), AND DO NOT INCLUDE THE AREAS OF CONNECTED WATERCOURSES AND WATERBODIES (AS PER DFO'S "PROTOCOL FOR WINTER WATER WITHDRAWAL FROM ICE-COVERED WATERBODIES IN THE NORTHWEST TERRITORIES AND NUNAVUT", JUNE 21, 2010).
2. WATER SOURCE VOLUMES ARE BASED ON A CONSERVATIVE ESTIMATE OF WATERBODY DEPTH BASED ON AERIAL PHOTOGRAPHS AND FIELD EXPERIENCE.
3. APPROXIMATE ICE VOLUMES ARE BASED ON AN ASSUMED ICE THICKNESS OF 2.0 m ON THE SURFACE OF THE WATERBODY.
4. THE UNDER-ICE WATER VOLUME IS ESTIMATED BY SUBTRACTING ICE VOLUME FROM TOTAL WATER SOURCE VOLUME.
5. THE ESTIMATED WATER VOLUME AVAILABLE FOR DRILLING IS 10% OF THE ESTIMATED UNDER-ICE WATER VOLUME (AS PER THE DFO PROTOCOL).
6. ESTIMATED WATER VOLUME REQUIRED PER DRILLHOLE IS BASED ON A PUMP RATE OF 10USGPM AND A TIME OF 24 HOURS TO DRILL EACH HOLE.
7. THE VOLUME OF WATER TO BE USED FOR DRILLING IS BASED ON THE NUMBER OF HOLES THAT ARE TO BE DRILLED USING EACH WATER SOURCE AND THE VOLUME OF WATER REQUIRED PER HOLE.
8. THE ESTIMATED PERCENTAGE OF UNDER-ICE WATER TO BE USED FOR DRILLING REPRESENTS THE PERCENTAGE OF THE UNDER-ICE WATER VOLUME THAT IS TO BE USED FOR DRILLING.
9. THE ESTIMATED PERCENTAGE OF AVAILABLE WATER TO BE USED FOR DRILLING IS THE PERCENTAGE OF THE AVAILABLE WATER VOLUME THAT IS TO BE USED FOR DRILLING.

REV	NO	DATE	DESCRIPTION	BY	CHECKED	DATE
	001	08/04/11	ISSUED WITH TRANSMITTAL NB11-00194	MB	MB	08/04/11



FOR INFORMATION ONLY

0 100 50 0 100 200 300 400 500 m
SCALE

- LEGEND:**
- PROPOSED WINTER WATER SOURCE
 - CONTINGENCY WINTER WATER SOURCE
 - PROPOSED PHASE 1 DRILLHOLE
 - EXISTING TOTE ROAD
 - PROPOSED RAILWAY ALIGNMENT
 - PROPOSED CONSTRUCTION ACCESS ROAD
 - CONTOUR
 - RIVER/STREAM/DRAINAGE
 - WATER
- NOTES:**
1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009). ALL RIGHTS RESERVED.
 2. 5m CONTOURS PROVIDED BY EAGLE MAPPING (2008).
 3. COORDINATE GRID IS IN METRES.
 4. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N.
 5. PROPOSED RAILWAY ALIGNMENT AND CONSTRUCTION ACCESS ROAD PROVIDED BY CANARAIL CONSULTANTS INC. (AUGUST 12, 2010).
 6. DRILLHOLE AND WATER SOURCE LOCATIONS MAY VARY DEPENDING ON ACTUAL SITE CONDITIONS.

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

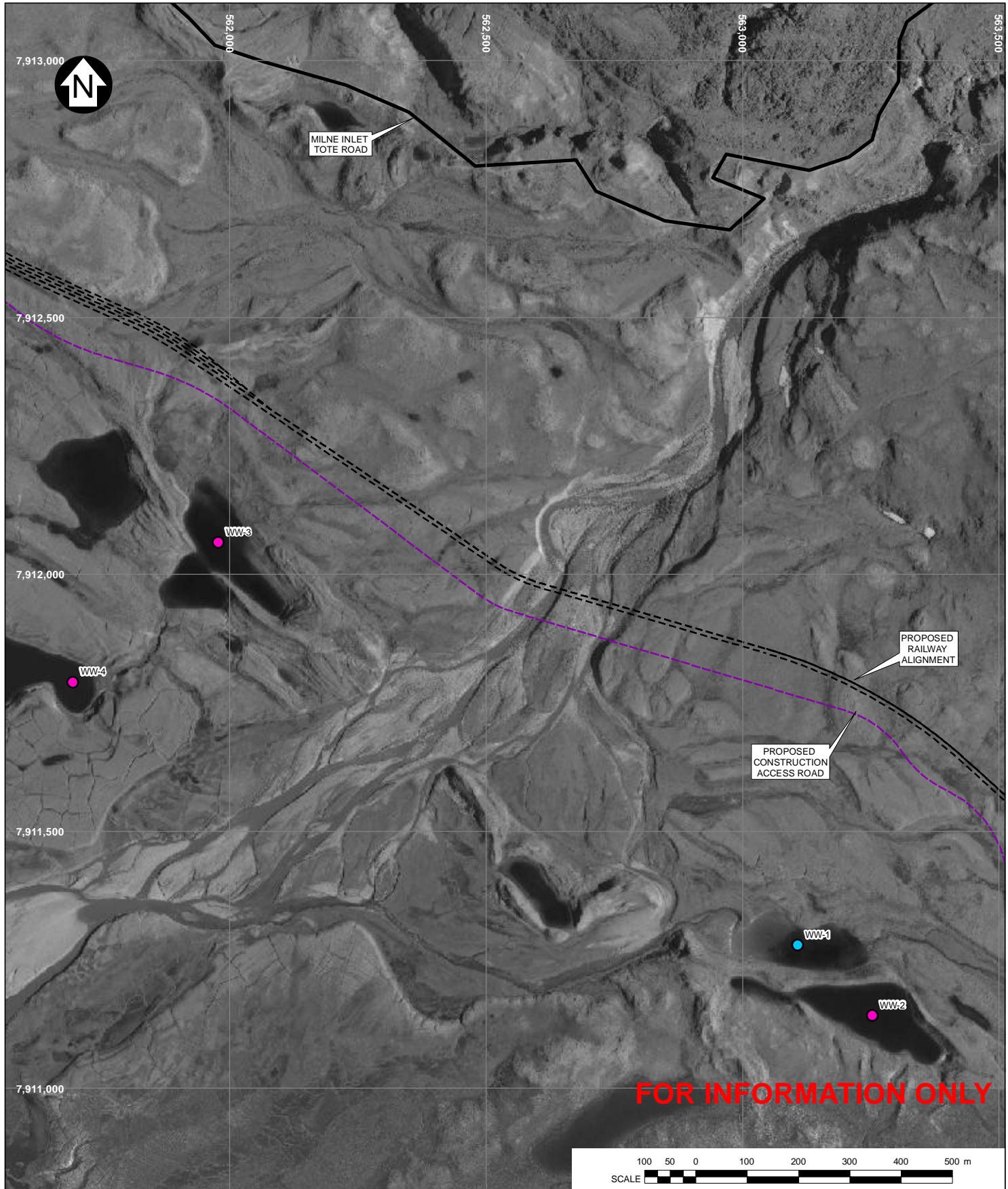
**PROPOSED DRILLHOLE AND
WATER SOURCE LOCATIONS
MARY RIVER**

**Knight Piésold
CONSULTING**

P/A NO. NB102-181/30	REF NO. NB11-00194
FIGURE 1	
REV 0	

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REV	DATE	DESCRIPTION	DESIGNED	ASM	DD	KDE
0	08APR'11	ISSUED WITH TRANSMITTAL				



FOR INFORMATION ONLY



LEGEND:

- PROPOSED WINTER WATER SOURCE
- CONTINGENCY WINTER WATER SOURCE
- EXISTING TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- PROPOSED CONSTRUCTION ACCESS ROAD

NOTES:

- COORDINATE GRID IS IN METRES.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N.
- PROPOSED RAILWAY ALIGNMENT AND CONSTRUCTION ACCESS ROAD PROVIDED BY CANARAIL CONSULTANTS INC. (AUGUST 12, 2010).
- WATER SOURCE LOCATIONS MAY VARY DEPENDING ACTUAL ON SITE CONDITIONS.
- AERIAL PHOTOGRAPHS PROVIDED BY EAGLE MAPPING (2005).

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

AERIAL PHOTOGRAPH
MARY RIVER

Knight Piésold
CONSULTING

P/A NO.
NB102-181/30

REF NO.
NB11-00194

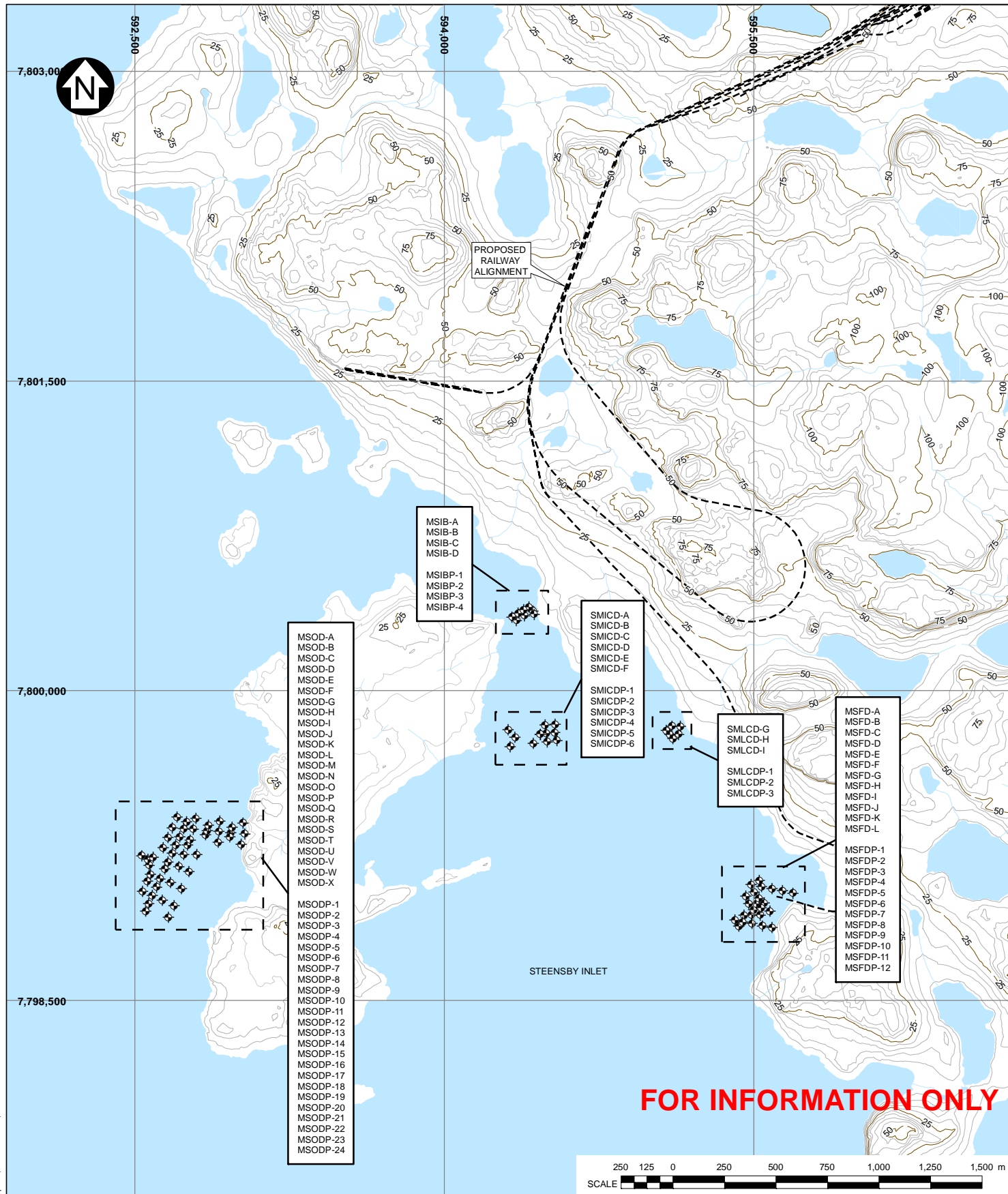
FIGURE 2

REV
0

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0	08APR'11	ISSUED WITH TRANSMITTAL	DD	ASM	DD	KDE
REV	DATE	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D

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LEGEND:

- PROPOSED PHASE 1 DRILLHOLE
- EXISTING TOTE ROAD
- PROPOSED RAILWAY ALIGNMENT
- PROPOSED CONSTRUCTION ACCESS ROAD
- CONTOUR
- RIVER/STREAM/DRAINAGE
- WATER

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009). ALL RIGHTS RESERVED.
2. 5m CONTOURS PROVIDED BY EAGLE MAPPING (2008).
3. COORDINATE GRID IS IN METRES.
COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N.
4. CONTOUR INTERVAL IS 5 METRES.
5. PROPOSED RAILWAY ALIGNMENT AND CONSTRUCTION ACCESS ROAD PROVIDED BY CANARAIL CONSULTANTS INC. (AUGUST 12, 2010).
6. DRILLHOLE LOCATIONS MAY VARY DEPENDING ON ACTUAL SITE CONDITIONS.

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

**PROPOSED DRILLHOLE AND
WATER SOURCE LOCATIONS
STEENSBY INLET**

Knight Piésold
CONSULTING

P/R NO.
NB102-181/30

REF NO.
NB11-00194

FIGURE 3

REV
0

REV	DATE	DESCRIPTION
0	08APR'11	ISSUED WITH TRANSMITTAL

DD	ASM	DD	KDE
DESIGNED	DRAWN	CHK'D	APP'D

Environmental Concern

Environmental concerns with drilling include surface disturbances, drilling fluid and cutting disposals, impacts on dust, noise, water quality, and habitat encroachment.

Use of water for drilling for the Mary River Project is subject to the conditions outlined in the water use license (2BBMRY0710 Type "B").

See also Section 2.4 Water Use, of the EPP, regarding the extraction of water for drilling.

Environmental Protection Procedures

Acceptable Locations to Drill

- Do not construct drill sites or drill sumps within 30 metres of the normal high water mark of a water body unless specific approval is obtained by Baffinland from regulatory agencies. **Note:** Nunavut Water Board Amendment No. 2 allows drilling within 30 m of the high water mark of any water body and provides provisions for drilling on-ice and the monitoring required for carrying out these activities.
- Do not store material on the surface of frozen streams or lakes, including immediate banks, except material that is for immediate use.
- Obtain archaeology clearance for all geotechnical drill locations (Section 2.1 Archaeology).
- Ensure that Pre-Drilling Checklist (Section 3.5 Drilling Checklists) is completed prior to finalizing drill site and water source locations.

Drill Operations and Movements

- Ensure that the drilling area is kept clean and tidy at all times. No littering is permitted - collect and package all waste for disposal at camp.
- Do not feed wildlife.
- Carry out all operations so as to minimize surface disturbance.
- Minimize overland transportation for transport of workers due to the potential for ground disturbance.
- Do not use surface vehicles to move drill rigs or other equipment, without prior authorization of the Environmental Superintendent. The use of any vehicles off approved routes is prohibited.
- Do not move equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging.
- Carry out daily inspections for fuel leaks, equipment condition, sediment and erosion control, water intakes and water management (See Inspectors Daily Report, Section 3.4 Drilling Checklists). Repair all leaks immediately.
- Equip drill rigs with oil absorbent materials in the event of leaks, releases and spills.
- If the bottom of the permafrost is broken through by the drill, the depth of the bottom of permafrost and location should be reported to the Project Manager/Environmental Superintendent for subsequent reporting to the Nunavut Water Board.
- Do not cause any obstruction of any stream.

- Establish water quality conditions prior to and upon completion of any drilling program through lake ice where there is a water column (See Water Sampling for On-Ice Drilling, Section 2.21)
- Implement sediment and erosion control measures prior to drilling operations and maintain these during the operation to minimize spillage of sediment onto ice and prevent entry of sediment into water.
- Conduct wildlife inspection immediately prior to movement of the drill, involving aerial survey and ground survey of the new site (see Drill Operation Work Restrictions, below).

Drill Operation Work Restrictions

Caribou

- If caribou are observed within 3 km (between May 15 and July 15) or 2 km (at all other times) of the proposed new drill site and disturbance is noted, the drill should be moved to an alternative location and activity at the site deferred until after the caribou leave the area. If the drill is already in place and operating, and caribou move into the area (within 3 km between May 15 and July 15, and within 2 km at any other time), the animals should be monitored. If the caribou show no obvious signs of disturbance, drilling activities can continue. If the animals appear agitated, then activities must cease until the caribou leave or are guided away.

Carnivores and/or Den Sites

- No drilling activity should take place within 2 km of an active wolf den between mid May and mid August if direct line of sight and disturbance is noted. Foxes or wolves approaching humans must be discouraged by shouting and making threatening moves. Feeding wildlife is prohibited. All work areas must be kept clear of food scraps and garbage.

Raptor (Hawks, Falcons, Owls) Nest Sites

- No drilling activity should take place within 500 m of an active raptor nest site during the breeding season (approximately mid May to August) unless an individual nest protection plan has been prepared by an avian biologist in conjunction with Baffinland Environmental Superintendent. Report all active nest sites to the Environmental Program Supervisor.

Songbirds, Shorebirds, Loons and Waterfowl

- Drills, pumps and waterlines should be placed at least 500 m from active bird nests and every precaution should be taken to avoid disrupting the nests. All project personnel should remain more than 100 m from active nest sites. Time spent on the hose alignment should be minimized to reduce disturbances in areas between the water source and project activities. Active nests must not be destroyed.

Marine Mammals

- Do not drill near concentrations of animals or destroy in-ice breathing holes.

Water Use

- No brine (calcium chloride salt mixed with water) or other additive is to be used in geotechnical drilling.
- Re-circulate drilling fluids to the extent reasonably possible.
- Do not use streams as a water source unless authorized and approved by the Nunavut Water Board.


- DFO approved screens must be placed over the intake hoses. The pumping rate must be kept sufficiently low to ensure that fish do not become entrained (drawn against the screen) and that water is withdrawn at a rate that fish do not become impinged on the screen.
- Do not remove any material below the high water mark of any water source.
- Provide necessary controls to prevent erosion. No erosion is to be caused to the banks of any body of water. Install erosion control structures as the land use operation progresses.


Drill Water and Runoff


- Contain and recirculate drill water to the fullest extent possible and prevent it from running into watercourses.
- Separate clean water from “dirty” water streams whenever possible, (e.g., by means of hose extensions and snow berms or other means that direct and keep discharge away from the immediate area of the drillhole) to prevent migration and expansion of a “dirty” water plume.
- The drill water supply temperature should be monitored during drilling and kept to a temperature as low as possible (but not so low as to cause an imminent risk of frozen water lines).
- To maximize drill return water recirculation, casing is to be frozen into the ground to a depth of 3 to 6 m below grade. The specific depth of casing to be frozen into each hole and length of time to allow for freezing will be specified by the Baffinland Project Manager.
- Minimize the footprint of any drill water and cuttings spillage by means of berms and/or other means of containment.
- Dispose of drill water into a properly constructed sump, or a naturally occurring contained depression. Do not deposit any deleterious substance into any water body. Recycle drill water wherever possible.
- Prior to the commencement of drilling for each hole, establish a dedicated sump location where collected “dirty” drill water and cuttings are to be disposed. The location should be a minimum of 30 m from surface water bodies and preferably be located such that any flow toward a surface water body is minimized. This implies that the location for the sump should be either in a bowl or depression or be on a relatively flat surface.
- Use portable containment sumps (e.g., bins), for drill water and cuttings where containment in the ground is impractical. The bins are not to be allowed to overflow and are to be dumped by means of helicopter or pump to the location identified for disposal of dirty drill water and cuttings.
- Install silt fences, diversion channels or berms downstream of drill rigs if required to contain drill water runoff.
- Drilling waste must not be allowed to spread to the surrounding lands or water bodies; the footprint of any spillage must be minimized to the greatest degree practicable.
- If artesian flow is encountered, drillholes shall be immediately plugged and permanently sealed to prevent induced contamination of groundwater or salinization of surface waters. Report the artesian occurrence within 48 hr to the Engineer and Environmental Superintendent. All artesian flows, including location (GPS NAD83), should be reported in the annual report to the Project Manager/Environmental Superintendent for subsequent reporting to the Nunavut Water Board.
- For on-ice drilling, returned water released must be nontoxic, and not result in an increase in Total Suspended Solids (TSS) in the immediate receiving water above the CCME guidelines for the protection of Fresh Water Aquatic life (i.e. 10 mg/L for lakes with background levels under 100 mg/L or 10% for those above 100 mg/L).
- Sampling of drill water decant collected in bins is to be undertaken on occasion at the direction of the Baffinland Environmental Superintendent using established water quality protocols.

Drillhole Abandonment

- During winter conditions, where there has been spillage of dirty drill water and cuttings at locations on ice or within 30 m of a water body, periodic monitoring of the drill site will be conducted prior to freshet and a clean-up crew may be mobilized to the drill site at the direction of the Baffinland Project Manager and Environmental Superintendent.
- No materials (i.e. debris, drill cuttings) shall be left on the ice when there is potential for that material to enter the water (i.e. during freshet)
- Plug all drillholes upon completion, and where possible return drill cuttings at surface to the drillhole at all land-based drilling locations.
- Restore all constructed drill sumps to the natural surrounding contours of the land immediately upon completion of drilling (before drill is moved).
- Contour and stabilize all other disturbed areas upon completion of work and restore these areas to a predisturbed state
- Upon completion of a hole in rock, the casing will be removed. If the casing cannot be removed it will be cut off to be flush with surface and backfilled.
- Remove all non-combustible garbage and debris from the land use area to an approved disposal site.
- Return all combustible waste and petroleum products to camp for proper management.
- Ensure that Post-Drilling Checklist (Section 3.5 Drilling Checklists) is completed at the completion of each drill hole. The consultant will be asked to complete all drill forms and submit copies of them to Baffinland after the completion of each borehole as soon as practical.

	PRE-DRILLING INSPECTION REPORT			
	BIM personnel:			
	Date:			
	Time:			
Proposed hole ID:		Final hole ID:		
PROPOSED HOLE INFORMATION:				
Deposit #:	1	Collar location:	E	
Project:	MARY RIVER	(NAD 83)	N	
Area:	BAFFIN ISLAND	Dip:		
NTS:	37G/5	Azimuth:		
Elevation:		Target depth:		
Description of drillhole location:				
Purpose of drillhole:				
DRILLING INFORMATION:				
Has site been approved by drill foreman?:				
Drill contractor:				
Drill personnel:				
Drill #:				
Expected start of drilling:				
Is moving of drillhole required?:				
If yes, provide reason:				
New collar location: E N				
WATER MANAGEMENT:				
Water source: Mary River				
Pump Station #: PS2				
Sump location identified and constructed?:		Yes / No	(Photo required)	
Corner 1:	E	N		
Corner 2:	E	N		
Silt fence(s) constructed?:		Yes / No	(Photo required)	
Corner 1:	E	N		
Corner 2:	E	N		
SITE ASSESSMENTS:				
Are wildlife present?: (if yes, record in log)				
Is site safe for drilling?:				
Stable platform	Yes / No	Fire Extinguisher	Yes / No	
First Aid kit	Yes / No	Eye Wash	Yes / No	
PPE	Yes / No	Spill Kits	Yes / No	
Safety concerns/issues:				
Environmental concerns?:				
PHOTOGRAPHIC RECORD:				
Photo of drillhole location prior to setup?		Yes / No		
Name:		Folder:		
Uploaded to hard drive?:				
COMMENTS:				

	DAILY DRILL INSPECTION REPORT																
BIM personnel:																	
Date:																	
Time:																	
Hole ID:																	
HOLE INFORMATION:																	
Deposit #: 1	Collar location: E																
Location:	(NAD 83) N																
DRILLING INFORMATION																	
Drill contractor: Boart Longyear																	
Drill personnel:																	
Drill #:																	
DRILLING PROGRESS:																	
Day Shift	Night Shift																
Start depth:	Start depth:																
End depth:	End depth:																
Total depth drilled:	Total depth drilled:																
Casing installed:	Casing installed:																
Any rods/casing/tools lost in the drillhole?	If yes, what was lost?:																
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate																	
WATER USE ASSESSMENT:																	
Sediment control measures in place:																	
Assessment of effectiveness:																	
Approximate water level in sump:																	
Color of water in sump:																	
Color of runoff?:																	
Conductivity readings?:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Station #</td> <td style="width: 30%;">Reading</td> </tr> <tr> <td>Station #</td> <td>Reading</td> </tr> <tr> <td>Station #</td> <td>Reading</td> </tr> </table>	Station #	Reading	Station #	Reading	Station #	Reading										
Station #	Reading																
Station #	Reading																
Station #	Reading																
Turbidity sample(s) taken?:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Sample #</td> <td style="width: 30%;">Reading</td> </tr> <tr> <td>Sample #</td> <td>Reading</td> </tr> </table>	Sample #	Reading	Sample #	Reading												
Sample #	Reading																
Sample #	Reading																
SITE ASSESSMENT:																	
Are wildlife present?: (check log for previous wildlife activity)																	
Is site safe for drilling?:																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Stable platform</td> <td style="width: 20%;">Yes / No</td> <td style="width: 20%;">Fire Extinguisher</td> <td style="width: 20%;">Yes / No</td> </tr> <tr> <td>First Aid kit</td> <td>Yes / No</td> <td>Eye Wash</td> <td>Yes / No</td> </tr> <tr> <td>PPE</td> <td>Yes / No</td> <td>Spill Kits</td> <td>Yes / No</td> </tr> <tr> <td></td> <td></td> <td>Lined Berms</td> <td>Yes / No</td> </tr> </table>	Stable platform	Yes / No	Fire Extinguisher	Yes / No	First Aid kit	Yes / No	Eye Wash	Yes / No	PPE	Yes / No	Spill Kits	Yes / No			Lined Berms	Yes / No	
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First Aid kit	Yes / No	Eye Wash	Yes / No														
PPE	Yes / No	Spill Kits	Yes / No														
		Lined Berms	Yes / No														
Safety concerns/issues:																	
Environmental concerns?:																	
Corrective action required?:																	
Action plan (if required):																	
Responsible party:	Date to be completed:																
Photograph (only required to document problems and corrective actions)																	
PHOTOGRAPHIC RECORD:																	
Photo of drillhole during drilling?	Photo of water management measures?																
Name:	Folder:																
Uploaded to hard drive?:																	
COMMENTS:																	

	POST-DRILLING INSPECTION REPORT	
	BIM personnel:	
	Date:	
	Time:	
		Final hole ID:
HOLE INFORMATION:		
Deposit #:	Collar location:	E
Project: MARY RIVER	(NAD 83)	N
Area: BAFFIN ISLAND	Dip:	
NTS: 37G/5	Azimuth:	
Elevation:	EOH:	
Description of drillhole location:		
Purpose of drillhole:		
DRILLING INFORMATION:		
Drill contractor:		
Drill personnel:		
Drill #:		
End of drilling:		
Casing:		
Any rods/casing/tools lost in the drillhole? If yes, what was lost?:		
Are rods/casing left in the ground cut at ground level and is the hole properly plugged and capped? Yes / No		
Next set-up collar location: E N		
WATER USE ASSESSMENT:		
Water source: Mary River		
Pump station #:		
Total amount of hours water was pumped from pumpstation:		
SITE ASSESSMENT:		
All materials and debris removed from site?	Yes / No	
Any environmental concerns?	Yes / No	If yes, please describe below:
Any additional work required?	Yes / No	If yes, please describe below:
Corrective action:		
Responsible party:		
Date to be completed by:		
PHOTOGRAPHIC RECORD:		
Photo of drillhole location following demobilization and clean up?	Yes / No	
Name:	Folder:	
Uploaded to hard drive?:		
COMMENTS:		
INSPECTION COMPLETED BY:		
BIM signature:	Drill contractor signature:	

Environmental Concerns

On-ice drilling is critical for geotechnical investigations so that information for bridges and water crossing structures may be collected for use in design. Marine and lake environments are sensitive to disturbances, such as on-ice drilling. As such, overall water quality, including occurrence and concentrations of suspended solids and trace metals, must be monitored and protected. Water samples should be taken prior to on-ice drilling and after on-ice drilling to ensure appropriate water quality standards are maintained. It is important that the procedures for water sampling and on-ice drilling, indicated herein, are followed as these are requirements of the water licence (No. 2BB-MRY0710 Type "B" - Amendment No. 2 issued to Baffinland Iron Mines Corporation by the Nunavut Water Board, February 29, 2008). Water sampling, for the purposes of water monitoring and detection of exceedences, will ensure that the water quality is not compromised in the water bodies where on-ice drilling occurs.

Environmental Protection Procedures

The following procedures will be followed to ensure that on-ice drilling (for both inland and marine environments) will not compromise the water quality of the underlying water body:

- A location not more than 30 m downstream (if applicable) from the proposed drillhole location will be selected for pre-drilling and post-drilling water samples.
- The pre-drilling water sample will be taken no more than four hours prior to drilling commencing at that location.
- The post-drilling water sample will be taken within four hours of the rods and casing being removed from the hole and the drill being decommissioned.
- The following methodology will be used to collect the water samples:
 1. A hole will be augered through the ice and ice cuttings will be cleared from the hole
 2. A bailer will be used to obtain a representative water sample from the water column below the bottom of the ice
 3. The water sample will be transferred to sample bottles
 4. The same hole will be used to collect the pre-drilling and post-drilling water samples
- Water samples will be tested to ensure that the total suspended solids (TSS) concentration does not increase by more than 10 mg/L for water bodies with background levels under 100 mg/L, or by more than 10% of the background level for water bodies with background levels above 100 mg/L.
- Before and after water samples will be tested to monitor TSS, pH and electrical conductivity in the field.
- Before and after water samples will be submitted for laboratory testing to monitor total trace metals as determined by a standard ICP scan (to include at a minimum, the following elements: Al, Sb, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li, Mn, Mo, Ni, Se, Sn, Sr, Tl, Ti, U, V, Zn), and total arsenic and mercury.
- Drill water and cuttings reporting to surface from on-ice drilling will be discharged into a portable containment sump and removed from the ice. Water and cuttings will be stored in a pit at least 30 m from any water body, as specified by Baffinland and Knight Piésold.
- The Operational Standard (Section 2.5) for Drilling Operations will also be followed in conjunction with the procedures listed above.