Appendix E

Mr. Derek Chubb, VP Sustainable Development
Baffinland Iron Mines Corporation
Suite 1016
120 Adelaide Street West
Toronto, Ontario M5H 1T1
Email: derek.chubb@baffinland.com

(Sent by E-mail)
July 28, 2008
CIDM: 240178

Contravention of the Nunavut Water and Nunavut Surface Rights Tribunal Act

- Inspector's Direction -

I, Andrew Keim; a duly designated Inspector pursuant to subsection 85 (1) of the **Nunavut Waters and Nunavut Surface Rights Tribunal Act (2002, c. 10)**, conducted, on July 25th, 2008 an Inspection of the Bulk Fuel Storage (Bladder Farm) operated by Baffinland Iron Mines Corporation at Milne Inlet in the Qikiqtani Region of Nunavut, Canada.

This inspection was conducted in response to a verbal notification on Monday July 21st by Jim Millard, Environmental Superintendant, Baffinland Iron Mines Corp. of an uncontrolled discharge of an unknown quantity of fuel on June 16th, 2008 within the Bladder Farm. Mr. Millard also informed this office that as of July 21st, 2008 a Spill Report had not been filed.

Mr. Millard was directed on July 21st, 2008 to immediately file a Spill Report with the NWT/NUNAVUT SPILL LINE. Additionally, Mr. Millard was directed to provide a complete report on on-going clean up activities at the site by July 28th, 2008. This follow up was to include results of analysis taken at the discharge point of the Bladder farm prior to any discharge to the environment. The delay in filing the original spill report necessitated the condensed time frame for follow-up reporting.

Based on information provided in the Spill Report # 2008-347, received on July 23rd, 2008 and a subsequent review of the information provided the Inspector on the 21st of July, an inspection of the facility was conducted on July 25, 2008.

As stipulated in subsection 12 1(b) of the Act: Except in accordance with the conditions of a License, no person shall deposit or permit the deposit of waste in any other place in Nunavut or under any conditions in which the waste, or any waste that results from the deposit of that waste, may enter waters in Nunavut.

As a result of the inspection and as was confirmed by on site personnel, it was determined that on June 16th, 2008 a fuel bladder operated by Baffinland Iron Mines Corporation, located within the Bulk Fuel Storage Area at Milne Inlet, Nunavut did suffer a failure along a seam. The failure released an estimated 10,000 litres of fuel into an estimated 500,000 litres of contaminated water within the Bulk Fuel Storage Area.

By copy of this Order and under the authority vested in me pursuant to subsection 87 (1) (ii) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act,* Baffinland Iron Mines Corporation is directed as follows;

In relation to the resupply of fuel into the Milne Inlet Bulk Fuel Storage Facility (Bladder Farm)

- Baffinland Iron Mines Corporation will refrain from the active resupply of fuel into the facility until the following terms and conditions have been reviewed and approved by the Inspector.

    - Submission of a plan for the treatment and removal, before freeze up, of contaminated water and fuel contained within the Bulk Fuel Storage area (Bladder Farm).

        - Such plan shall include but not be limited to the following;
            - A detailed description of the quality control protocol to be implemented as part of the submission of the above plan. I.e. Sampling Frequency, Determination of expected life of Activated Carbon filers, and Treatment Equipment. :
            - A description of the sampling and monitoring program to be utilized by Baffinland Iron Miners Corp that confirms the integrity of the berm and liner utilized within the Bulk Fuel Storage Area (Bladder Farm)
            - A description of the process by which the 300 barrels of contact water previously removed from the Bulk Fuel Storage Area will be treated prior to the onset of freezing.

    - Submission of a report that includes an assessment of the integrity of the fuel storage bladders currently contained within the Milne Inlet Bladder Farm. The assessment must be signed and stamped by a certified engineer and include, but not be limited to, the following specific factors;

        - General condition of remaining bladders within the Bulk Fuel Storage area.

- The possibility of deterioration of the fabric and seams of the bladders which are currently are in constant contact with Hydrocarbon contaminated water.
- The possibility of deterioration of the fabric and seams of the bladders which are currently underwater and have a water/fuel matrix contained within bladder. This must include a review of effects assuming ice formation within a full bladder.
- An assessment of the integrity of the Bladder walls and bottom in relation to weight of the bladder, once full displacing and compacting the ground there by allowing water and fuel to percolate upward and freeze the bladder to the ground within the Bulk Fuel Storage Area.

In relation to the failure of a seam on a Bladder containing Fuel within the Bulk Fuel Storage Area, (Bladder Farm) at Milne Inlet.

- Submission of a report on what occurred and/or identification of the contributing factors resulting in the failure of the bladder seam on June 16th, 2008.
- A determination of the total amount of fuel released into the containment area.

Failure to comply fully or in part with an **Inspector's Direction** constitutes a offence under subsection 90 (1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and entails, upon summary conviction, a fine of $100,000 or to imprisonment for a term of one year, or both.

Further pursuant to subsection 90 (4) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, each day on which the **Inspector's Direction** is not complied with shall be considered a separate offence.

Andrew Keim	(Original mailed this Date)
Inspector	Inspector's Signature

cc.

Nunavut Water Board, Gjoa Haven

Bernie Mac Isaac, Manager – Field Operations INAC

Robert Eno – Manager Environmental Protection, Government of Nunavut.

Craig Broom - Manager of Enforcement, Environment Canada

REPORT OF ANALYSIS

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820452
Date: 2008-08-22
Date Submitted: 2008-08-19

Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: **716885**

		LAB ID:	651337	651338	651339	651340	651341	**GUIDELINE**		
		Sample Date:	2008-08-17	2008-08-17	2008-08-17	2008-08-17	2008-08-17			
		Sample ID:	TP-SW-01	TP-SW-02	TP-SW-03	TP-SW-05	TP-SW-06			
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
Lead	mg/L	0.001	0.004	<0.001	0.008	0.005	0.002			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Ewan McRobbie
Inorganic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820452
Date: 2008-08-22
Date Submitted: 2008-08-19

Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: **716885**

		LAB ID:	651342	651343	651344	651345	651346	GUIDELINE		
		Sample Date:	2008-08-17	2008-08-17	2008-08-17	2008-08-17	2008-08-17			
		Sample ID:	TP-SW-07	TP-SW-08	TP-SW-10	TP-SW-11	TP-SW-12			
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
Lead	mg/L	0.001	0.008	0.013	0.003	0.002	0.006			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Ewan McRobbie
Inorganic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
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M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820452
Date: 2008-08-22
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Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: 716885

		LAB ID:						GUIDELINE		
		Sample Date:								
		Sample ID:	LAB BLANK	LAB QC % RECOVERY	QC RECOVERY RANGE	DATE ANALYSED				
PARAMETER	UNITS	MRL						TYPE	LIMIT	UNITS
Lead	mg/L	0.001	<0.001	108	82-118	2008-08-20				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Herb Yu
QA Coordinator

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820452
Date: 2008-08-22
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Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: **716885**

		LAB ID:	651337	651338	651339	651340	651341	**GUIDELINE**		
		Sample Date:	2008-08-17	2008-08-17	2008-08-17	2008-08-17	2008-08-17			
		Sample ID:	TP-SW-01	TP-SW-02	TP-SW-03	TP-SW-05	TP-SW-06			
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Ethylbenzene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Toluene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
VOC SURROGATES										
Toluene-d8	%		94	94	96	94	95			
Oil & Grease										
Oil & Grease - Total	mg/L	1	<1	<1	<1	<1	<1			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Mina Nasirai
Organic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820452
Date: 2008-08-22
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Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: **716885**

		LAB ID:	651342	651343	651344	651345	651346	**GUIDELINE**		
		Sample Date:	2008-08-17	2008-08-17	2008-08-17	2008-08-17	2008-08-17			
		Sample ID:	TP-SW-07	TP-SW-08	TP-SW-10	TP-SW-11	TP-SW-12			
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Ethylbenzene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
Toluene	ug/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
VOC SURROGATES										
Toluene-d8	%		98	92	95	96	97			
Oil & Grease										
Oil & Grease - Total	mg/L	1	<1	<1	<1	<1	<1			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Mina Nasirai
Organic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820452
Date: 2008-08-22
Date Submitted: 2008-08-19
Project:
P.O. Number: 270615
Matrix: Water

Chain of Custody Number: 716885

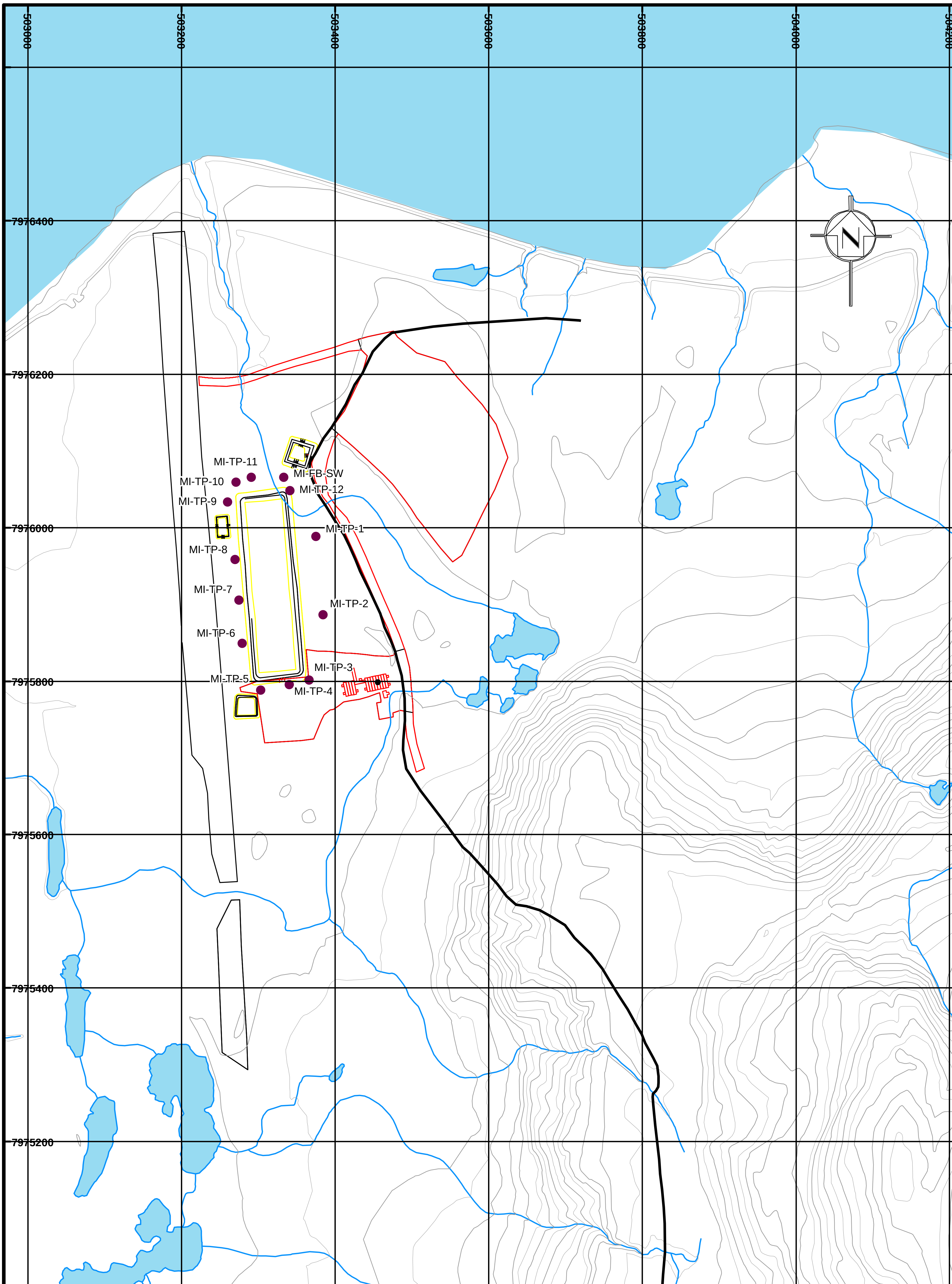
		LAB ID:						GUIDELINE		
		Sample Date:								
		Sample ID:	LAB BLANK	LAB QC % RECOVERY	QC RECOVERY RANGE	DATE ANALYSED				
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/L	0.5	<0.5	82	80-120	2008-08-20				
Ethylbenzene	ug/L	0.5	<0.5	84	80-120	2008-08-20				
Toluene	ug/L	0.5	<0.5	84	80-120	2008-08-20				
VOC SURROGATES										
Toluene-d8	%		97	103	70-130	2008-08-20				
Oil & Grease										
Oil & Grease - Total	mg/L	1	<1	87	60-120	2008-08-20				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Herb Yu
QA Coordinator

Results relate only to the parameters tested on the samples submitted for analysis.



LEGEND:

- Water
- River/Stream/Drainage
- Milne Inlet Tote Road
- Test Pit Locations

NOTES:

1. Base Map: © Her Majesty the Queen in Rights of Canada, Department of Natural Resources, (2004). All rights reserved.
2. Coordinate grid is shown in UTM (NAD83) Zone 17 and is in metres.
3. Contours are in metres. Contour interval is 2.5 metres.
4. Layouts for Milne Inlet and Mary River provided by B.H. Martin/GENIVAR and Baffinland (as of December 31, 2007). Some infrastructure at Milne Inlet and Mary River not shown for clarity.

Scale 50 25 0 50 100 150 200 Metre

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

MILNE INLET TEST PIT LOCATIONS

Knight Piésold CONSULTING

P/A NO.	REF.	REV.
NB102-00181/11	-	-

FIGURE

NORTH BAY, ON. SAVED I:\102-00181-11\ASSIGNMENT\GIS\ArcView\Figure\B189.MXD

ᕿᑭᖅᑕᓂ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ
Qikiqtani Inuit Association

July 23rd, 2008

ᐱᔨᑦᑎᕋᖅᑐᑦ ᓄᓇᓕᓐᓂᒃ ᐅᑯᓂᖓ
Serving the communities of

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Arctic Bay

ᑭᙵᐃᑦ
Cape Dorset

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Clyde River

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Grise Fiord

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Hall Beach

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Igloolik

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Iqaluit

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Kimmirut

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Resolute Bay

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Sanikiluaq

Derek Chubb
VP, Sustainable Development
Baffinland Iron Mines Corporation
Suite 1016, 120 Adelaide St. West
Toronto, ON M5H 1T1

Derek,

Re: July 23, 2008 Spill Report, Milne Inlet Bladders

The Lands Department at QIA has reviewed the Spill Report filed on July 23, 2008. Based on the report it appears the spill took place on June 16, 2008. QIA interprets any unanticipated release of fuel, regardless of the existence of secondary containment, as a spill which requires a report be filed with the Nunavut-Northwest Territories Fuel Spill Line within 24-hours of fuel spill occurrence. It is QIA's belief that this is consistent with Baffinland's Abandonment and Restoration Plan, particularly Section 3, Duties and Responsibilities and Section 6, Spill Response Procedures. QIA appreciates the effort Baffinland has taken to investigate the cause of the fuel spill and expects to receive a copy of the investigation report once completed.

Furthermore, QIA understands there has been a significant amount of water that has accumulated within the secondary containment area. This water will require treatment for hydrocarbons before it can be released into the natural environment. QIA expects that treatment methods, including possible short term storage of contaminated water, will be done in accordance with water licence 2BB-MRY0710 and the Site Water Management Plan. Furthermore, plans for the treatment and release of contaminated water should be communicated to the Nunavut Water Board and the INAC Inspector prior to disposal.

Sincerely,

John Amagoalik
Director Lands and Resources

cc - David Hohnstein, Nunavut Water Board
- Carl McLean, Indian and Northern Affairs Canada
- Robert Eno, Government of Nunavut

ᑎᑎᖅᑲᐅᑎᖓ 1340, ᐃᖃᓗᐃᑦ, ᓄᓇᕗᑦ X0A 0H0 • ᐅᖃᓘᑎ (867) 979-5391 • ᐊᑭᖃᙱᑦᑐᒃᑯᑦ 1 800-667-2742 • ᓱᑲᔪᒃᑯᑦ (867) 979-3238 • ᖃᕋᓴᐅᔭᒃᑯᑦ qikiqtani.nu.ca
P.O. Box 1340, Iqaluit, Nunavut, X0A 0H0 • Phone: (867) 979-5391 • Toll Free 1 800-667-2742 • Fax: (867) 979-3238 • Website: qikiqtani.nu.ca

Baffinland
Iron Mines Corporation

Wednesday, 30 July 2008

Andrew Keim
Water Resources Officer
INAC Nunavut Regional Office
PO Box 2200
IQALUIT, NU X0A 0H0

Mr. Keim,

On July 25, 2008, representatives from the department of Indian and Northern Affairs Canada (INAC) and the Government of Nunavut, Department of Environment (DoE) travelled to the Mary River Project site to inspect the bulk fuel storage facility at Milne Inlet.

On July 28, Baffinland received a directive from yourself pursuant to subsection 87 (1) (ii) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*.

The purpose of this letter is to provide initial response to the above noted Order by summarizing commitments made during the site visit and to provide further details as to Baffinland's operational plans for the treatment and release of the water from within the containment area. As discussed on Friday, the 2008 bulk fuel re-supply sea-lift has been loaded in Montreal and it is estimated to arrive at Milne Inlet on or about August 4th, 2008. Transfer of fuel into the bulk fuel facility is scheduled to commence upon arrival of the ship and is contingent upon your review and approval under the said Order.

The bulk fuel storage facility at Milne Inlet consists of seventy-five (75) fuel bladders each with a capacity of 113,560 litres installed inside of a lined and bermed containment area. This facility was commissioned in the summer of 2007. Please note that this facility was constructed with a very conservative containment allotment of 110% of the aggregate storage capacity of the entire bladder facility, as compared to a much smaller capacity requirement under CCME guidelines.

It is our understanding that the site visit was prompted by:

- Reports from Baffinland that in June 2008 a welded seam on one of the bladders had failed which resulted in the release of an estimated 8,000 litres of fuel inside of the lined containment area. This was an isolated incident and there was no release of fuel to the receiving environment. We feel it is important to note that none of the other bladders have failed and that in fact the manufacturer advises that this is the first failure in the history of their operation.

- A notification by Baffinland of an intent to discharge water from within the lined containment area to the receiving environment contingent on meeting effluent discharge quality criteria as stipulated under Water License 2BB-MRY-0710. To date there has been no discharge of water from within the containment area to the receiving environment.

Baffinland
Iron Mines Corporation

Baffinland would like to acknowledge INAC and GN DOE for constructive discussion through the course of the July 25, 2008 site visit. We, and the manufacturer, share concern regarding the failed bladder and have initiated a comprehensive technical investigation into its cause with the manufacturer. As discussed, given the containment capacity of the secondary containment area, and our remediation plan that was being acted upon prior to your inspection and order we do not foresee any risk to the environment associated with refuelling this facility upon arrival of the ship. SEI will be completing an assessment of the integrity of the fuel bladders in advance of the fuel shipment arriving, and we will forward their certification as soon as this has been completed.

We agree that the water that has accumulated within the containment requires treatment and discharge and as discussed planning for this has been in process. The process will employ two designated bladders within the containment area and will proceed until completed. We anticipate that this will be accomplished before freeze up. Recent results from July 26th sampling have indicated that our treatment system is meeting discharge criteria (see attached) and discharge will occur once approval from yourself is obtained.

Please find attached a written copy of Baffinland's plans of action currently underway and additional measures prompted by your site inspection. Should you have any questions, please do not hesitate to contact our Environmental Superintendents (Cheryl Wray or Jim Millard) or Operations Manager, Al Gorman at (416) 814-3164.

Yours sincerely,

Baffinland Iron Mines Corporation

Derek Chubb
VP, Sustainable Development

cc: NWB – Phyllis Beaulieu
GN- Robert Eno
EC – Craig Broome
QIA – John Amagoalik
INAC – Carl McLean, Bernie MacIsaac

Attachments:

Milne Inlet Fuel Farm – Operations Plan.

Baffinland Iron Mines Corporation

Milne Inlet Fuel Farm – Operations Plan.

As you are aware, the current short term operational concerns arose from three events:

- The failure of a welded seam on a Jet A fuel bladder that resulted in the release of an estimated 8000 liters of Jet A fuel inside the engineered lined fuel farm berm;
- The inability of the oil water separator (OSW) system as purchased to meet the discharge limits; and
- Continuous rains at Milne Inlet.

Baffinland submits the following plan to address concerns brought forward by INAC and DoE and in response to the directive:

In relation to the resupply of fuel into the Milne Inlet Bulk Fuel Storage Facility, Baffinland Iron Mines Corporation will not conduct a re-supply of fuel into the facility until the following plan has been approved by the Inspector

<u>Treatment and dewatering of water within the Milne Inlet Tank Farm.</u>

The water currently contained within the Milne Inlet Tank fuel storage facility has accumulated from snow melt and high rainfall during the month of July.

Baffinland's Water License 2BB-MRY0710 stipulates effluent must meet the following:

- Benzene – 370 ug/L
- Toluene – 2 ug/L
- Ethylbenzene – 90 ug/L
- Lead – 1 ug/L
- Oil and Grease – 15, 000 ug/L and no visible sheen

The treatment and dewatering methodology will be as follows:

- The originally purchased oil water separator has been upgraded to include an activated carbon polishing circuit to allow the permitted discharge limits to be achieved.
- Water from the fuel farm will be treated on a batch basis. Water from the containment area will be circulated through the entire oil water separator treatment system and stored, within two clean designated bladders within the fuel farm pending laboratory results. The treated water will be discharged from the stored batch to the receiving environment pending sample results confirming that water license criteria has been met and approval has been granted for discharge. Sampling during the course of discharge will be collected and analyzed once as per your email dated June 23rd, at the geographic midway point and final discharge point prior to Milne Inlet. We anticipate that this will be accomplished before freeze up.
- The 300 barrels of untreated water will be treated or removed in either one of two ways. It will be treated through the oil water separator upon completion of the fuel farm water

and or shipped out as hazardous materials during the August freight sea lift for disposal at an approved facility.

- Volumes of discharged treated water and photographic documentation will also be collected and reported.

Summary of Treatment Equipment

The Milne Inlet oil water separator is an FII "flow and plug" oil absorption system manufactured by Filter Innovations. It is a 3 phase oil & water separator consisting of:

- A particulate filter that pre-filters to effectively remove dirt and dust particles, followed by;
- Oil adsorbing media contained in two removable stainless steel canisters. Organite 52 adsorbs oil and grease through partitioning phenomena. The organite has a capacity for holding 10 kg of free hydrocarbon product. Based on assays of water in the fuel farm, the expected life of the organite is 500,000 liters with a 25% safety factor built in. The organite 52 adsorbing material will be replaced at its predicted life expectancy.
- The final polishing stage is an activated carbon filtering system to reduce effluent parameters to permitted discharge limits. The 600 kg of activated carbon has a capacity for holding 60 kg of free hydrocarbon product. Based on assays of discharge from the first two stages, the expected life of the activated carbon is 6.4 million liters with a 25% safety factor built in.

Reconfirmation of Fuel Farm Berm & Liner Integrity

- While there is no evidence that there has been any leakage associated with the liner we acknowledge that your request is a prudent preventative measure**.** A sampling program will be undertaken to conduct analysis in the vicinity of the tank farm. This program is being initiated in response to a minor surface sheen that was observed on standing water adjacent to the fuel facility during the site inspection. Testing will include soil and water testing within 12 test pits around the tank farm and samples collected for BTEX and TPH. **The results of this will be forwarded to your office by August 31, 2008.**

- Baffinland will submit the manufacturer's assessment certified by a professional engineer confirming the integrity of the bladders currently contained within the Milne Inlet fuel farm addressing the items in the order. **The Assessment will be forwarded to yourself by August 1, 2008.**

Milne Inlet Tank Farm Bladder Failure

- Baffinland will submit a complete investigation report including a copy of the manufacturer's failure analysis of the June 16th, 2008 failure. **The report will be submitted upon completion of the manufacturers analysis expected by August 8th, 2008**
- At the time of the incident, Baffinland measured the total fuel farm inventory and not individual bladder inventory. Therefore the estimated volume of fuel released from the

bladder is a subjective estimate based on the observations of the Baffinland Assistant Manager of Operations who was present and accountable for the filling of the fuel farm in 2007 and on his estimates post event on June 19, 2008.

Fuel loaded in 3 bladders -	Full Bladder	113,500 liters
	Partial Bladder 1	~68,250
	Partial Bladder 2	~68,250
	Total Jet A Received=250,000	
	Less	
Sept, 2007-June 15th	Jet A dispensed	~15,000 liters
June 19th post incident	Full Bladder	113, 500
	Partial Bladder 1	~113,500
	Partial Bladder 2	0

Estimated fuel released into containment area		**8000 liters**

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

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2818424
Date: 2008-07-30
Date Submitted: 2008-07-29
Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: **71977**

		LAB ID:	645774			**GUIDELINE**		
		Sample Date:	2008-07-26					
		Sample ID:	MRY-7-ACF					
PARAMETER	**UNITS**	**MRL**				**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs								
Benzene	ug/L	0.5	<0.5					
Ethylbenzene	ug/L	0.5	<0.5					
Toluene	ug/L	0.5	<0.5					
VOC SURROGATES								
Toluene-d8	%		95					
Oil & Grease								
Oil & Grease - Total	mg/L	1	1					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

645775: Total oil and grease MRL elevated due to insufficient sample volume.

APPROVAL: ____________________
Mina Nasirai
Organic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2818424
Date: 2008-07-30
Date Submitted: 2008-07-29
Project:
P.O. Number: 270615
Matrix: Water

Chain of Custody Number: **71977**

		LAB ID:				**GUIDELINE**		
		Sample Date:						
		Sample ID:	LAB QC % RECOVERY	DATE ANALYSED				
PARAMETER	**UNITS**	**MRL**				**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs								
Benzene	ug/L	0.5	90	2008-07-29				
Ethylbenzene	ug/L	0.5	88	2008-07-29				
Toluene	ug/L	0.5	91	2008-07-29				
VOC SURROGATES								
Toluene-d8	%		98	2008-07-29				
Oil & Grease								
Oil & Grease - Total	mg/L	1	102	2008-07-30				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: ____________________
Mina Nasirai
Organic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2818425
Date: 2008-07-30
Date Submitted: 2008-07-29
Project:
P.O. Number: 270615
Matrix: Water

Chain of Custody Number: **71977**

		LAB ID:	645777			**GUIDELINE**		
		Sample Date:	2008-07-26					
		Sample ID:	MRY-7-ACF					
PARAMETER	**UNITS**	**MRL**				**TYPE**	**LIMIT**	**UNITS**
Lead	mg/L	0.001	<0.001					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: ____________________
Lorna Wilson
Agriculture Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2818425
Date: 2008-07-30
Date Submitted: 2008-07-29
Project:
P.O. Number: 270615
Matrix: Water

Chain of Custody Number: 71977

		LAB ID:				**GUIDELINE**		
		Sample Date:						
		Sample ID:	LAB QC % RECOVERY	DATE ANALYSED				
PARAMETER	**UNITS**	**MRL**				**TYPE**	**LIMIT**	**UNITS**
Lead	mg/L	0.001	106	2008-07-30				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: ____________________
Lorna Wilson
Agriculture Lab Supervisor

Baffinland
Iron Mines Corporation

Friday, August 1, 2008

Andrew Keim
Inspector
PO Box 100
IQALUIT, NU X0A 0H0

Mr. Keim,

Pursuant to our letter dated July 30, 2008 please find enclosed the following:

1) A letter report originating from SEI, the fuel bladder manufacturer, responding to the items raised within your order and certifying the condition of the bladders at Milne Inlet are fit for the imminent refuelling operation that is planned upon receipt of your acceptance to do so.

2) A report from Layfield, the containment liner manufacturer confirming that the liner within the containment area is suitable for its designed purpose. We suggest this should provide additional assurance regarding the concerns raised within your order with respect to the containment facility.

As indicated previously, Petro Nav is currently enroute to Milne Inlet and is scheduled to arrive over this long weekend. As a consequence we would like to receive your approval to proceed with our planned refuelling operation as we feel that the concerns raised within your order have been satisfied. Kindly accept our appreciation for your attention to this urgent matter.

Yours sincerely,

Baffinland Iron Mines Corporation

Al Gorman
Operations Manager

cc: NWB – Phyllis Beaulieu
GN- Robert Eno
EC – Craig Broome
QIA – John Amagoalik
INAC – Carl McLean, Bernie MacIsaac
BIM – Cheryl Wray

Attachments:

Department of Environment

Avatiligiyiit

Ministère de l'Environnement

06 August 2008 **Sent via e-mail**

Mr. Al Gorman
Operations Manager
Baffinland Iron Mines Corporation
Suite 1016 120 Adelaide Street West
Toronto, ON M5H 1T1

Mr. Gorman

Re: Spill 08-354, Jet A Spill from Bladder Farm at Milne Inlet

I recently accompanied Mr. Andrew Keim of INAC, on an inspection tour of the above-mentioned fuel bladder facility as a part of INAC's investigation into the cause of the spill as well as to observe and monitor the cleanup operation.

For purposes of brevity, I will refrain from going over the technical aspects and regulatory requirements of the ongoing cleanup, which were already discussed at length with Baffinland officials while we were on site on July 25, 2008.

The concern I have is that the spill occurred on June 16, 2008, but was not reported to the spill line and to regulatory officials until July 23, 2008; a full 5 weeks later. This is unacceptable.

Section 9(1) of Nunavut's *Spill Contingency Planning and Reporting Regulations* require the owner or person in charge, management or control of contaminants at the time that a spill occurs, to report the spill where the spill is of an amount equal to or greater than that prescribed by the Regulations. In this case, the substance spilled was Jet A and the amount spilled was estimated to be in the realm of 2000 - 6000 litres, which is in excess of the reportable amount of 100 litres for a substance that falls within this hazard class. (Copies of our environmental legislation can be found here: http://www.gov.nu.ca/env/environment.shtml)

When questioned as to why the spill was not reported, Baffinland officials indicated that they did not believe that this event constituted a spill because it occurred within a containment berm and thus there was never any danger of it escaping into the surrounding environment. Baffinland officials further indicated that they intended to report the spill to INAC inspectors after they had conducted their own internal investigation to determine why the fuel bladder failed.

I will, on this one occasion, accept the explanation as offered, however, I should point out that in my 18 years' experience as an environmental regulator, spills of this nature – that is, spills into containment berms – have always been duly reported and without our having to explain the nuances of the various pieces of legislation which regulate spills of hazardous materials.

A spill is roughly defined as a discharge of a contaminant in contravention of Nunavut's *Environmental Protection Act* (EPA) or Regulations made under the EPA. In this case, the spill from the ruptured bladder was neither planned, nor was it authorized under the EPA nor any other existing Territorial and/or Federal Acts or Regulations. In other words, notwithstanding that the discharge of the Jet A occurred within a containment berm especially designed for this purpose, and thus posed a minimal risk to the environment, the discharge is still considered to be spill and thus was/is reportable. This is especially so considering the volume that was spilled.

In addition to the administrative aspect of simply reporting a spill, environmental regulators must be informed of incidents where hazardous materials management systems fail (as what happened with Bafflinland's fuel bladder) and/or any other accidents resulting in the unintended and unauthorized discharge of a hazardous material. This is so regulators can investigate the incident to ensure that the spill will be cleaned up in accordance with recognized standards and to determine if corrective measures need to be put into place in order to prevent future incidents.

In closing, I advise you to keep these things in mind and govern your operations accordingly.

If you have any questions or if you would like to discuss what your responsibilities are with respect to spill reporting and spill contingency planning in Nunavut, please do not hesitate to get in touch with me. The GN Department of Environment is always willing to work with industry in order to ensure compliance with the spirit and intent of our Acts and Regulations. I think you will agree that this is a much more productive course of action.

Robert Eno

Robert Eno
Manager, Pollution Control
Department of Environment
Government of Nunavut
Box 1000, Stn. 1360
Iqaluit, NU.   X0A 0H0
reno@gov.nu.ca

c. Phyllis Beaulieu - NWB
Andrew Keim - INAC
Kevin Buck - INAC
Bernie MacIssac - INAC
Craig Broome - Env. Canada
John Amagoalik - QIA
Cheryl Wray - Baffinland Iron Mines Corp.

Baffinland
Iron Mines Corporation

August 6, 2008

Mr. Robert Eno
Manager, Pollution Control
Department of ENvironment
Government of Nunavut
Box 1000, Stn 1360
Iqaluit, NU X0A 0H0

Dear Mr. Eno,

RE: Correspondence August 6, 2008

I acknowledge receipt of your letter dated today. On behalf of our organization I would like to apologize for the manner in which we failed to report the Jet A fuel bladder failure. Though it is of no particular consolation I'm sure, I can advise that this was a mere oversight and a misunderstanding on our part with respect to what would reasonably be required by the various regulatory authorities. In retrospect we can now fully appreciate the concerns of both your Ministry and those of INAC. Certainly I acknowledge how reasonable your responses have been and in particular the additional efforts that have been made to work with us so that the refueling operation at Milne Inlet could proceed without delay.

Please be advised that we have aligned our reporting expectations with yours and in future should there be any uncertainty we will err to the side of caution and report.

I am disappointed, if not embarrassed, with the impression that this creates with regulators. Our entire operations and environmental teams have been working in earnest to demonstrate our commitment to the environment and to respecting the land and people of Nunavut as our project has progressed. In addition to attempting to demonstrate operational excellence in these areas we have also been committed to remediating the legacy issues from earlier exploration activities and have engaged Qikiqtaaluk Environmental to assist with these remediation efforts.

I thank you for sharing your impressions with me and would like to close by assuring you that these impressions, and those originating from INAC, are now well understood within our organization and we assure you that we will endeavor to do better in the future.

Sincerely,

Al Gorman
Operations Manager

cc.:
Phyllis Beaulieu – NWB
Andrew Keim – INAC
Kevin Buck – INAC
Bernie MacIsaac – INAC
Craig Broome – Env. Canada
John Amagoalik – QIA
Cheryl Wray – Baffinland
David McCann - Baffinland

Matthew Pickard

From: Jim Millard [Jim.Millard@Baffinland.com]
Sent: Monday, January 26, 2009 2:33 PM
To: 'Matthew Pickard'
Subject: FW: Prelimimary results of test pit program - Milne Bulk Fuel Storage Facility
Attachments: Final Baffinland - COC 716883.pdf; Final Baffinland - COC 716885.pdf; B189.pdf

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From: Jim Millard [mailto:Jim.Millard@Baffinland.com]
Sent: September 10, 2008 10:38 AM
To: 'Andrew Keim'
Cc: 'cheryl.wray@baffinland.com'
Subject: Prelimimary results of test pit program - Milne Bulk Fuel Storage Facility

Hi Andrew,

We completed the test pit program on August 17 around the perimeter of the Milne Bulk Fuel Storage Facility. File B189 (attached) provides the sample locations. The other two attached files include the laboratory analytical results for soils and water that were sampled.

Essentially, we excavated through the fills/soils until we encountered permafrost. The water table was encountered immediately above the permafrost. We collected soil samples (designated SS) across the water table interface. If there was groundwater inflow into the test pit and we could safely collect a water sample we did so. This water was typically very silt laden as you would expect. The groundwater samples were designated SW. One surface water sample was collected in a shallow pond located down-gradient (northeast) of the Bulk Fuel Storage Facility. This sample was designated FW.

There were no visual or olfactory observations that indicated the presence of hydrocarbons in either soils or water.

The soils were analyzed for BTE and oil & grease. The waters were analyzed for BTE and oil & grease, plus total lead.

For soils (SS), analytical results indicated that BTE and O&G parameters were all below detection limits.

For groundwater, results indicated that BTE and O&G parameters were below detection. Total lead results ranged from not detected to 13 ug/L. The lead detects in groundwater were likely due to the elevated suspended solids present in the samples. The samples were too silty to field filter so the analytical results that are presented represent the effect of natural soils that were suspended in the matrix of the water sample. The source of the lead would therefore be natural soils which typically contain lead in concentrations in the hundreds of mg/L (refer to CCME guidelines). The small pond located southeast of the fuel facility indicated an O&G result of 4 mg/L (MI-FB-SW). All other parameters were below detection limits. There was no visibile sheen observed in this pond. This result is likely the result of ambient contamination due to the high traffic and regular fueling operations that occur nearby.

Based on this test pit program, there is no evidence of leakage from the adjacent Bulk Fuel Storage Facility.

I look forward to discussing these results with you further when we talk later today.

Jim

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

Mary River Project
Baffinland Iron Mines Corporation
tel 403-450-8843

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820443
Date: 2008-08-25
Date Submitted: 2008-08-19
Project:
P.O. Number: 270615
Matrix: Soil

Chain of Custody Number: 716883

		LAB ID:	651317	651318	651319	651320	651321	GUIDELINE		
		Sample Date:	2008-08-17	2008-08-17	2008-08-17	2008-08-17	2008-08-17			
		Sample ID:	TP-SS-01	TP-SS-02	TP-SS-03	TP-SS-04	TP-SS-05			
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Ethylbenzene	ug/g	0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
Toluene	ug/g	0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
VOC SURROGATES										
Toluene-d8	%		102	101	98	101	100			
Oil & Grease										
Oil & Grease - Total	ug/g	100	<100	<100	<100	<100	<100			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Mina Nasirai
Organic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820443
Date: 2008-08-25
Date Submitted: 2008-08-19

Project:

P.O. Number: 270615
Matrix: Soil

Chain of Custody Number: 716883

		LAB ID:	651322	651323	651324	651325	651326	GUIDELINE		
		Sample Date:	2008-08-17	2008-08-17	2008-08-17	2008-08-17	2008-08-17			
		Sample ID:	TP-SS-06	TP-SS-07	TP-SS-08	TP-SS-09	TP-SS-10			
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/g	0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Ethylbenzene	ug/g	0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
Toluene	ug/g	0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
VOC SURROGATES										
Toluene-d8	%		100	101	100	100	101			
Oil & Grease										
Oil & Grease - Total	ug/g	100	<100	<100	<100	<100	<100			

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Mina Nasirai
Organic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820443
Date: 2008-08-25
Date Submitted: 2008-08-19

Project:

P.O. Number: 270615
Matrix: Soil

Chain of Custody Number: 716883

		LAB ID:	651327	651328				**GUIDELINE**		
		Sample Date:	2008-08-17	2008-08-17						
		Sample ID:	TP-SS-11	TP-SS-12						
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/g	0.05	<0.05	<0.05						
Ethylbenzene	ug/g	0.1	<0.1	<0.1						
Toluene	ug/g	0.1	<0.1	<0.1						
VOC SURROGATES										
Toluene-d8	%		101	100						
Oil & Grease										
Oil & Grease - Total	ug/g	100	<100	<100						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Mina Nasirai
Organic Lab Supervisor

Client: Baffinland Iron Mines Corporation
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: Ms. Cheryl Wray

Report Number: 2820443
Date: 2008-08-25
Date Submitted: 2008-08-19

Project:

P.O. Number: 270615
Matrix: Soil

Chain of Custody Number: 716883

		LAB ID:						GUIDELINE		
		Sample Date:								
		Sample ID:	LAB BLANK	LAB QC % RECOVERY	QC RECOVERY RANGE	DATE ANALYSED				
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/g	0.05	<0.05	94	80-120	2008-08-20				
Ethylbenzene	ug/g	0.1	<0.1	99	80-120	2008-08-20				
Toluene	ug/g	0.1	<0.1	101	80-120	2008-08-20				
VOC SURROGATES										
Toluene-d8	%		96	99	70-130	2008-08-20				
Oil & Grease										
Oil & Grease - Total	ug/g	100	<100	111	-	2008-08-21				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Herb Yu
QA Coordinator

REPORT OF ANALYSIS

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820449
Date: 2008-08-22
Date Submitted: 2008-08-19

Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: 716883

								GUIDELINE		
		LAB ID:	651334							
		Sample Date:	2008-08-17							
		Sample ID:	MI-FB-SW							
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
Lead	mg/L	0.001	<0.001							

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Ewan McRobbie
Inorganic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820449
Date: 2008-08-22
Date Submitted: 2008-08-19

Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: 716883

		LAB ID:						GUIDELINE		
		Sample Date:								
		Sample ID:	LAB BLANK	LAB QC % RECOVERY	QC RECOVERY RANGE	DATE ANALYSED				
PARAMETER	UNITS	MRL						TYPE	LIMIT	UNITS
Lead	mg/L	0.001	<0.001	103	82-118	2008-08-20				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:
Herb Yu
QA Coordinator

ACCUTEST LABORATORIES - A New Bodycote Company

REPORT OF ANALYSIS

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820449
Date: 2008-08-22
Date Submitted: 2008-08-19

Project:

P.O. Number: 270615
Matrix: Water

Chain of Custody Number: **716883**

PARAMETER	UNITS	MRL	LAB ID: 651334 Sample Date: 2008-08-17 Sample ID: MI-FB-SW					GUIDELINE TYPE	GUIDELINE LIMIT	GUIDELINE UNITS
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/L	0.5	<0.5							
Ethylbenzene	ug/L	0.5	<0.5							
Toluene	ug/L	0.5	<0.5							
VOC SURROGATES										
Toluene-d8	%		96							
Oil & Grease										
Oil & Grease - Total	mg/L	1	4							

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: ______
Mina Nasirai
Organic Lab Supervisor

Client: **Baffinland Iron Mines Corporation**
120 Adelaide Street West, Suite 1016
Toronto, ON
M5H 1T1
Attention: **Ms. Cheryl Wray**

Report Number: 2820449
Date: 2008-08-22
Date Submitted: 2008-08-19
Project:
P.O. Number: 270615
Matrix: Water

Chain of Custody Number: 716883

		LAB ID:						GUIDELINE		
		Sample Date:								
		Sample ID:	LAB BLANK	LAB QC % RECOVERY	QC RECOVERY RANGE	DATE ANALYSED				
PARAMETER	**UNITS**	**MRL**						**TYPE**	**LIMIT**	**UNITS**
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/L	0.5	<0.5	82	80-120	2008-08-20				
Ethylbenzene	ug/L	0.5	<0.5	84	80-120	2008-08-20				
Toluene	ug/L	0.5	<0.5	84	80-120	2008-08-20				
VOC SURROGATES										
Toluene-d8	%		97	103	70-130	2008-08-20				
Oil & Grease										
Oil & Grease - Total	mg/L	1	<1	87	60-120	2008-08-20				

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: [signature]
Herb Yu
QA Coordinator

Appendix F

ACKNOWLEDGEMENTS

The geochemistry sections and related appendix of this report were completed and reviewed by professionals qualified in areas that include waste rock management, geochemistry of mine waste, acid rock generation and metal leaching, and aqueous geochemistry. The individuals involved, affiliation, academic qualifications, and professional accreditation are detailed below:

Quentin Hamilton, B.Sc., Masters (Environmental Technology), Chartered Chemist (ACPO and RSC): Senior Environmental Geochemist for Knight Piésold Ltd. of North Bay, Ontario. Author of the reports and principal geochemist for the work.

Houstin Kempton, BA, B.Sc., M.Sc. (Geology): Senior Geochemist for Knight Piésold Ltd. of North Bay, Ontario. Provided senior review for all aspects of the project.

Steven Aiken, P.Eng. (Nunavut): Manager of Environmental Services for Knight Piésold Ltd. of North Bay, Ontario. Provided senior review and oversight for all aspects of the project.

James (Jim) Millard, MSc., PGeo (Nunavut): Environmental Superintendent for Mary River Project, Baffinland Iron Mines Corporation, Toronto, Ontario. Provided senior review for the reports.

Knight Piésold
CONSULTING

MEMORANDUM

To:	Mr. James (Jim) Millard	Date:	March 6, 2009
Copy To:		File No.:	NB102-181/15-A.01
From:	Beth Janssen	Cont. No.:	NB09-00191
Re:	2008 ARD Sample Results		

Dear Jim,

In response to your request for information about 2008 ARD laboratory analysis, we have attached the following:

- Table 1, which summarizes sample names, locations, rock types, etc.
- Figures 1 and 2, showing sample locations
- Lab results from SGS Lakefield for ballast and BRMR quarry samples

ARD analytical results are included for ballast and drillhole samples. The ballast samples are chip samples that were collected from typical bedrock exposures along the proposed rail route at the location of the proposed ballast quarry site. Target samples weights were a minimum of 2 kg. Drillhole samples are from the 'BRMR' series of holes, which was drilled in the proposed rock quarry at Mary River. The drilling was conducted at the end of the field season. Baffinland geologists later logged the core and collected the required samples for ARD analysis, for which results are provided.

The analytical results presented are for those samples collected either by Knight Piésold or on behalf of Knight Piésold. A number of other samples have not been tested and are currently being stored at SGS Lakefield.

If you have any questions please feel free to contact this office.

Signed: Beth Janssen, B.Sc.
Project Scientist

Approved: Ken D. Embree, P.Eng.
Managing Director

Attachments:
Table 1 Rev 0 - Analytical Results for ARD Samples
Figure 1 Rev 0 - Ballast ARD Sample Locations
Figure 2 Rev 0 - Quarry ARD Sample Locations
SGS Lakefield ARD Analytical Results (22 pages)

/bdj

Knight Piésold CONSULTING

TABLE 1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

ANALYTICAL RESULTS FOR ARD SAMPLES

Print Mar/06/09 13:39:14

Ballast Samples

Sample Site	Sample Name	Date Sampled	Location: Rail Route (km)	Location: Northing (m)	Location: Easting (m)	Rock Description
BAL1	BAL1-C-01	30-Jun-08	133 + 500	7811039	601166	Gneiss
	BAL1-C-02	30-Jun-08		7811047	601159	Gneiss
	BAL1-C-03	30-Jun-08		7811046	601166	Gneiss
	BAL1-C-04	30-Jun-08		7811047	601112	Gneiss
	BAL1-C-05	30-Jun-08		7811046	601113	Gneiss
	BAL1-C-06	02-Jul-08		7811084	601026	Gneiss
	BAL1-C-07	02-Jul-08		7811095	601005	Gneiss
	BAL1-C-08	02-Jul-08		7811065	601049	Gneiss
	BAL1-C-09	02-Jul-08		7811035	601078	Gneiss
	BAL1-C-10	02-Jul-08		7811037	601100	Gneiss
BAL2	BAL2-C-01	02-Jul-08	138 + 400	7807424	598800	Gneiss
	BAL2-C-02	02-Jul-08		7807480	598749	Gneiss
	BAL2-C-03	02-Jul-08		7807555	598804	Gneiss
	BAL2-C-04	02-Jul-08		7807557	598769	Gneiss
	BAL2-C-05	02-Jul-08		7807593	598808	Gneiss
	BAL2-C-06	03-Jul-08		7807606	598791	Gneiss
BAL3	BAL3-C-01	04-Jul-08	139 + 500	7806385	598681	Gneiss
	BAL3-C-02	04-Jul-08		7806427	598691	Gneiss
	BAL3-C-03	04-Jul-08		7806461	598745	Gneiss
	BAL3-C-04	04-Jul-08		7806508	598748	Gneiss
BAL4	BAL4-C-01	04-Jul-08	140 + 000	7806081	598442	Gneiss
	BAL4-C-02	04-Jul-08		7806011	598448	Gneiss

Quarry Samples

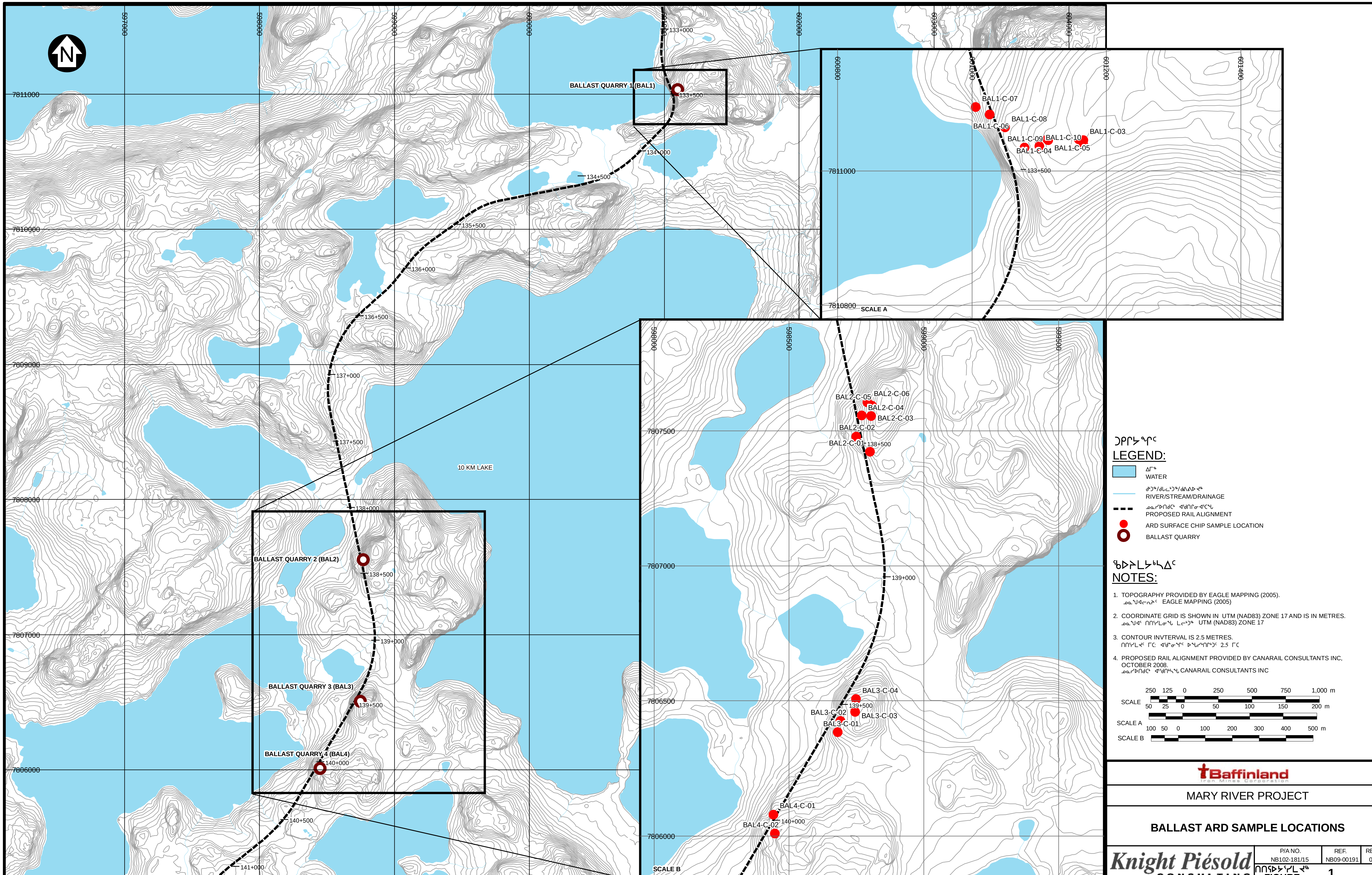
Sample Site	Sample Name	Date Drilled	Sample Depth (m)	Location: Northing (m)	Location: Easting (m)	Rock Description
BRMR-2008-02	BRMR-2008-02 ARD-1	18-Sep-08	3.1 - 4	7914184	560164	Alkali-Feldspar Granitic Gneiss
	BRMR-2008-02 ARD-2		11.63 - 12.5			Granitic Gneiss
	BRMR-2008-02 ARD-3		24 - 24.9			Granite / Granodiorite Gneiss
BRMR-2008-03	BRMR-2008-03 ARD-1	20-Sep-08	5.7 - 6.61	7914154	560105	Alkali-Feldspar Granitic Gneiss
	BRMR-2008-03 ARD-2		10.23 - 11.1			Granite / Granodiorite Gneiss
	BRMR-2008-03 ARD-3		17.4 - 18.3			Granitic Gneiss
BRMR-2008-04	BRMR-2008-04 ARD-1	19-Sep-08	9.54 - 10.43	7914242	560168	Mica Rich Gneiss
	BRMR-2008-04 ARD-2		17.37 - 18.25			Mica Rich Gneiss
	BRMR-2008-04 ARD-3		25.73 - 26.6			Granite / Granodiorite Gneiss

I:\102-00181-15\Assignment\Correspondence\NB09-00191 ARD SAMPLES\[Sample Summary.xls]Samples

NOTES:

1. BALLAST SAMPLES WERE COLLECTED AS CHIP SAMPLES.
2. BRMR DRILLHOLES WERE LOGGED AND SAMPLED BY BIMC GEOLOGY AND ARE CORE SAMPLES.
3. BRMR NAMING HAS SINCE BEEN SUPERSEDED AND IS REFERRED TO AS QMR2 TO BE CONSISTENT WITH QUARRY NAMING CONVENTION.

0	MAR06'09	ISSUED WITH MEMO NB09-00191	BDJ	RAM	SRA
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D



597000
598000
599000
600000
602000
603000
604000
7811000
7810000
7809000
7808000
7807000
7806000
133+000
BALLAST QUARRY 1 (BAL1)
133+500
134+000
134+500
135+500
136+000
136+500
137+000
137+500
10 KM LAKE
138+000
BALLAST QUARRY 2 (BAL2)
138+500
139+000
BALLAST QUARRY 3 (BAL3)
139+500
BALLAST QUARRY 4 (BAL4)
140+000
140+500
141+000
600800
601000
601200
601400
BAL1-C-07
BAL1-C-08
BAL1-C-06
BAL1-C-09
BAL1-C-10
BAL1-C-03
BAL1-C-04
BAL1-C-05
7810800
SCALE A
598000
598500
599000
599500
BAL2-C-05
BAL2-C-06
BAL2-C-04
BAL2-C-03
BAL2-C-02
BAL2-C-01
7807500
BAL3-C-04
BAL3-C-02
BAL3-C-03
BAL3-C-01
7806500
BAL4-C-01
BAL4-C-02
SCALE B
ᑐᑭᒋᔭᕐᒋᑦ
LEGEND:
ᐃᒥᖅ
WATER
ᑯᒃᑐᖅ/ᑯᓗᓪᓚᒃᑐᖅ/ᑯᕕᕝᕕᐅᔪᖅ
RIVER/STREAM/DRAINAGE
ᓄᓇᓯᐅᑎᑯᑦ ᐊᖁᑎᒋᓂᐊᕐᑕᖓ
PROPOSED RAIL ALIGNMENT
ARD SURFACE CHIP SAMPLE LOCATION
BALLAST QUARRY
ᖃᐅᔨᒪᔭᒃᓴᐃᑦ
NOTES:
1. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
ᓄᓇᖑᐊᓕᐅᕐᓂᕐᒥᑦ EAGLE MAPPING (2005)
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
ᓄᓇᖑᐊᖅ ᑎᑎᕋᒪᓂᖓ ᒪᓕᒃᑐᖅ UTM (NAD83) ZONE 17
3. CONTOUR INVTERVAL IS 2.5 METRES.
ᑎᑎᕋᒪᔪᑦ ᒥᑕ: ᐊᖁᓐᓂᖏᑦ ᐅᖓᓯᒃᑎᒋᒃᑐᑦ 2.5 ᒥᑕ
4. PROPOSED RAIL ALIGNMENT PROVIDED BY CANARAIL CONSULTANTS INC, OCTOBER 2008.
ᓄᓇᓯᐅᑎᑯᑦ ᐊᖁᑎᒃᓴᖓ CANARAIL CONSULTANTS INC
250 125 0 250 500 750 1,000 m
SCALE
50 25 0 50 100 150 200 m
SCALE A
100 50 0 100 200 300 400 500 m
SCALE B
Baffinland
Iron Mines Corporation
MARY RIVER PROJECT
BALLAST ARD SAMPLE LOCATIONS
Knight Piésold
CONSULTING
P/A NO.
NB102-181/15
REF.
NB09-00191
REV
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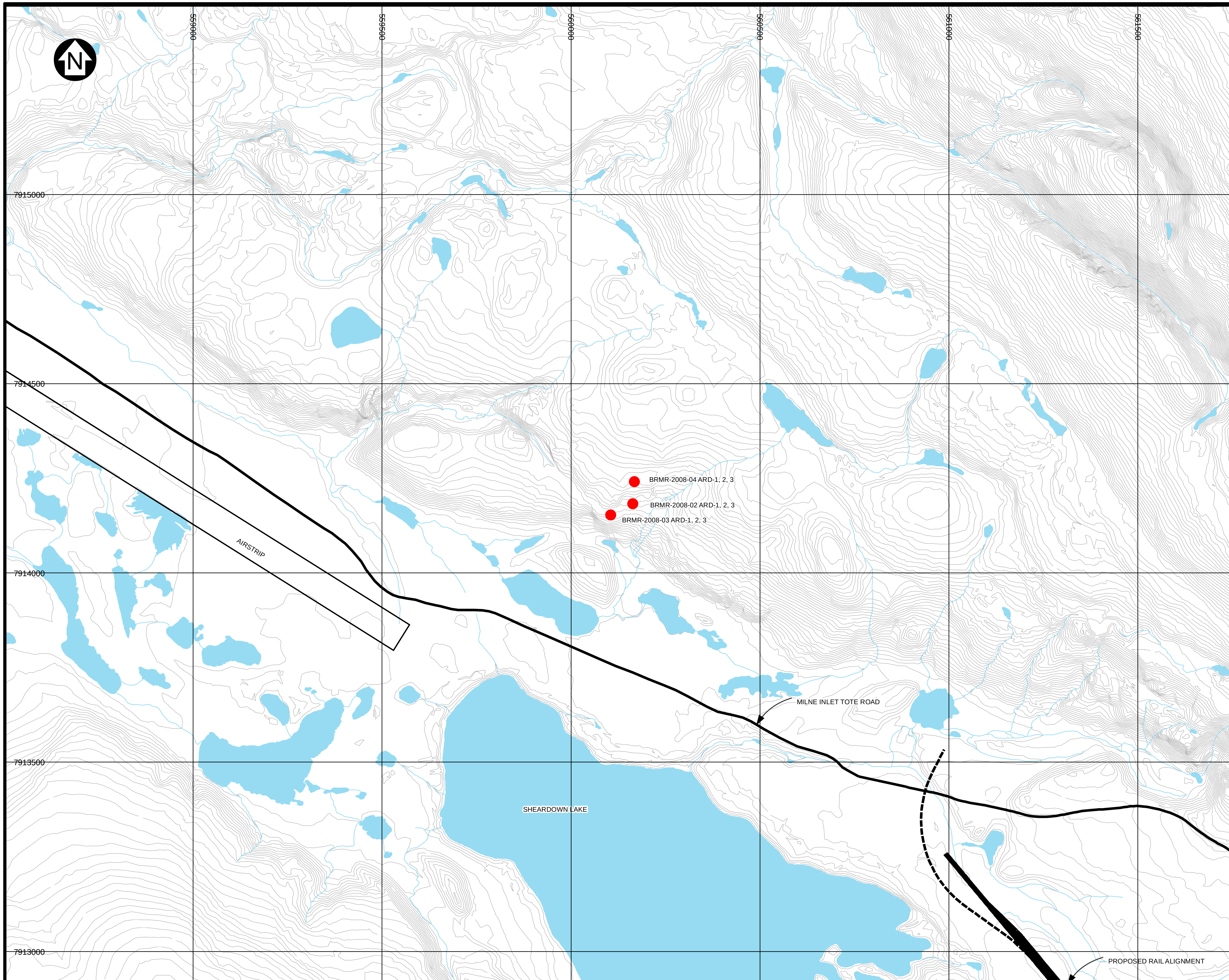
ᑎᑎᖅᐅᔭᕐᓯᒪᔪᖅ
FIGURE
1
NORTH BAY, ON SAVED: I:\102-00181-15\Assignment\GIS\ArcView\figures\B06.mxd , PRINTED: 06/03/2009 9:20:44 AM , rjohnson



ᑐᑭᓯᔾᔪᑎᑦ
LEGEND:

- ᐃᒥᖅ WATER
- ᑰᒃᑯᖅ/ᑯᓗᓛᒃᑯᖅ/ᑯᕕᕖᐅᔪᖅ RIVER/STREAM/DRAINAGE
- ᒦᓪᓗᐊᓂ ᐊᖁᑎ ᐅᓯᒃᑖᕐᕕᒃ MILNE INLET TOTE ROAD
- ᓄᓇᓯᐅᑎᑯᑦ ᐊᖁᑎᒋᓂᐊᖅᑕᖓ PROPOSED RAIL ALIGNMENT
- ARD CORE SAMPLE LOCATION

ᖃᐅᔨᒪᔭᒃᓴᐃᑦ
NOTES:

1. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
   ᓄᓇᙳᐊᓕᐅᔨᑦ EAGLE MAPPING (2005)
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
   ᓄᓇᙳᐊᖅ ᑎᑎᕐᓯᒪᓂᖓ ᒪᓕᒃᑐᖅ UTM (NAD83) ZONE 17
3. CONTOUR INVTERVAL IS 2.5 METRES.
   ᑎᑎᕐᓯᒪᔪᑦ ᒥᑕ: ᐊᖁᓐᓂᖏᑦ ᐅᖓᓯᒃᑎᒋᒃᑐᑦ 2.5 ᒥᑕ
4. PROPOSED RAIL ALIGNMENT PROVIDED BY CANARAIL CONSULTANTS INC, OCTOBER 2008.
   ᓄᓇᓯᐅᑎᑯᑦ ᐊᖁᑎᒃᓴᖓ CANARAIL CONSULTANTS INC
5. BRMR NAMING HAS SINCE BEEN SUPERSEDED AND IS REFERRED TO AS QMR2 TO BE CONSISTENT WITH QUARRY NAMING CONVENTION.

ᐊᖏᓂᖓ SCALE 100 50 0 100 200 300 400 500 m ᒥᑕ

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

QUARRY ARD SAMPLE LOCATIONS

Knight Piésold CONSULTING

P/A NO.	REF.	REV
NB102-181/15	NB09-00191	0

ᑎᑎᖅᑲᐅᔾᔨᓯᒪᔪᖅ FIGURE 2

NORTH BAY, ON SAVED: I:\102-00181-15\Assignment\GIS\ArcView\figures\B07.mxd , PRINTED: 06/03/2009 10:06:02 AM , rjohnson

SGS Lakefield Research Limited
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Modified ABA (Price 1997)

Knight Piesold Limited
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North Bay, ON
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Phone: 705-476-2165
Fax:pdf, excel

Thursday, August 28, 2008

Date Rec. : 19 August 2008
LR Report: **CA10403-AUG08**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: BAL1-C-01	6: BAL1-C-02	7: BAL1-C-03	8: BAL1-C-04	9: BAL1-C-05	10: BAL1-C-06	11: BAL1-C-07	12: BAL1-C-08	13: BAL1-C-09
Sample Date & Time			Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08
Paste pH [units]	27-Aug-08	09:59	9.67	9.49	9.53	9.65	9.50	9.48	9.60	9.25	8.84
Fizz Rate [---]	27-Aug-08	09:59	1	1	1	1	1	1	1	1	1
Sample [weight(g)]	27-Aug-08	09:59	2.04	2.00	1.99	2.00	1.99	2.03	2.04	2.00	1.97
HCl added [mL]	27-Aug-08	09:59	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	27-Aug-08	09:59	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	27-Aug-08	09:59	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	27-Aug-08	09:59	17.20	15.50	15.30	17.00	18.00	17.30	18.30	18.10	17.40
Final pH [units]	27-Aug-08	09:59	1.23	1.54	1.46	1.47	1.29	1.42	1.34	1.17	1.44
NP [t CaCO3/1000t]	27-Aug-08	09:59	6.9	11.2	11.8	7.5	5.0	6.7	4.2	4.8	6.6
AP [t CaCO3/1000 t]	27-Aug-08	09:59	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Net NP [t CaCO3/1000 t]	27-Aug-08	09:59	6.6	10.9	11.5	7.2	4.7	6.4	3.9	4.5	6.3
NP/AP [ratio]	27-Aug-08	09:59	22.3	36.1	38.1	24.2	16.1	21.6	13.5	15.5	21.3
Total Sulphur [%]	21-Aug-08	14:10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	25-Aug-08	07:49	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sulphide-S [%]	25-Aug-08	07:49	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total Carbon [%]	21-Aug-08	14:10	0.072	0.139	0.132	0.059	0.130	0.062	0.046	0.136	0.147
Carbonate (CO3) [%]	21-Aug-08	16:32	< 0.005	0.234	0.143	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

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*NP (Neutralization Potential)

$$= 50 \times \frac{(\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes $CaCO_3$ equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

SGS

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Sample Date & Time			Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08
Paste pH [units]	27-Aug-08	09:59	9.67	9.49	9.53	9.65	9.50	9.48	9.60	9.25	8.84
Fizz Rate [---]	27-Aug-08	09:59	1	1	1	1	1	1	1	1	1
Sample [weight(g)]	27-Aug-08	09:59	2.04	2.00	1.99	2.00	1.99	2.03	2.04	2.00	1.97
HCl added [mL]	27-Aug-08	09:59	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	27-Aug-08	09:59	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	27-Aug-08	09:59	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	27-Aug-08	09:59	17.20	15.50	15.30	17.00	18.00	17.30	18.30	18.10	17.40
Final pH [units]	27-Aug-08	09:59	1.23	1.54	1.46	1.47	1.29	1.42	1.34	1.17	1.44
NP [t CaCO3/1000t]	27-Aug-08	09:59	6.9	11.2	11.8	7.5	5.0	6.7	4.2	4.8	6.6
AP [t CaCO3/1000 t]	27-Aug-08	09:59	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Net NP [t CaCO3/1000 t]	27-Aug-08	09:59	6.6	10.9	11.5	7.2	4.7	6.4	3.9	4.5	6.3
NP/AP [ratio]	27-Aug-08	09:59	22.3	36.1	38.1	24.2	16.1	21.6	13.5	15.5	21.3
Total Sulphur [%]	21-Aug-08	14:10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	25-Aug-08	07:49	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sulphide-S [%]	25-Aug-08	07:49	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total Carbon [%]	21-Aug-08	14:10	0.072	0.139	0.132	0.059	0.130	0.062	0.046	0.136	0.147
Carbonate (CO3) [%]	21-Aug-08	16:32	< 0.005	0.234	0.143	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

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*NP (Neutralization Potential)

$$= \frac{50 \times (\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes $CaCO_3$ equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

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Sunday, September 07, 2008

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Final Report

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Sample Date & Time			Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08
Mercury [µg/g]	28-Aug-08	12:43	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Silver [µg/g]	03-Sep-08	08:33	0.46	0.32	0.40	0.21	0.29	0.21	0.24	0.22	0.28
Aluminum [µg/g]	03-Sep-08	08:46	100000	69000	77000	75000	80000	77000	78000	74000	66000
Arsenic [µg/g]	03-Sep-08	08:33	< 0.5	< 0.5	0.6	0.6	< 0.5	< 0.5	< 0.5	1.6	1.3
Barium [µg/g]	03-Sep-08	08:46	360	160	410	760	310	950	490	410	680
Beryllium [µg/g]	03-Sep-08	08:46	1.9	1.9	1.6	2.2	1.8	1.0	1.0	1.1	1.1
Bismuth [µg/g]	03-Sep-08	08:33	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	< 0.09	0.12	0.39
Calcium [µg/g]	03-Sep-08	08:46	14000	23000	19000	19000	29000	19000	19000	59000	54000
Cadmium [µg/g]	03-Sep-08	08:33	0.18	0.22	0.34	0.17	0.23	0.18	0.19	0.15	0.22
Cobalt [µg/g]	03-Sep-08	08:33	2.7	5.3	5.9	4.9	5.0	5.4	2.0	4.1	5.6
Chromium [µg/g]	03-Sep-08	08:33	150	170	170	140	140	250	230	180	250
Copper [µg/g]	03-Sep-08	08:46	12	7.5	6.4	4.9	0.9	3.4	3.2	2.7	8.3
Iron [µg/g]	03-Sep-08	08:46	12000	25000	30000	26000	23000	22000	13000	16000	22000
Potassium [µg/g]	03-Sep-08	08:46	29000	11000	15000	27000	14000	29000	17000	16000	26000
Lithium [µg/g]	03-Sep-08	08:46	5.1	10	9.3	3.7	2.3	2.5	3.4	2.3	1.5
Magnesium [µg/g]	03-Sep-08	08:46	3700	13000	10000	5300	5200	6900	2300	8200	9600
Manganese [µg/g]	03-Sep-08	08:46	130	340	330	350	290	320	140	270	430
Molybdenum [µg/g]	03-Sep-08	08:33	1.2	0.9	1.0	1.4	0.4	6.1	1.1	1.9	1.0
Nickel [µg/g]	03-Sep-08	08:33	26	33	17	8.5	12	9.8	6.1	5.0	8.0
Lead [µg/g]	03-Sep-08	08:33	22	8.2	14	20	18	21	16	15	17

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Antimony [µg/g]	03-Sep-08	08:34	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.3
Selenium [µg/g]	03-Sep-08	08:34	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	03-Sep-08	08:34	1.7	11	2.5	1.7	1.8	3.4	1.5	1.6	1.0
Strontium [µg/g]	03-Sep-08	08:46	230	350	270	280	410	320	340	330	220
Titanium [µg/g]	03-Sep-08	08:46	1100	2700	3200	2600	2100	1500	1100	1500	2100
Thallium [µg/g]	03-Sep-08	08:34	0.27	0.10	0.24	0.27	0.09	0.34	0.15	0.13	0.28
Uranium [µg/g]	03-Sep-08	08:34	1.8	1.2	1.2	0.49	0.86	0.80	0.31	0.25	0.51
Vanadium [µg/g]	03-Sep-08	08:46	19	45	55	39	44	33	13	19	33
Yttrium [µg/g]	03-Sep-08	08:34	5.2	15	14	10	6.4	8.6	1.3	3.7	8.7
Zinc [µg/g]	03-Sep-08	08:46	12	19	35	38	17	42	23	31	42

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Sunday, September 07, 2008

Date Rec. : 19 August 2008
LR Report: **CA10404-AUG08**

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CERTIFICATE OF ANALYSIS

Final Report

Analysis	**14: BAL1-C-10**	**15: BAL2-C-01**	**16: BAL2-C-02**	**17: BAL2-C-03**	**18: BAL2-C-04**	**19: BAL2-C-05**	**20: BAL2-C-06**	**21: BAL3-C-02**	**22: BAL3-C-04**	**23: BAL4-C-01**	**24: BAL4-C-02**
Sample Date & Time	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08
Mercury [μg/g]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Silver [μg/g]	0.23	0.86	0.42	0.40	0.51	0.47	0.44	0.61	0.44	0.51	0.50
Aluminum [μg/g]	69000	76000	70000	71000	72000	75000	80000	81000	81000	82000	82000
Arsenic [μg/g]	1.0	1.2	0.6	0.7	0.7	< 0.5	< 0.5	1.1	< 0.5	< 0.5	1.0
Barium [μg/g]	510	3000	2100	770	1600	1400	1400	2700	1600	1500	1300
Beryllium [μg/g]	1.6	2.1	1.3	1.5	1.5	2.0	1.9	2.4	1.6	2.0	2.1
Bismuth [μg/g]	0.24	0.27	0.17	0.15	0.11	0.11	0.11	0.14	< 0.09	< 0.09	0.10
Calcium [μg/g]	58000	61000	45000	46000	48000	25000	24000	31000	25000	31000	29000
Cadmium [μg/g]	0.17	0.68	0.29	0.29	0.40	0.34	0.35	0.46	0.36	0.40	0.38
Cobalt [μg/g]	5.3	10	2.8	2.1	2.7	5.3	4.9	8.5	4.9	8.9	8.2
Chromium [μg/g]	110	130	250	220	150	210	200	170	200	150	180
Copper [μg/g]	1.3	20	6.2	7.6	6.3	16	8.6	14	7.5	15	11
Iron [μg/g]	24000	39000	14000	12000	14000	26000	28000	35000	27000	38000	33000
Potassium [μg/g]	24000	51000	54000	56000	58000	48000	52000	48000	50000	44000	38000
Lithium [μg/g]	2.7	6.1	10	7.3	5.1	8.4	11	3.2	7.4	7.5	10
Magnesium [μg/g]	9500	16000	6600	6300	7500	7400	7700	11000	7900	13000	10000
Manganese [μg/g]	400	600	96	100	200	350	310	500	270	520	390
Molybdenum [μg/g]	1.8	4.9	1.8	2.4	3.1	2.1	2.6	2.5	1.6	3.1	2.9
Nickel [μg/g]	4.8	9.3	4.6	2.5	7.8	6.9	5.1	5.5	5.9	14	7.4
Lead [μg/g]	17	39	36	46	40	40	40	35	32	33	32

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Analysis	**14: BAL1-C-10**	**15: BAL2-C-01**	**16: BAL2-C-02**	**17: BAL2-C-03**	**18: BAL2-C-04**	**19: BAL2-C-05**	**20: BAL2-C-06**	**21: BAL3-C-02**	**22: BAL3-C-04**	**23: BAL4-C-01**	**24: BAL4-C-02**
Antimony [µg/g]	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Selenium [µg/g]	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	1.6	2.7	1.4	2.9	1.2	3.2	2.3	3.4	3.1	3.7	2.3
Strontium [µg/g]	250	780	540	230	450	410	420	750	540	560	560
Titanium [µg/g]	2300	3600	1200	1000	1600	2700	2700	3400	2700	3700	3300
Thallium [µg/g]	0.23	0.89	0.95	1.1	1.1	1.0	1.1	0.81	0.78	0.68	0.69
Uranium [µg/g]	0.45	2.1	2.1	4.7	1.7	1.8	1.8	2.3	1.4	1.4	1.4
Vanadium [µg/g]	40	78	22	14	23	44	46	71	45	66	65
Yttrium [µg/g]	12	17	1.9	3.6	6.1	13	9.6	13	8.4	17	11
Zinc [µg/g]	38	72	14	16	23	48	45	50	38	59	60

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Wednesday, September 10, 2008

Date Rec. : 19 August 2008
LR Report: **CA10405-AUG08**
Reference: Whole Rock Analysis

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CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	Na2O %	K2O %	TiO2 %	P2O5 %	MnO %	Cr2O3 %	V2O5 %	LOI %	Sum %
3: Analysis Approval Date		10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08	10-Sep-08
4: Analysis Approval Time		08:16	08:16	08:16	08:16	08:16	08:16	08:16	08:16	08:16	08:16	08:16	08:16	08:16	08:16
5: BAL1-C-01	Jun/Jul-08	65.7	18.6	1.63	0.58	2.09	7.12	3.03	0.22	0.11	0.02	0.03	< 0.01	0.90	100.0
6: BAL1-C-02	Jun/Jul-08	68.8	13.4	3.55	2.19	3.51	4.81	1.22	0.50	0.15	0.04	0.03	< 0.01	1.29	99.5
7: BAL1-C-03	Jun/Jul-08	67.3	14.6	4.23	1.76	2.75	5.29	1.55	0.62	0.20	0.05	0.04	0.02	1.14	99.5
8: BAL1-C-04	Jun/Jul-08	69.5	14.8	3.69	0.96	2.84	4.53	2.83	0.45	0.22	0.04	0.02	0.01	0.53	100.5
9: BAL1-C-05	Jun/Jul-08	60.3	20.2	3.33	1.00	4.83	7.49	1.51	0.33	0.04	0.04	0.03	0.02	0.49	99.7
10: BAL1-C-06	Jun/Jul-08	70.9	14.1	3.04	1.10	2.73	4.06	3.00	0.24	0.04	0.04	0.05	< 0.01	0.44	99.8
11: BAL1-C-07	Jun/Jul-08	72.1	14.9	1.88	0.41	2.82	4.78	1.76	0.19	0.04	0.02	0.04	< 0.01	0.37	99.3
12: BAL1-C-08	Jun/Jul-08	71.0	15.1	2.42	0.74	3.24	4.76	1.61	0.25	0.08	0.03	0.03	0.02	0.46	99.7
13: BAL1-C-09	Jun/Jul-08	70.7	14.4	3.54	1.05	2.64	4.50	2.79	0.39	0.12	0.06	0.04	< 0.01	0.65	100.9
14: BAL1-C-10	Jun/Jul-08	70.5	14.3	3.65	0.92	3.02	4.24	2.63	0.41	0.15	0.05	0.03	0.01	0.60	100.4
15: BAL2-C-01	Jun/Jul-08	61.1	15.3	5.96	2.16	3.23	3.37	5.86	0.63	0.47	0.08	0.03	0.02	0.91	99.1
16: BAL2-C-02	Jun/Jul-08	72.8	13.2	1.94	0.39	1.04	2.76	6.00	0.20	0.05	0.02	0.04	< 0.01	0.83	99.3
17: BAL2-C-03	Jun/Jul-08	73.0	13.6	1.68	0.33	0.89	3.01	6.24	0.19	0.06	0.02	0.04	< 0.01	0.67	99.7
18: BAL2-C-04	Jun/Jul-08	67.6	16.1	2.28	0.65	1.70	3.79	6.84	0.28	0.14	0.02	0.02	< 0.01	0.61	100.1
19: BAL2-C-05	Jun/Jul-08	68.0	15.2	3.73	1.11	2.16	3.78	5.39	0.47	0.23	0.04	0.03	0.01	0.72	100.9
20: BAL2-C-06	Jun/Jul-08	67.0	14.8	3.85	1.11	1.90	3.49	5.84	0.44	0.23	0.05	0.03	< 0.01	0.61	99.3
21: BAL3-C-02	Jun/Jul-08	62.7	15.3	5.02	1.64	3.19	3.70	5.30	0.57	0.34	0.06	0.03	0.01	0.82	98.6
22: BAL3-C-04	Jun/Jul-08	67.3	14.4	3.51	1.08	1.96	3.46	5.24	0.42	0.22	0.03	0.04	< 0.01	0.94	98.7
23: BAL4-C-01	Jun/Jul-08	64.2	14.8	5.21	1.88	2.99	3.52	4.66	0.57	0.31	0.07	0.03	0.01	0.83	99.1
24: BAL4-C-02	Jun/Jul-08	62.8	16.2	5.00	1.56	3.05	4.17	4.22	0.56	0.28	0.05	0.04	0.02	1.10	99.1

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LR Report : CA10405-AUG08

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Date Rec. : 19 August 2008
LR Report: **CA10406-AUG08**

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CERTIFICATE OF ANALYSIS
Final Report

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: BAL1-C-01	6: BAL1-C-02	7: BAL1-C-03	8: BAL1-C-04	9: BAL1-C-05	10: BAL1-C-06	11: BAL1-C-07	12: BAL1-C-08	13: BAL1-C-09
Sample Date & Time			Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08
Sample [weight(g)]	02-Sep-08	15:07	200	200	200	200	200	200	200	200	200
ExtVolume [ml]	02-Sep-08	15:07	600	600	600	600	600	600	600	600	600
InitialpH [units]	02-Sep-08	15:07	8.44	9.43	9.05	8.20	8.57	8.27	7.78	7.81	7.53
Final pH [units]	02-Sep-08	15:07	8.35	9.12	8.66	8.12	8.34	8.34	7.85	7.47	7.39
Sulphate [mg/L]	17-Sep-08	14:49	2.1	3.0	2.9	1.8	2.2	2.4	1.7	2.8	2.8
Mercury [mg/L]	03-Sep-08	15:22	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Aluminum [mg/L]	08-Sep-08	14:57	1.77	0.740	0.687	1.99	1.94	1.52	1.85	1.65	1.88
Arsenic [mg/L]	08-Sep-08	14:57	0.0005	0.0004	0.0004	< 0.0002	0.0003	< 0.0002	0.0003	< 0.0002	0.0005
Silver [mg/L]	08-Sep-08	14:57	0.00006	0.00003	0.00002	0.00003	0.00002	0.00003	0.00003	0.00003	0.00004
Barium [mg/L]	08-Sep-08	14:57	0.930	0.687	0.703	0.674	0.611	0.631	0.598	0.552	0.715
Beryllium [mg/L]	08-Sep-08	14:57	0.00008	0.00005	0.00004	0.00012	0.00004	0.00005	0.00004	0.00006	0.00006
Bismuth [mg/L]	08-Sep-08	14:57	0.00006	0.00005	0.00003	0.00003	0.00002	0.00002	0.00001	0.00002	0.00002
Calcium [mg/L]	04-Sep-08	09:06	4.29	9.62	10.1	1.98	8.61	3.21	1.18	1.66	2.62
Cadmium [mg/L]	08-Sep-08	14:57	0.000020	0.000018	0.000009	0.000016	0.000019	0.000016	0.000017	0.000020	0.000017
Cobalt [mg/L]	08-Sep-08	14:57	0.000390	0.000239	0.000240	0.000701	0.000419	0.000663	0.000615	0.00185	0.00101
Chromium [mg/L]	08-Sep-08	14:57	0.0015	0.0006	0.0008	0.0007	0.0018	0.0013	0.0005	0.0010	0.0016
Copper [mg/L]	08-Sep-08	14:57	0.0039	0.0013	0.0138	0.0103	0.0041	0.0056	0.0019	0.0073	0.0459
Iron [mg/L]	04-Sep-08	09:06	0.77	0.34	0.39	1.39	0.60	1.29	1.37	1.16	1.79
Potassium [mg/L]	04-Sep-08	09:06	34.3	15.5	21.7	20.4	11.4	13.6	6.06	8.92	11.1
Lithium [mg/L]	08-Sep-08	14:57	0.007	0.091	0.019	0.003	0.004	0.006	0.003	0.004	0.003

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LR Report : CA10406-AUG08

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: BAL1-C-01	6: BAL1-C-02	7: BAL1-C-03	8: BAL1-C-04	9: BAL1-C-05	10: BAL1-C-06	11: BAL1-C-07	12: BAL1-C-08	13: BAL1-C-09
Magnesium [mg/L]	04-Sep-08	09:06	1.68	2.90	2.26	1.08	1.04	1.47	0.669	0.783	1.37
Manganese [mg/L]	08-Sep-08	14:57	0.0131	0.00665	0.00701	0.0213	0.0172	0.0188	0.0245	0.0241	0.0306
Molybdenum [mg/L]	08-Sep-08	14:57	0.00032	0.00027	0.00183	0.00077	0.00019	0.00245	0.00028	0.00036	0.00047
Nickel [mg/L]	08-Sep-08	14:57	0.0022	0.0040	0.0017	0.0010	0.0011	0.0011	0.0004	0.0013	0.0018
Lead [mg/L]	08-Sep-08	14:57	0.00129	0.00069	0.00057	0.00141	0.00091	0.00172	0.00118	0.00094	0.00159
Antimony [mg/L]	08-Sep-08	14:57	0.00024	0.00339	0.00113	0.00040	0.00037	0.00035	0.00034	0.00030	0.00029
Selenium [mg/L]	08-Sep-08	14:57	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	08-Sep-08	14:57	0.00008	0.00013	0.00008	0.00010	0.00003	0.00005	0.00003	0.00006	0.00009
Strontium [mg/L]	04-Sep-08	09:06	0.0365	0.0492	0.0423	0.0263	0.0411	0.0344	0.0239	0.0249	0.0281
Titanium [mg/L]	08-Sep-08	14:57	0.0407	0.0237	0.0399	0.135	0.0674	0.0850	0.0743	0.0745	0.0779
Thallium [mg/L]	08-Sep-08	14:57	0.00002	< 0.00002	< 0.00002	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Uranium [mg/L]	08-Sep-08	14:57	0.000828	0.000550	0.00233	0.000310	0.000689	0.000613	0.000109	0.00164	0.000428
Vanadium [mg/L]	08-Sep-08	14:57	0.00398	0.00719	0.00478	0.00444	0.00326	0.00340	0.00136	0.00229	0.00247
Yttrium [mg/L]	08-Sep-08	14:57	0.00122	0.000487	0.000335	0.00111	0.000515	0.000497	0.000227	0.000606	0.00111
Zinc [mg/L]	08-Sep-08	14:57	0.021	0.008	0.014	0.028	0.027	0.024	0.029	0.058	0.069

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Sample Date & Time	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08	Jun/Jul-08
Sample [weight(g)]	200	200	200	200	200	200	200	200	200	200	200
ExtVolume [ml]	600	600	600	600	600	600	600	600	600	600	600
InitialpH [units]	7.96	9.07	8.39	7.57	8.06	8.15	8.01	8.47	8.16	8.07	7.66
Final pH [units]	7.87	8.76	8.25	7.19	7.80	7.87	7.90	8.19	7.96	7.97	7.74
Sulphate [mg/L]	2.7	9.6	3.1	4.7	2.1	5.5	5.7	12	9.9	9.8	8.9
Mercury [mg/L]	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Aluminum [mg/L]	1.81	0.939	0.750	1.14	1.11	0.617	1.56	1.42	0.815	0.693	1.06
Arsenic [mg/L]	< 0.0002	0.0005	< 0.0002	0.0005	< 0.0002	0.0004	< 0.0002	0.0006	< 0.0002	0.0007	< 0.0002
Silver [mg/L]	0.00002	0.00002	0.00002	0.00004	0.00003	0.00003	0.00004	0.00002	0.00001	0.00001	0.00001
Barium [mg/L]	0.761	0.536	0.690	0.617	0.619	0.725	0.627	0.557	0.582	0.554	0.541
Beryllium [mg/L]	0.00007	0.00004	0.00004	0.00007	0.00005	0.00004	0.00007	0.00007	0.00004	0.00003	0.00005
Bismuth [mg/L]	0.00001	0.00002	0.00001	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Calcium [mg/L]	5.78	9.94	13.0	3.68	2.02	19.6	5.12	15.9	17.3	15.7	6.37
Cadmium [mg/L]	0.000015	0.000021	0.000018	0.000039	0.000030	0.000030	0.000024	0.000020	0.000013	0.000015	0.000016
Cobalt [mg/L]	0.000638	0.000336	0.000152	0.000290	0.000388	0.000305	0.000620	0.000319	0.000203	0.000200	0.000396
Chromium [mg/L]	0.0009	0.0008	0.0007	0.0010	0.0007	0.0006	0.0009	0.0008	0.0007	0.0006	0.0008
Copper [mg/L]	0.0092	0.0536	0.0208	0.0143	0.0044	0.0433	0.0234	0.0394	0.0185	0.0378	0.0367
Iron [mg/L]	1.00	0.58	0.32	0.86	0.77	0.43	1.25	0.64	0.40	0.45	0.92
Potassium [mg/L]	14.3	24.4	21.4	18.3	19.3	52.1	20.6	19.8	21.2	22.9	20.0
Lithium [mg/L]	0.007	0.013	0.015	0.007	0.009	0.011	0.012	0.006	0.007	0.006	0.007

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LR Report : CA10406-AUG08

Analysis	**14: BAL1-C-10**	**15: BAL2-C-01**	**16: BAL2-C-02**	**17: BAL2-C-03**	**18: BAL2-C-04**	**19: BAL2-C-05**	**20: BAL2-C-06**	**21: BAL3-C-02**	**22: BAL3-C-04**	**23: BAL4-C-01**	**24: BAL4-C-02**
Magnesium [mg/L]	1.83	1.97	1.17	0.921	0.928	2.35	1.69	2.12	2.79	2.91	2.58
Manganese [mg/L]	0.0239	0.0108	0.00935	0.0210	0.0138	0.0244	0.0205	0.0136	0.0109	0.0126	0.0161
Molybdenum [mg/L]	0.00233	0.0138	0.00419	0.0127	0.00297	0.0129	0.00517	0.00675	0.00506	0.00612	0.0214
Nickel [mg/L]	0.0012	0.0015	0.0007	0.0008	0.0007	0.0013	0.0011	0.0009	0.0010	0.0009	0.0009
Lead [mg/L]	0.00179	0.00282	0.00163	0.00476	0.00247	0.00170	0.00336	0.00254	0.00172	0.00117	0.00141
Antimony [mg/L]	0.00030	0.00033	0.00022	0.00023	0.00021	0.00024	0.00023	0.00019	0.00022	0.00017	0.00023
Selenium [mg/L]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001	< 0.001
Tin [mg/L]	0.00006	0.00003	0.00002	0.00008	0.00005	0.00008	0.00014	0.00012	0.00006	0.00005	0.00013
Strontium [mg/L]	0.0376	0.139	0.123	0.0393	0.0362	0.124	0.0710	0.170	0.162	0.106	0.0683
Titanium [mg/L]	0.0961	0.0670	0.0231	0.0499	0.0715	0.0491	0.111	0.0791	0.0521	0.0552	0.110
Thallium [mg/L]	< 0.00002	0.00003	0.00002	0.00003	0.00003	0.00003	0.00005	0.00003	0.00002	< 0.00002	0.00002
Uranium [mg/L]	0.000353	0.00300	0.00241	0.00953	0.00174	0.00227	0.000996	0.0115	0.00173	0.00162	0.000384
Vanadium [mg/L]	0.00280	0.00554	0.00286	0.00252	0.00353	0.00197	0.00364	0.00348	0.00253	0.00221	0.00313
Yttrium [mg/L]	0.000842	0.000369	0.000223	0.000972	0.000689	0.000938	0.00111	0.000641	0.000261	0.000378	0.000383
Zinc [mg/L]	0.035	0.020	0.026	0.082	0.034	0.038	0.030	0.023	0.033	0.033	0.033

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Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a
Paste pH [units]	01-Dec-08	09:04	9.90	10.25	9.73	10.05	10.18	10.28	9.56	10.20	10.34
Fizz Rate [---]	01-Dec-08	09:04	1	1	1	1	1	1	1	1	1
Sample [weight(g)]	01-Dec-08	09:04	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
HCl added [mL]	01-Dec-08	09:04	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
HCl [Normality]	01-Dec-08	09:04	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH [Normality]	01-Dec-08	09:04	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
NaOH to [pH=8.3 mL]	01-Dec-08	09:04	18.00	18.20	17.10	16.50	17.95	17.50	17.80	17.80	17.90
Final pH [units]	01-Dec-08	09:04	1.12	1.49	1.56	1.50	1.23	1.39	1.47	1.33	1.47
NP [t CaCO3/1000t]	01-Dec-08	09:04	5.1	4.5	7.2	8.7	5.1	6.3	5.4	5.4	5.1
AP [t CaCO3/1000 t]	01-Dec-08	09:04	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Net NP [t CaCO3/1000 t]	01-Dec-08	09:04	4.79	4.19	6.89	8.39	4.79	5.99	5.09	5.09	4.79
NP/AP [ratio]	01-Dec-08	09:04	16.5	14.5	23.2	28.1	16.5	20.3	17.4	17.4	16.5
Total Sulphur [%]	21-Nov-08	08:59	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Acid Leachable SO4-S [%]	21-Nov-08	08:59	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Sulphide-S [%]	20-Nov-08	13:49	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total Carbon [%]	21-Nov-08	08:59	0.008	0.011	0.015	0.013	0.013	0.010	0.025	0.015	0.018
Carbonate (CO3) [%]	20-Nov-08	15:38	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

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*NP (Neutralization Potential)

$$= \frac{50 \times (\text{N of HCL} \times \text{Total HCL added} - \text{N NaOH} \times \text{NaOH added})}{\text{Weight of Sample}}$$

*AP (Acid Potential) = % Sulphide Sulphur x 31.25
*Net NP (Net Neutralization Potential) = NP-AP
NP/AP Ratio = NP/AP
*Results expressed as tonnes CaCO3 equivalent/1000 tonnes of material
Samples with a % Sulphide value of <0.01 will be calculated using a 0.01 value.

Sulphur analysis performed following BC ARD Guidelines (Price 1997)

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Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a
Silver [µg/g]	01-Dec-08	08:58	0.42	0.40	0.44	0.44	0.20	0.38	0.40	0.39	0.39
Aluminum [µg/g]	02-Dec-08	09:30	64000	66000	73000	72000	62000	65000	68000	68000	67000
Arsenic [µg/g]	01-Dec-08	08:58	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Barium [µg/g]	01-Dec-08	08:58	460	420	250	190	260	400	390	470	460
Beryllium [µg/g]	01-Dec-08	08:58	2.0	1.8	1.7	2.0	1.6	1.7	2.6	1.7	1.5
Bismuth [µg/g]	01-Dec-08	08:58	< 0.09	0.49	0.20	0.13	< 0.09	0.43	0.21	0.14	0.12
Calcium [µg/g]	02-Dec-08	09:31	2500	2000	630	690	2300	2000	1600	2400	2800
Cadmium [µg/g]	01-Dec-08	08:58	0.27	0.26	0.30	0.28	0.13	0.23	0.38	0.26	0.28
Cobalt [µg/g]	01-Dec-08	08:58	2.7	3.4	6.0	4.3	2.8	3.0	3.0	3.2	3.0
Chromium [µg/g]	01-Dec-08	08:58	69	60	54	43	74	54	83	72	73
Copper [µg/g]	01-Dec-08	08:58	17	5.0	6.2	5.1	2.7	23	310	21	7.6
Iron [µg/g]	02-Dec-08	09:31	16000	18000	23000	25000	15000	18000	17000	19000	17000
Potassium [µg/g]	02-Dec-08	09:31	35000	40000	45000	50000	26000	31000	45000	32000	36000
Lithium [µg/g]	01-Dec-08	08:58	10	13	24	24	9	10	13	11	8
Magnesium [µg/g]	02-Dec-08	09:31	7800	12000	21000	37000	10000	10000	14000	10000	7900
Manganese [µg/g]	01-Dec-08	08:58	210	270	320	370	240	240	190	280	250
Molybdenum [µg/g]	01-Dec-08	08:58	3.1	3.5	2.3	2.2	3.4	2.1	3.8	3.0	3.2
Sodium [µg/g]	02-Dec-08	09:32	19000	18000	3300	2600	23000	23000	9400	27000	26000
Nickel [µg/g]	01-Dec-08	08:58	7.9	8.3	13	9.9	11	7.7	9.5	8.9	8.6

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Lead [µg/g]	01-Dec-08	08:58	13	14	12	13	15	13	74	18	16
Antimony [g/t]	01-Dec-08	08:58	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium [µg/g]	01-Dec-08	08:58	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Tin [µg/g]	01-Dec-08	08:58	6.6	7.3	7.2	3.0	2.5	8.9	5.8	6.3	4.4
Strontium [µg/g]	01-Dec-08	08:58	43	40	14	16	35	32	30	62	78
Titanium [µg/g]	01-Dec-08	08:58	1400	1500	2000	1800	980	1500	1400	1600	1500
Thallium [µg/g]	01-Dec-08	08:58	0.26	0.46	0.52	0.59	0.26	0.37	0.35	0.39	0.37
Uranium [µg/g]	01-Dec-08	08:58	3.7	6.1	3.5	5.7	7.6	5.9	4.6	6.1	6.1
Vanadium [µg/g]	01-Dec-08	08:58	13	14	34	26	9	14	13	14	14
Yttrium [µg/g]	01-Dec-08	08:58	9.1	9.5	8.6	8.7	8.5	9.2	10	11	15
Zinc [µg/g]	01-Dec-08	08:58	27	40	53	87	31	33	920	92	48

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Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a
SiO2 [%]	16-Dec-08	11:56	72.1	72.8	67.5	64.0	76.7	73.7	72.5	73.2	74.0
Al2O3 [%]	16-Dec-08	11:56	14.0	13.1	14.6	15.5	11.7	13.3	13.6	13.4	13.5
Fe2O3 [%]	16-Dec-08	11:56	2.63	2.60	4.16	3.79	2.12	2.66	2.48	2.69	2.48
MgO [%]	16-Dec-08	11:56	1.50	2.01	4.80	6.90	1.68	1.88	2.36	1.78	1.38
CaO [%]	16-Dec-08	11:56	0.41	0.31	0.10	0.11	0.34	0.32	0.26	0.36	0.42
Na2O [%]	16-Dec-08	11:56	3.04	2.67	0.43	0.40	3.22	3.38	1.44	3.79	3.78
K2O [%]	16-Dec-08	11:56	4.02	4.14	4.70	5.41	2.42	3.12	4.95	3.15	3.82
TiO2 [%]	16-Dec-08	11:56	0.30	0.29	0.38	0.36	0.17	0.30	0.30	0.31	0.30
P2O5 [%]	16-Dec-08	11:56	0.08	0.06	0.08	0.10	0.02	0.07	0.08	0.08	0.07
MnO [%]	16-Dec-08	11:56	0.03	0.04	0.04	0.06	0.02	0.03	0.03	0.04	0.03
Cr2O3 [%]	16-Dec-08	11:56	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
V2O5 [%]	16-Dec-08	11:56	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
LOI [%]	16-Dec-08	11:56	1.36	1.27	2.61	2.72	1.01	1.19	1.81	0.98	0.96
Sum [%]	16-Dec-08	11:56	99.5	99.3	99.4	99.3	99.5	100.0	99.7	99.8	100.8

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Sample Date & Time			Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a	Date:n/a
Sample [weight(g)]	27-Nov-08	08:16	300	300	300	300	300	300	300	300	300
Ext.Fluid [#1 or #2]	27-Nov-08	08:16	DI	DI	DI	DI	DI	DI	DI	DI	DI
ExtVolume [ml]	27-Nov-08	08:16	900	900	900	900	900	900	900	900	900
InitialpH [units]	27-Nov-08	08:16	9.12	9.31	8.90	8.98	9.34	8.74	9.37	9.31	9.77
Final pH [units]	27-Nov-08	08:16	9.69	9.89	9.63	9.92	9.90	9.97	9.70	9.92	9.92
Sulphate [mg/L]	12-Dec-08	16:00	0.4	0.8	6.5	3.9	2.6	3.3	3.4	4.6	3.1
Mercury [mg/L]	03-Dec-08	10:14	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Aluminum [mg/L]	04-Dec-08	11:36	2.54	4.20	1.23	3.62	2.29	4.92	1.34	4.32	3.36
Arsenic [mg/L]	04-Dec-08	11:36	< 0.0002	0.0006	0.0017	0.0074	0.0022	0.0003	0.0004	0.0006	0.0013
Silver [mg/L]	04-Dec-08	11:36	0.00001	0.00002	< 0.00001	0.00001	< 0.00001	0.00001	< 0.00001	0.00002	0.00002
Barium [mg/L]	04-Dec-08	11:36	0.497	0.594	0.495	0.585	0.666	0.580	0.710	0.571	0.574
Beryllium [mg/L]	04-Dec-08	11:36	0.00014	0.00019	0.00015	0.00050	0.00010	0.00012	0.00011	0.00017	0.00010
Boron [mg/L]	04-Dec-08	11:36	0.112	0.0818	0.115	0.0857	0.0676	0.0820	0.122	0.0873	0.0719
Bismuth [mg/L]	04-Dec-08	11:36	0.00002	0.00021	0.00003	0.00004	0.00002	0.00016	0.00001	0.00008	0.00008
Calcium [mg/L]	03-Dec-08	10:14	0.32	0.28	1.66	0.39	1.77	0.29	1.99	0.34	0.69
Cadmium [mg/L]	04-Dec-08	11:36	0.000011	0.000026	0.000011	0.000019	0.000009	< 0.000003	0.000017	0.000020	0.000021
Cobalt [mg/L]	04-Dec-08	11:36	0.000164	0.000385	0.000238	0.000313	0.000141	0.000408	0.000125	0.000391	0.000407
Chromium [mg/L]	04-Dec-08	11:36	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0006	0.0007
Copper [mg/L]	04-Dec-08	11:36	0.0060	0.0010	0.0005	0.0060	< 0.0005	0.0021	0.0030	0.0016	0.0008
Iron [mg/L]	03-Dec-08	10:14	0.87	1.67	0.51	1.29	0.86	2.00	0.49	2.02	2.02
Potassium [mg/L]	03-Dec-08	10:14	4.45	6.34	12.8	8.82	8.06	4.96	11.1	4.58	7.70
Lithium [mg/L]	04-Dec-08	11:36	0.007	0.007	0.009	0.005	0.005	0.005	0.006	0.006	0.005
Magnesium [mg/L]	03-Dec-08	10:14	0.560	1.33	1.04	2.08	0.897	1.32	1.01	1.30	1.16

OnLine LIMS

SGS Lakefield Research Limited
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

Mod SPLP1312 DI water only @3:1 for 24 hours

LR Report : CA10356-NOV08

Analysis	3: Analysis Approval Date	4: Analysis Approval Time	5: BRMR-2008-02 ARD-1	6: BRMR-2008-02 ARD-2	7: BRMR-2008-04 ARD-1	8: BRMR-2008-04 ARD-2	9: BRMR-2008-04 ARD-3	10: BRMR-2008-02 ARD-3	11: BRMR-2008-03 ARD-1	12: BRMR-2008-03 ARD-2	13: BRMR-2008-03 ARD-3
Manganese [mg/L]	04-Dec-08	11:36	0.0129	0.0305	0.00666	0.0203	0.0156	0.0333	0.00781	0.0360	0.0352
Molybdenum [mg/L]	04-Dec-08	11:36	0.00043	0.01290	0.00330	0.00075	0.00253	0.00060	0.00059	0.00099	0.00247
Sodium [mg/L]	03-Dec-08	10:14	6.16	8.74	18.7	10.5	9.04	7.88	13.4	8.64	8.65
Nickel [mg/L]	04-Dec-08	11:36	0.0003	0.0003	0.0003	0.0005	0.0002	0.0003	0.0002	0.0003	0.0004
Lead [mg/L]	04-Dec-08	11:36	0.00172	0.00211	0.00081	0.00135	0.00185	0.00304	0.00100	0.00275	0.00271
Antimony [mg/L]	04-Dec-08	11:36	0.0003	0.0007	0.0004	0.0008	0.0005	0.0003	0.0003	0.0003	0.0004
Selenium [mg/L]	04-Dec-08	11:36	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Tin [mg/L]	04-Dec-08	11:36	0.00024	0.00041	0.00014	0.00021	0.00018	0.00056	0.00010	0.00039	0.00040
Strontium [mg/L]	03-Dec-08	10:14	0.0104	0.0101	0.0173	0.0121	0.0212	0.0089	0.0194	0.0106	0.0151
Titanium [mg/L]	04-Dec-08	11:39	0.0557	0.114	0.0214	0.0640	0.0504	0.144	0.0296	0.150	0.150
Thallium [mg/L]	04-Dec-08	11:39	< 0.00002	0.00004	< 0.00002	0.00003	< 0.00002	0.00004	< 0.00002	0.00004	0.00004
Uranium [mg/L]	04-Dec-08	11:42	0.00170	0.00609	0.00037	0.00402	0.00627	0.00203	0.000711	0.00584	0.00373
Vanadium [mg/L]	04-Dec-08	11:42	0.00428	0.00449	0.00361	0.00393	0.00277	0.00473	0.00296	0.00523	0.00628
Tungsten [mg/L]	04-Dec-08	11:42	0.00317	0.00187	0.00232	0.00205	0.00173	0.00175	0.00247	0.00273	0.00154
Yttrium [mg/L]	04-Dec-08	11:42	0.000803	0.00212	0.000231	0.00103	0.00130	0.000909	0.000366	0.00241	0.00356
Zinc [mg/L]	04-Dec-08	11:42	0.016	0.022	0.008	0.025	0.013	0.023	0.012	0.026	0.020

Brian Graham B.Sc.
Project Specialist
Environmental Services, Analytical

OnLine LIMS

Knight Piésold CONSULTING

MEMORANDUM

To:	Jim Millard, Mr. Derek Chubb	Date:	March 12, 2009
Copy To:	Steve Aiken, Houston Kempton, Knight Piésold	File No.:	NB102-181/15.01
From:	Quentin U.I. Hamilton	Cont. No.:	NB09-00189
Re:	Environmental Assessment of Waste Materials Originating from the Bulk Sample Program from Deposit No. 1, Baffinland Mary River Project		

1.0 INTRODUCTION

Baffinland Iron Mines Corporation ('Baffinland') carried out a bulk sample program at its Mary River Project Site in 2008 to further evaluate the metallurgical properties of iron ore from Deposit No. 1. Bulk sampling is a standard phase in mine feasibility assessment that allows testing of full-scale metal recovery on a representative sample of ore. In this case, approximately 130,000 tonnes of ore was obtained by blasting and excavating a small bench on the side of Deposit No. 1.

This work follows predictive studies on representative drill cores that were completed as part of the Bulk Sampling Management Plan. The study results in that plan indicated that there would be a very low potential arising from acid rock drainage (ARD)/metal leaching (ML) of residual materials that remained after the completion of the Bulk Sampling Program. The environmental geochemical testing program that is reported, herein, was designed to validate these previous results.

In addition to the metallurgical testing on ore, an environmental geochemical testing program was conducted to assess the potential for excavated materials (i.e. waste ore and surplus ore) and exposed excavation faces to leach metals and/or acidity that could degrade the quality of receiving surface waters. This memo presents the results of the environmental assessment of the bulk sample program wastes, including a map of the environmental sample locations relative to the excavation, a list of analytical methods, tables of analytical results from tests conducted on the samples, and conclusions on the potential for environmental degradation attributable to the long-term storage of bulk sample wastes left on site.

In general, mine wastes have the potential to degrade water quality when they contain sulphide minerals, which oxidize when exposed to the atmosphere and release soluble acidity and metals, or when they contain soluble minerals, which will leach metals when they dissolve in percolating water. The environmental assessment of the bulk sample wastes evaluated the following residual materials as potential sources of metals and / or acidity (see table below).

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Summary of Bulk Sample Program Wastes

Waste	Description	Location	Estimated Stockpile Mass (Tonnes)
Weathered ore	Surficial ore excavated from the surface of Deposit No. 1	On Deposit No. 1 (at Mary River site)	28,800
Representative ore	Ore left exposed in the bench walls and surplus ore grade material	On Deposit No. 1 (at Mary River site)	6,500
		Milne Inlet	6,000
Non-representative ore	High manganese 'waste' ore	By crusher (at Mary River site)	31,900
		Used to construct the ore stockpile pad at Milne Inlet	23,700

Figures 1 and 2 show the approximate location of the waste materials.

The methods of sampling and analysis used in this program generally followed those prescribed in Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia (Price, 1997), which is the standard guide used by the mining industry and regulators for Canadian projects.

2.0 BULK SAMPLE WASTE GEOCHEMISTRY

2.1 Methods

The methods used in this assessment generally followed the recommended practices as set out in the Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia (Price, 1997). The specific number of samples required to adequately characterize the geochemical characteristics of mined rock is somewhat arbitrary. The British Columbia guidelines for evaluating metal leaching from mine rock provides preliminary guidance on the number of samples required based upon tonnage of waste.1 The Price guidance acknowledges that the required number of samples is approximate, and that the decision is influenced by supporting information such as knowledge and spatial variability of geology and mineralogy on a site by site basis. For a deposit with highly predictable mineralogy and where the results of initial geochemical characterization studies indicate a low risk of metal leaching and/or ARD, it is our opinion that it is reasonable and appropriate to reduce sampling intensity accordingly.

The estimated number of samples required for environmental characterization of the bulk sample wastes (based on tonnages and the British Columbia Guidance, Price, 1997) are:

- 5 samples of weathered ore (based on 28,800 t)
- 3 samples of representative ore (based on 12,500 t)
- 7 samples of non-representative ore (based on 55,600 t)

[1] Number of samples estimated according to the equation: No. of samples = 0.0347 * $(\text{tonnes rock})^{0.479}$ (based on extrapolation of Price 1997 sample numbers).

The total number of samples selected for laboratory testing met the guidelines suggested by Price, with 2008 sampling including collection of:

- 3 samples of weathered ore consisting of samples of surficial, oxide material stockpiled on Deposit No. 1
- 15 samples of representative ore consisting of ore-grade material stored at Mary River and at Milne Inlet (mixed magnetite dominant and hematite dominant ore), as well as material representative of the exposed bulk sample bench surfaces (predominantly hematite dominant ore)
- 5 samples of non-representative ore consisting of high manganese ore stockpiled at the Mary River site and used to form the pad for the ore stockpile located at Milne Inlet (composite samples)

In accordance with the requirements of the Bulk Sample Water License (Nunavut Water Board, 2007), during 2008 a monitoring program was initiated to monitor seepage / runoff quality at a number of locations in the vicinity of the bulk sample waste storage areas. During 2008 a total of four water samples were collected, with details as follows:

- Sample MRY-9 collected on July 25, 2008 downgradient from the bulk sample pit. This water sample was likely representative of subsurface flow from the hematite/magnetite pit area.
- Sample MRY 10 collected on August 16, 2008 from the weathered ore stockpile located adjacent to the bulk sample pit. This water sample was likely representative of surface runoff with a possible minor seepage component.
- Sample MRY 11 collected on August 20, 2008 from the crusher area. This water sample was likely representative of surface runoff from the coarse and fine ore stockpiles located at the Mary River site.
- Sample MRY 12 - collected on June 14, 2008 which consisted of snowmelt runoff from the east side of the ore stockpile located at Milne Inlet

Sampling locations are shown on Figures 1 and 2.

2.2 Laboratory Analysis

In total, 23 samples were submitted to the analytical laboratory at SGS Lakefield Research Ltd. in Ontario for the following analyses:

- Major element and trace element content (by ICP-MS)
- Major element content (by XRF)
- Modified acid base accounting (Lawrence, 1997) to assess acid generating characteristics
- Susceptibility to leach metals measured using a short-term leach test (modified SPLP (EPA 1312))[2.]

3.0 RESULTS

Analytical test results are presented on Tables 1 to 4. Results of acid base accounting (ABA) analyses are presented on Figure 3, and short-term leach test results (in comparison to water quality criteria) are presented on Figures 4 to 6.

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[2] Synthetic Precipitation Leaching Procedure using deionized water and a liquid to solid ratio (by wt.) of 3:1.

3.1 Weathered Ore

The weathered ore contained iron at between 37 and 60 % (w/w). Manganese and aluminum were also relatively elevated in comparison to other major and trace elements.

All three weathered ore samples contained sulphide-sulphur below the laboratory detection limit of 0.01 % (w/w).The neutralization potential: acid potential (NP/AP) ratio for weathered ore samples ranged from 5.8 to 13.5 with a mean value of 9.8. Carbonate neutralization potential (Ca-NP) exceeded NP in all 3 samples; average Ca-NP (16.4 t $CaCO_3$/t) exceeded average NP (3.0 t $CaCO_3$/t), suggesting that there is some iron carbonate in the ore (i.e., minerals that contain carbonate but that do not contribute to actual acid neutralization when subjected to conditions that oxidize the iron).

3.2 Representative Ore

While the Bulk Sample ore samples were not submitted for mineralogical testing, the results of XRD testing on other ore samples collected from elsewhere within Deposit No. 1 indicated the presence of minor amounts of siderite ($FeCO_3$), along with a similar discrepancy between NP and Ca-NP values

The representative ore material contained iron concentrations ranging from 34 to 68 % (w/w). (Tables 1 and 2). Manganese and aluminum were also relatively elevated in comparison to other major and trace elements.

All but one of the 15 representative ore samples contained sulphide at concentrations below the laboratory detection limit of 0.01 % (w/w), and the one exception (sample 08ARD01) had a very low sulphide concentration of 0.01 % (w/w) (Figure 3). This indicates that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the materials, and that the risk of metals release can be qualitatively estimated from the short-term leach tests described below.

The neutralization potential: acid potential (NP/AP) ratio for representative ore samples ranged from 3.9 to 14.5 with a mean value of 7.0. Carbonate neutralization potential (Ca-NP) exceeded NP in the majority of samples; average Ca-NP (15.0 t CaCO3/t) exceeded average NP (2.2 t CaCO3/t), suggesting that there is some iron carbonate in the ore (i.e., minerals that contain carbonate but that do not contribute to actual acid neutralization when subjected to conditions that oxidize the iron).

Sulphate concentrations in the short-term leach test leachate ranged from 4 to 46 mg/L. Generally only minor leaching of metals was observed (Table 4 and Figures 4 and 5). Compared to other trace metals, barium leaching was moderately elevated with concentrations ranging from 0.2 to 0.6 mg/L.

The final pH observed in the short-term leach test ranged from 5.4 to 7.9, with an average value of 6.2.

3.3 Non-representative Ore

The non-representative ore samples contained average iron concentrations ranging from 71 to 74% (w/w)[3] (Tables 1 and 2). Aluminum and manganese were relatively elevated in comparison to other parameters.

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[3] Note that the analytical method for determining iron concentrations (ICP-MS) is prone to interference at elevated iron concentrations, hence, these values are indicative only.

The sulphide-sulphur concentration was below detection limits at less than 0.01 % (w/w) in all 5 samples, with the exception of Composite No. 2 which had a sulphide concentration of 0.02 % (w/w) (Table 3, Figure 3). Ca-NP values exceeded NP values in all 5 samples with respective mean values of 10.4 and 1.9 t Ca CO_3/1000 t. NP/AP values ranged from 1.6 to 8.1, with a mean value of 5.9. Again, results indicate the likely presence of some iron carbonate, but the absence of sulphide sulphur indicates that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the HMO and that the risk of metals release can be qualitatively estimated from the short-term leach test results.

Metal leaching from HMO observed in the short-term leach tests was low to negligible for all 5 samples. The final pH observed in the short-term leach test ranged from 7.1 to 8.2, with an average value of 7.6.

3.4 Seepage and Runoff

The results of seepage / runoff monitoring during 2008 are summarised in Table 5 in comparison to the Bulk Sample water license / Metal Mine Effluent Regulation (MMER[4]) parameter limits. During 2008 only a single monitoring event was carried out due to a lack of surface flow throughout the majority of the year.

All water license parameters were present at concentrations below the water license / MMER limits for a grab sample.

4.0 DISCUSSION

4.1 Risk of Acid Generation

Based upon the test results it is concluded that the waste ore and the exposed bench and wall rock surfaces have virtually no risk of generating acidic leachate. This is based on the absence of detectable sulphide sulphur in most samples, and the very low concentrations (below 0.02% (w/w)) in the few samples with detectable sulphide-sulphur.

The screening criteria used to evaluate the ABA results were based on Price, 1997. The risk of acid generation was based on the ratio of NP/AP, as summarized in the table below.

ABA Screening Criteria (Based on Price, 1997)

Potential for ARD	Initial Screening Criteria	Conclusions
Likely	NP/AP <1	Likely acid generating, unless sulphide minerals are non-reactive
Possibly	1<NP/AP<2	Possibly acid generating if NP is insufficiently reactive or is depleted at a rate faster than sulphides
Low	NP/AP 2-4	Low risk of acid generation
None	NP/AP >4	Non-acid generating

[4] MMER Schedule 4 list of parameters (MMER, 2002).

Based on the NP/AP ratio, all waste ore samples have excess neutralizing potential. This, in conjunction with the very low sulphide content, further supports the finding that none of the bulk sample waste ore or bench material will generate acidic leachate.

The British Columbia metal leaching guidance (Price, 1997) also concludes that samples containing less than 0.3% (w/w) sulphide-sulphur and which have a rinse pH greater than 5.5 can be considered to be non-acid generating. This is because any acidity arising from the oxidation of such minor amounts of sulphide minerals will be neutralized by acid neutralizing minerals present in the rock. Generally, this 0.3% (w/w) sulphide-sulphur cut off value is useful for broadly classifying such low sulphide material as non-acid generating.

The exception to the above general rule occurs when the rock is comprised entirely of minerals which are poor at neutralizing acidity (i.e. silicates, potassium feldspar, phyllosilicates (e.g. mica) etc.). This is the case with Deposit No. 1 waste rock, and hence, the acid generating status of rock containing less than 0.3% (w/w) sulphide-sulphur is less certain.

For completeness, the following sections discuss the acid base accounting results for the individual ore types.

4.2 Weathered Ore

Figure 3 shows a plot of acid potential versus neutralization potential. All 3 weathered ore samples were classified as likely non-acid generating according to the ABA screening criteria presented by Price.

The carbonate neutralization potential (Ca-NP) values were higher than neutralization potential (NP) values for all 3 weathered ore samples. This has been observed in other rock types present in Deposit No. 1 and is likely attributable to the presence of iron carbonates (e.g. siderite) which provide no net NP. For evaluating acid production potential, the more conservative NP data (not the Ca-NP) are used.

4.2.1 Representative Ore

Figure 3 shows a plot of acid potential versus neutralization potential. All 15 residual ore samples were classified as likely non-acid generating according to the ABA screening criteria presented by Price. All 15 samples contained sulphide-sulphur at or below the analytical detection limit of 0.01% (w/w) and all 15 samples had an NP/AP ratio above 4 (i.e., there was at least a 4-fold excess of acid neutralizing potential in all waste rock samples), with the exception of sample 08ARD07 which had an NP/AP ratio of 3.9 (i.e. very marginally below the threshold value of 4). The presence of sulphate in the short-term leach test leachate may indicate residual sulphate produced by sulphide minerals that oxidized over geologic time.

The carbonate neutralization potential (Ca-NP) values were typically higher than neutralization potential (NP) values for the majority of the representative ore samples, as discussed above.

4.2.2 Non-representative Ore

Figure 3 shows a plot of acid potential versus neutralization potential. Review of this figure indicates that 4 of the 5 non-representative ore samples are predicted to be likely non-acid generating, with the exception of sample Composite No. 2 which was predicted to be possibly acid generating. However, in reality with a sulphide-sulphur concentration of 0.02 % (w/w), it is unlikely that this sample would actually generate acidity.

As with the other ore samples, the carbonate neutralization potential (Ca-NP) values significantly exceeded the neutralization potential (NP) values for all samples, which is likely indicative of the presence of iron carbonate minerals present in the ore samples.

4.3 Risk of Metal Leaching

4.3.1 Short-term Leach Tests

Results of the short-term leach tests (i.e., modified Synthetic Precipitation Leach Procedure tests, based on extraction of rock samples in a 24-hr reactor at 1:3 rock: water ratio (by weight)) are presented in Table 4. Figures 4 and 5 show a comparison between leach test results and Water License and MMER parameter concentration limits, respectively. This comparison indicates roughly those parameters which may have a greater potential to cause degradation of water quality in receiving waters. However, the test results are ‘operationally defined’, meaning that the specific concentration values are influenced by the laboratory test methods. An assessment of actual degradation of receiving water would need to consider site-specific field conditions, including water: rock ratio, dilution and attenuation during transport, and volumetric flow of receiving waters.

Results of the short-term leach tests were compared to:

- The Bulk Sample Program Water License concentration limits - These limits represent the maximum allowable concentrations of selected parameters in drainage emanating from the bulk sample bench area and stockpiled waste materials/ore.
- Metal Mine Effluent Regulations (MMER) Schedule 4 concentration limits - Anticipated to apply as end-of-pipe discharge limits for any impacted drainage arising from mine wastes for the Mary River Project.

Figures 4 to 5 show plots of the maximum leached metal concentrations from the short-term leach tests (for all samples) in comparison to the Water License, MMER and CCME PAL criteria.

These plots indicate:

- Concentrations of parameters listed in the Bulk Sample Water License (arsenic, copper, nickel, lead and zinc) were all below (and for some parameters significantly below) the maximum allowable weekly average concentrations. The maximum allowable concentrations for a grab sample stipulated in the Bulk Sample Water License are 50% of the allowable weekly average concentrations, which further illustrates the low potential for trace element leaching from the waste materials.
- Concentrations of MMER parameters (arsenic, copper, nickel, lead and zinc) observed in the short-term leach tests were all below MMER Schedule 4 concentration limits for a grab sample

Overall the short-term leach test data presented in Table 4 indicates a low potential of the Bulk Sample waste materials to leach significant quantities of metals and non-metals. Solutes released from the bulk sample waste ore will be leached out over time, and during transport these solutes will be attenuated by dilution during transport and in receiving waters, and by precipitation and adsorption to minerals. An assessment of actual effects on receiving water would need to quantitatively consider these effects.

However, the results of the short-term leach tests (Table 4) do indicate that the waste ore materials have a low risk of leaching significant quantities of metals.

The lowest final pH observed in the short-term leach tests was 5.4 (for residual ore sample 08ARD05). Overall, the average final effluent pH observed in the short-term leach tests for all samples was 6.3, which is above the MMER Schedule 4 lower pH limit of pH 6.0

4.3.2 Seepage / Runoff Monitoring

The results of the single monitoring event carried out during 2008 indicate that the Bulk Sample wastes and exposed benches have a low potential for leaching metals and/or acidity.

5.0 CONCLUSIONS

Key conclusions regarding potential water quality degradation attributable to wastes generated during the bulk sample program were:

1. Based upon the test results, it is concluded that the excavation surfaces and ore form the bulk sample program have essentially no potential to produce acid rock drainage.
2. Metal concentrations in laboratory leach tests for all samples were below the Bulk Sample Water License and MMER Schedule 4 limits (i.e., the latter being standards generally applicable to mine drainage effluents released during mining operations).
3. The results of the short-term leach tests indicate that overall it is not anticipated that the Bulk Sample waste materials will leach significant quantities of metals / non-metals, and consequently, potential impacts to receiving waters will likely be negligible.
4. NP is considered to be a more reliable measure of acid neutralizing capacity than Ca-NP for all of the bulk sample waste ore samples.
5. Near complete freezing of permanently stockpiled rock will occur relatively quickly, leaving meteoric water to interact only with the near-surface active zone and reducing the volume of ore or bench material available as a source of solutes to runoff.
6. Ongoing monitoring of seepage / runoff from the Bulk Sample wastes and exposed benches is required to confirm the expected low potential for leaching of metals and/or acidity.

6.0 MONITORING PROGRAM

During 2008 Baffinland began a proactive monitoring program to monitor drainage emanating from stockpiled material located at the Mary River site and at Milne Inlet, and from the bulk sample bench area.

Due to intermittent precipitation, this monitoring program consists of seasonal monitoring of general parameters in the field (flow rate, pH, temperature and conductivity) and submission of water samples for laboratory analysis of trace and major metals, arsenic and sulphate.

The results of this ongoing monitoring program will be used to assess the environmental reactivity of the materials under actual site conditions and will be used to assess potential future remediation options, if required.

Knight Piésold
CONSULTING

7.0 REFERENCES

CCME PAL, 2007 Canadian Council of Ministers of the Environment Update Table 7.0 for Canadian Water Quality Guidelines for the Protection of Aquatic Life; September, 2007.

Knight Piésold, 2008 Mary River Project Environmental Impact Assessment, Appendix 6A Draft Report on Geochemical Characterization Program - unissued

Lawrence, R.W. and Wang, Y., 1997 Determination of Neutralization Potential in the Prediction of Acid Rock Drainage, Proc. 4th International Conference on Acid Rock Drainage, Vancouver, BC, p449-464.
MMER, 2002 P.C. 2002-987 6 June, 2002.

MMER, 2002 *Metal Mine Effluent Regulations, June 6, 2002.*

Nunavut Water Board, 2007 Bulk Sample Water License No. 2BB-MRY0710, issued to BIMC on July 27, 2007.

Nunavut Water Board, 2007 Bulk Sample Water License No. 2BB-MRY0710, issued to BIMC on July 27, 2007.

Price, W.A., 1997 Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia; Price, W.A., Energy and Minerals Division, Ministry of Employment and Investment, BC.

Signed: for
Quentin U.I. Hamilton
Senior Scientist

Approved: For
Ken D. Embree, P.Eng.
Managing Director

Attachments:

Table 1 Rev 0	Elemental Composition (ICP) Results for Bulk Sample Waste Ore Samples
Table 2 Rev 0	Whole Rock Analysis (XRF) Results for Bulk Sample Waste Ore Samples
Table 3 Rev 0	Modified Acid Base Accounting Results for Bulk Sample Waste Ore Samples
Table 4 Rev 0	Short-Term Leach Test Results for Bulk Sample Waste Ore Samples
Table 5 Rev 0	Seepage and Runoff Water Quality Results
Figure 1 Rev 0	Bulk Sampling Program Waste Locations (and Monitoring Locations) at Mary River
Figure 2 Rev 0	Bulk Sampling Program Waste Locations (and Monitoring Locations) at Milne Inlet
Figure 3 Rev 0	Bulk Sample Waste Ore - Acid Potential (AP) vs. Neutralization Potential (NP)
Figure 4 Rev 0	Bulk Sample Waste Ore - Short-Term Leach Test Results in Comparison to Bulk Sample Water License Limits
Figure 5 Rev 0	Bulk Sample Waste Ore - Short-Term Leach Test Results in Comparison to MMER Limits

Knight Piésold
CONSULTING

TABLE 1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

ELEMENTAL COMPOSITION (ICP) RESULTS FOR BULK SAMPLE WASTE ORE SAMPLES

Print Mar/12/09 13:30:00

Parameter		Units	08ARD01	08ARD02	08ARD03	08ARD04	08ARD05	08ARD07	08ARD08	08ARD11	08ARD12	08HEM01	08HEM02	08HEM03	08HEM04	08HEM05	08HEM06	08ARD06	08ARD09	08ARD10	Composite No 1 (1373,1374,1375, 1376)	Composite No 2 (1372,1389,1392)	Composite No 3 (1377,1378,1390, 1391,1393)	Composite No 4 (1370,1371,1382,1 383,1386)	Composite No 5 (1379,1380,1381,138 4,1385,1387,1388)
Sample Description			magnetite + hematite + minor limonite (medium weathering)	magnetite + hematite (medium weathering)	hematite + limonite + magnetite (medium weathering)	magnetite + limonite + hematite (medium weathering)	hematite + minor magnetite + minor limonite (medium weathering)	hematite + magnetite (medium weathering)	hematite + magnetite (medium weathering)	magnetite + hematite + limonite (medium weathering)	hematite + minor magnetite + minor limonite (medium weathering)	Hematite + minor magnetite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	magnetite + hematite + limonite + minor altered schist (highly weathered)	magnetite + hematite + limonite + minor altered schist (highly weathered)	hematite + limonite + magnetite + minor altered schist (highly weathered)	High Manganese Ore	High Manganese Ore	High Manganese Ore	High Manganese Ore	High Manganese Ore
Sample Location	**N**		7915155	7915171	7915190	7915202	7915214	7915178	7915160	7915197	7915188	7914720	7914697	7914673	7914659	7914638	7914614	7915195	7915177	7915193	Composite of material stockpiled at Mary River site and material used for the construction of the ore stockpile pad at Milne Inlet				
	E		563455	563472	563488	563461	563432	563403	563419	563443	563453	563305	563288	563269	563244	563228	563206	563395	563422	563422					
			Representative Ore															**Weathered Ore**			**Non-representative Ore**				
Mercury (Hg)		µg/g	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	nd	nd	nd	nd	nd
Silver (Ag)		µg/g	0.06	0.11	0.11	0.08	0.45	< 0.01	< 0.01	0.14	0.22	0.26	0.05	0.04	0.06	0.06	0.07	0.07	0.13	0.16	0.27	0.12	0.10	0.09	0.06
Aluminum (Al)		µg/g	1,100	5,700	15,000	7,800	40,000	1,300	4,100	6,700	13,000	2,700	750	1,000	980	800	3,730	16,000	30,000	21,000	2300	2400	2600	2100	2000
Arsenic (As)		µg/g	73	42	34	25	21	90	60	14	12	11	8.9	7.1	6.0	7.5	5.9	90	17	13	1.7	1.8	1.7	3.6	2.3
Barium (Ba)		µg/g	17	18	8.5	6.3	14	6.5	7	13	9.3	10	13	4.5	15	13	14	3.3	18	17	10	9.8	4.8	11	3.8
Beryllium (Be)		µg/g	0.5	0.5	0.2	0.4	1.1	0.1	0.2	0.7	0.6	0.6	0.2	0.6	0.4	0.2	0.3	0.2	1.1	2.1	0.33	0.27	0.30	0.29	0.30
Bismuth (Bi)		µg/g	0.58	0.65	0.42	0.77	6.3	< 0.09	0.56	0.67	3.8	0.87	1.0	< 0.09	0.16	< 0.09	0.10	1	2	1.2	1.6	1.6	1.5	3.3	2.9
Calcium (Ca)		µg/g	140	69	250	170	200	70	51	160	110	60	62	71	73	66	73	190	180	250	340	180	410	480	410
Cadmium (Cd)		µg/g	< 0.02	< 0.02	0.07	< 0.02	0.18	< 0.02	< 0.02	0.14	0.06	0.02	< 0.02	< 0.02	0.04	< 0.02	< 0.02	0.05	0.05	0.05	0.04	< 0.02	< 0.02	< 0.02	0.03
Cobalt (Co)		µg/g	9.6	36	19	6.4	15	4.5	4.5	22	24	10	16	6.1	22	9.5	13	5.2	30	31	15	16	15	18	15
Chromium (Cr)		µg/g	150	120	94	88	99	49	32	140	240	220	200	150	190	210	180	35	66	160	200	150	130	170	160
Copper (Cu)		µg/g	19	14	7.5	18	60	2	5	7.2	7	5.2	1.3	< 0.1	0.8	< 0.1	14	71	45	21	46	39	31	35	27
Iron (Fe)		µg/g	360,000	630,000	610,000	630,000	370,000	630,000	650,000	640,000	620,000	650,000	650,000	600,000	340,000	640,000	680,000	600,000	410,000	370,000	710000	730000	720000	720000	740000
Potassium (K)		µg/g	78	120	92	130	190	83	140	220	160	90	68	100	80	76	90	48	160	290	510	970	160	550	190
Lithium (Li)		µg/g	< 3	4	< 3	< 3	66	< 3	< 3	< 3	31	< 3	< 3	< 3	< 3	< 3	< 3	< 3	83	40	< 2	< 2	< 2	< 2	< 2
Magnesium (Mg)		µg/g	180	110	2,800	1,100	3,100	160	660	830	9,000	190	90	67	56	100	190	2,200	9,000	6,800	630	540	870	540	610
Manganese (Mn)		µg/g	1,400	2,100	4,800	2,800	4,200	1,100	1,600	2,200	1,200	820	1,100	300	1,100	870	1,030	4,700	2,900	2,700	3100	3500	2800	2600	3000
Molybdenum (Mo)		µg/g	5.1	8.1	3.5	8.6	6.3	1.8	2	8.2	11	4.5	7.1	2.9	9.0	5.0	4.8	1.8	2.7	2.5	7.5	6.8	6.5	7.0	7.4
Sodium (Na)		µg/g	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	600	290	90	260	88
Nickel (Ni)		µg/g	25	52	33	21	47	22	19	45	61	53	37	30	31	34	69	28	82	91	34	36	35	35	34
Lead (Pb)		µg/g	5.4	5.1	4.8	4.1	13	1.4	1.3	7.4	7.5	3.2	9.9	3.6	12	4.2	7.6	3.1	3.5	4.3	8.9	8.9	8.4	8.0	8.0
Antimony (Sb)		µg/g	6.1	4	2.7	2	1.5	8.7	5.2	0.9	0.8	0.8	0.5	0.7	0.1	0.4	0.2	8	1.3	0.9	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Selenium (Se)		µg/g	< 1	1	1	< 1	4	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.1	1.5	0.7	0.7	0.9
Tin (Sn)		µg/g	0.8	< 0.6	< 0.6	1.8	2	1	0.8	1.1	1.4	< 0.6	< 0.6	< 0.6	0.7	< 0.6	< 0.6	0.9	< 0.6	< 0.6	< 0.5	< 0.5	0.7	< 0.5	0.6
Strontium (Sr)		µg/g	2.6	2.76	1.27	2.1	4.2	1.01	2.37	4.75	3.31	1.84	1.90	2.48	2.28	1.60	1.68	0.74	4.13	3.44	4.6	3.6	2.5	3.7	1.9
Titanium (Ti)		µg/g	39	330	760	340	3200	51	180	300	780	120	17	22	28	23	170	1100	2500	1700	64	73	98	76	82
Thallium (Tl)		µg/g	< 0.02	0.04	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Uranium (U)		µg/g	2.3	2.6	1.5	0.97	1.5	0.24	0.56	2.4	3.2	2.8	3.0	0.79	2.1	0.97	1.3	0.3	1.5	1.8	2.9	3.1	2.9	2.8	2.8
Vanadium (V)		µg/g	5.8	15	27	33	130	7	14	25	36	13	3.3	4.0	5.7	4.8	8.6	44	89	57	6	7	8	6	6
Yttrium (Y)		µg/g	5.5	4.8	4.5	3.4	4.4	1.2	1.5	11	8.8	6.7	3.5	3.0	5.9	4.6	4.6	2.4	4.9	4.8	5.1	4.0	4.4	3.9	4.0
Zinc (Zn)		µg/g	17	20	30	17	88	21	25	22	34	13	12	16	13	18	19	41	160	59	28	28	29	28	25

I:\102-00181-15\Assignment\Correspondence\NB09-00189\[Tables for NB09-00189.xls]Table 1 - ICP

NOTES:

1. ND : NOT DETERMINED.
2. WEATHERED ORE = SURFICIAL ORE STOCKPILED ON DEPOSIT NO. 1.
3. REPRESENTATIVE ORE = EXPOSED BULK SAMPLE BENCHES AND ORE STOCKPILED AT MILNE INLET.
4. NON-REPRESENTATIVE ORE = HIGH MANGANESE ORE STOCKPILED AT MARY RIVER SITE AND USED TO CONSTRUCT THE ORE STOCKPILE PAD AT MILNE INLET.

0	MAR12'09	ISSUED WITH MEMO NB09-00189	DUIH	SRA	KDE
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

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TABLE 2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

WHOLE ROCK ANALYSIS (XRF) RESULTS FOR BULK SAMPLE WASTE ORE SAMPLES

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Parameter	Units	08ARD01	08ARD02	08ARD03	08ARD04	08ARD05	08ARD07	08ARD08	08ARD11	08ARD12	08HEM01	08HEM02	08HEM03	08HEM04	08HEM05	08HEM06	08ARD06	08ARD09	08ARD10	Composite No 1 (1373,1374,1375,1376)	Composite No 2 (1372,1389,1392)	Composite No 3 (1377,1378,1390,1391,1393)	Composite No 4 (1370,1371,1382,1383,1386)	Composite No 5 (1379,1380,1381,1384,1385,1387,1388)
Sample Description		magnetite + hematite + minor limonite (medium weathering)	magnetite + hematite (medium weathering)	hematite + limonite + magnetite (medium weathering)	magnetite + limonite + hematite (medium weathering)	hematite + minor magnetite + minor limonite (medium weathering)	hematite + magnetite (medium weathering)	hematite + magnetite (medium weathering)	magnetite + hematite + limonite (medium weathering)	hematite + minor magnetite + minor limonite (medium weathering)	Hematite + minor magnetite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	magnetite + hematite + limonite + minor altered schist (highly weathered)	magnetite + hematite + limonite + minor altered schist (highly weathered)	hematite + limonite + magnetite + minor altered schist (highly weathered)	High Manganese Ore	High Manganese Ore	High Manganese Ore	High Manganese Ore	High Manganese Ore
Sample Location	N	7915155	7915171	7915190	7915202	7915214	7915178	7915160	7915197	7915188	7914720	7914697	7914673	7914659	7914638	7914614	7915195	7915177	7915193	Composite of material stockpiled at Mary River site and material used for the construction of the ore stockpile pad at Milne Inlet				
	E	563455	563472	563488	563461	563432	563403	563419	563443	563453	563305	563288	563269	563244	563228	563206	563395	563422	563422					
Sample representative of		**Representative Ore**															**Weathered Ore**			**Non-representative Ore**				
Silicon (as SiO_2)	%	0.34	1.24	3.68	1.94	11.2	0.33	0.93	1.63	3.15	0.62	0.22	0.28	0.33	0.24	0.84	4.15	7.24	6.06	0.75	1.10	1.03	0.95	0.67
Aluminum (as Al_2O_3)	%	0.24	1.16	3.02	1.56	8.78	0.29	0.84	1.34	2.54	0.55	0.17	0.30	0.24	0.18	0.77	3.35	6.46	4.86	0.40	0.44	0.47	0.37	0.36
Iron (as Fe_2O_3)	%	100.0	96.5	91.1	95.3	72.8	97.1	96.0	96.2	91.0	97.0	99.6	98.8	99.3	98.9	95.5	87.0	79.8	82.1	97.7	98.2	98.9	97.6	97.7
Magnesium (as MgO)	%	0.04	< 0.01	0.50	0.20	0.76	0.04	0.13	0.16	1.60	0.03	0.01	< 0.01	< 0.01	0.02	0.04	0.40	1.73	1.42	0.11	0.08	0.13	0.08	0.11
Calcium (as CaO)	%	0.02	< 0.01	0.04	0.02	0.03	< 0.01	< 0.01	0.02	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.03	0.02	0.04	0.04	0.01	0.04	0.06	0.05
Sodium (as Na_2O)	%	< 0.01	< 0.01	0.01	< 0.01	0.01	< 0.01	< 0.01	0.02	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.09	0.03	< 0.01	0.44	< 0.01
Potassium (as K_2O)	%	0.01	0.01	< 0.01	0.01	0.02	< 0.01	0.01	0.02	0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	0.03	0.05	0.10	0.02	0.05	0.02
Titanium (as TiO_2)	%	0.01	0.06	0.14	0.06	0.55	< 0.01	0.03	0.07	0.14	0.03	0.01	< 0.01	< 0.01	< 0.01	0.03	0.21	0.40	0.29	0.02	0.02	0.02	0.03	0.02
Phosphorus (as P_2O_5)	%	0.03	0.06	0.02	0.03	0.06	0.02	0.04	0.09	0.07	0.04	0.02	0.03	0.04	0.02	0.03	0.02	0.06	0.14	0.02	0.02	0.02	0.03	0.02
Manganese (as MnO)	%	0.36	0.28	0.64	0.36	0.59	0.17	0.24	0.29	0.18	0.12	0.17	0.05	0.29	0.15	0.16	0.64	0.39	0.40	0.47	0.55	0.44	0.39	0.46
Chromium (as Cr_2O_3)	%	0.07	0.03	0.02	0.03	0.04	0.02	0.02	0.02	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.04	0.04	0.02	0.03	0.03	0.02
Vanadium (as V_2O_5)	%	< 0.01	< 0.01	< 0.01	< 0.01	0.03	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.02	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

I:\102-00181-15\Assignment\Correspondence\NB09-00189\[Tables for NB09-00189.xls]Table 2 - Whole Rock

NOTES:

1. WEATHERED ORE = SURFICIAL ORE STOCKPILED ON DEPOSIT NO. 1.
2. REPRESENTATIVE ORE = EXPOSED BULK SAMPLE BENCHES AND ORE STOCKPILED AT MILNE INLET.
3. NON-REPRESENTATIVE ORE = HIGH MANGANESE ORE STOCKPILED AT MARY RIVER SITE AND USED TO CONSTRUCT THE ORE STOCKPILE PAD AT MILNE INLET.

0	MAR12'09	ISSUED WITH MEMO NB09-00189	QUIH	SRA	KDE
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

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TABLE 3

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

MODIFIED ACID BASE ACCOUNTING RESULTS FOR BULK SAMPLE WASTE ORE SAMPLES

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Parameter	Units	08ARD01	08ARD02	08ARD03	08ARD04	08ARD05	08ARD07	08ARD08	08ARD11	08ARD12	08HEM01	08HEM02	08HEM03
Sample Description		magnetite + hematite + minor limonite (medium weathering)	magnetite + hematite (medium weathering)	hematite + limonite + magnetite (medium weathering)	magnetite + limonite + hematite (medium weathering)	hematite + minor magnetite + minor limonite (medium weathering)	hematite + magnetite (medium weathering)	hematite + magnetite (medium weathering)	magnetite + hematite + limonite (medium weathering)	hematite + minor magnetite + minor limonite (medium weathering)	Hematite + minor magnetite (low weathering)	Hematite (low weathering)	Hematite (low weathering)
Sample Location	N	7915155	7915171	7915190	7915202	7915214	7915178	7915160	7915197	7915188	7914720	7914697	7914673
	E	563455	563472	563488	563461	563432	563403	563419	563443	563453	563305	563288	563269
Sample representative of		Representative Ore											
Paste pH		7.49	6.29	6.82	6.87	5.75	6.54	6.91	7.14	8.02	6.57	6.83	6.92
Neutralization Potential (NP)	t $CaCO_3$/1000t	2.5	2.7	2.5	2.3	1.5	1.2	2.0	2.5	4.5	2.0	2.3	2.0
Carbonate-NP (Ca-NP)	t $CaCO_3$/1000t	7.7	13.2	4.2	8.7	10.1	58.5	37.3	1.9	5.6	1.5	2.3	8.5
NP/AP	ratio	6.1	8.7	8.1	7.4	4.8	3.9	6.5	8.1	14.5	6.5	7.4	6.5
Ca-NP/AP	ratio	18.9	42.5	13.4	27.9	32.5	188.6	120.4	6.2	18.0	4.8	7.5	27.4
Acid Potential (AP)	t $CaCO_3$/1000 t	0.41	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Total Carbon	%	0.093	0.158	0.050	0.104	0.121	0.702	0.448	0.023	0.067	0.018	0.028	0.102
Net Neutralization Potential (NNP)	t $CaCO_3$/1000 t	2.1	2.4	2.2	2.0	1.2	0.9	1.7	2.2	4.2	1.7	2.0	1.7
Sulphide	%	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Parameter	08HEM04	08HEM05	08HEM06	08ARD06	08ARD09	08ARD10	Composite No 1 (1373,1374,1375,1376)	Composite No 2 (1372,1389,1392)	Composite No 3 (1377,1378,1390,1391,1393)	Composite No 4 (1370,1371,1382,1383,1386)	Composite No 5 (1379,1380,1381,1384,1385,1387,1388)
Sample Description	Hematite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	magnetite + hematite + limonite + minor altered schist (highly weathered)	magnetite + hematite + limonite + minor altered schist (highly weathered)	hematite + limonite + magnetite + minor altered schist (highly weathered)	High manganese ore	High manganese ore	High manganese ore	High manganese ore	High manganese ore
Sample Location N	7914659	7914638	7914614	7915195	7915177	7915193	Composite of material stockpiled at Mary River site and material used for the construction of the ore stockpile pad at Milne Inlet				
Sample Location E	563244	563228	563206	563395	563422	563422					
Sample representative of	Representative Ore			Weathered Ore			Non-representative Ore				
Paste pH	6.79	6.81	6.08	5.90	7.47	7.68	7.49	7.23	7.42	7.59	7.52
Neutralization Potential (NP)	2.0	1.7	1.5	1.8	3.1	4.2	2.2	1.0	2.1	2.5	1.8
Carbonate-NP (Ca-NP)	2.7	8.7	54.8	40.5	3.7	4.9	9.2	9.7	10.7	10.7	11.8
NP/AP	6.5	5.5	4.8	5.8	10.0	13.5	7.1	1.6	6.8	8.1	5.8
Ca-NP/AP	8.6	27.9	176.8	130.6	11.8	15.9	29.8	15.6	34.4	34.4	38.2
Acid Potential (AP)	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.62	0.31	0.31	0.31
Total Carbon	0.032	0.104	0.658	0.486	0.044	0.059	0.111	0.116	0.128	0.128	0.142
Net Neutralization Potential (NNP)	1.7	1.4	1.2	1.5	2.8	3.9	1.9	0.38	1.8	2.2	1.5
Sulphide	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01	< 0.01	< 0.01

I:\102-00181-15\Assignment\Correspondence\NB09-00189\[Tables for NB09-00189.xls]Table 3 - ABA Data

NOTES:

1. WEATHERED ORE = SURFICIAL ORE STOCKPILED ON DEPOSIT NO. 1.
2. REPRESENTATIVE ORE = EXPOSED BULK SAMPLE BENCHES AND ORE STOCKPILED AT MILNE INLET.
3. NON-REPRESENTATIVE ORE = HIGH MANGANESE ORE STOCKPILED AT MARY RIVER SITE AND USED TO CONSTRUCT THE ORE STOCKPILE PAD AT MILNE INLET.

0	MAR12'09	ISSUED WITH MEMO NB09-00189	QUIH	SRA	KDE
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

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TABLE 4

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

SHORT-TERM LEACH TEST RESULTS FOR BULK SAMPLE WASTE ORE SAMPLES

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Parameter	Units	08ARD01	08ARD02	08ARD03	08ARD04	08ARD05	08ARD07	08ARD08	08ARD11	08ARD12	08HEM01	08HEM02	08HEM03
Sample Description		magnetite + hematite + minor limonite (medium weathering)	magnetite + hematite (medium weathering)	hematite + limonite + magnetite (medium weathering)	magnetite + limonite + hematite (medium weathering)	hematite + minor magnetite + minor limonite (medium weathering)	hematite + magnetite (medium weathering)	hematite + magnetite (medium weathering)	magnetite + hematite + limonite (medium weathering)	hematite + minor magnetite + minor limonite (medium weathering)	Hematite + minor magnetite (low weathering)	Hematite (low weathering)	Hematite (low weathering)
Sample Location	N	7915155	7915171	7915190	7915202	7915214	7915178	7915160	7915197	7915188	7914720	7914697	7914673
	E	563455	563472	563488	563461	563432	563403	563419	563443	563453	563305	563288	563269
Sample representative of		**Representative Ore**											
Sample	weight(g)	600	600	600	600	600	600	600	600	600	600	600	600
ExtVolume	ml	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
InitialpH	units	7.68	5.33	5.94	6.29	5.10	5.75	5.98	6.42	5.92	5.42	5.54	6.29
Final pH	units	7.94	5.76	6.70	6.80	5.40	6.56	7.46	7.01	7.67	6.13	6.52	6.96
Sulphate (SO_4)	mg/L	9.3	14	19	5.5	46	8.3	5.2	18	29	30	15	3.6
Mercury (Hg)	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver (Ag)	mg/L	0.00001	< 0.00001	0.00003	0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	0.0638	0.0512	0.0652
Aluminum (Al)	mg/L	0.0474	0.0534	0.0583	0.0639	0.0341	0.0683	0.0840	0.0630	0.0600	< 0.0002	< 0.0002	< 0.0002
Arsenic (As)	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0003	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.00001	< 0.00001	< 0.00001
Barium (Ba)	mg/L	0.415	0.319	0.298	0.455	0.226	0.411	0.447	0.320	0.259	0.290	0.327	0.581
Beryllium (Be)	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth (Bi)	mg/L	0.00003	0.00001	0.00002	0.00001	0.00001	0.00002	0.00004	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Boron (B)	mg/L	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Calcium (Ca)	mg/L	6.17	1.50	2.33	1.38	3.98	2.36	0.84	2.02	1.57	1.23	1.79	1.13
Cadmium (Cd)	mg/L	0.000007	0.000023	0.000021	0.000010	0.000047	0.000012	0.000008	0.000011	0.000007	0.000022	0.000017	0.000005
Cobalt (Co)	mg/L	0.000031	0.00783	0.00203	0.000232	0.0130	0.000062	< 0.000002	0.000336	0.000151	0.00403	0.00395	0.000008
Chromium (Cr)	mg/L	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper (Cu)	mg/L	< 0.0005	0.0005	0.0012	0.0007	0.0010	< 0.0005	< 0.0005	< 0.0005	0.0005	< 0.0005	< 0.0005	< 0.0005
Iron (Fe)	mg/L	0.01	< 0.01	0.02	0.03	< 0.01	< 0.01	0.13	< 0.01	< 0.01	< 0.01	< 0.01	0.10
Potassium (K)	mg/L	0.32	0.55	0.28	0.29	0.42	0.26	0.26	0.52	0.46	0.44	0.25	0.35
Lithium (Li)	mg/L	0.002	0.021	0.009	0.009	0.163	0.002	0.032	0.019	0.032	0.025	0.013	0.002
Magnesium (Mg)	mg/L	1.28	1.66	3.46	1.07	8.62	0.730	1.53	3.35	7.17	6.21	1.90	0.26
Manganese (Mn)	mg/L	0.00241	0.871	0.785	0.229	0.915	0.0866	0.00845	0.124	0.0255	1.45	1.45	0.00713
Molybdenum (Mo)	mg/L	0.00050	< 0.00001	0.00007	0.00022	< 0.00001	< 0.00001	0.00065	0.00003	0.00066	< 0.00001	< 0.00001	< 0.00001
Nickel (Ni)	mg/L	0.0002	0.0412	0.0040	0.0013	0.0249	0.0013	0.0003	0.0011	0.0005	0.0199	0.0053	0.0002
Lead (Pb)	mg/L	0.00059	0.00058	0.00046	0.00034	0.00029	0.00051	0.00030	0.00032	0.00031	0.00015	0.00026	0.00028
Antimony (Sb)	mg/L	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Selenium (Se)	mg/L	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.003	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Sodium (Na)	mg/L	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Tin (Sn)	mg/L	0.00003	0.00002	0.00006	0.00002	0.00002	0.00002	0.00001	0.00002	0.00001	0.00001	0.00002	0.00001
Strontium (Sr)	mg/L	0.0365	0.0179	0.0193	0.0166	0.0207	0.0266	0.0156	0.0165	0.0145	0.0226	0.0405	0.0253
Titanium (Ti)	mg/L	< 0.0001	0.0004	0.0004	0.0004	0.0010	0.0003	0.0007	0.0002	0.0004	0.0003	0.0002	0.0010
Thallium (Tl)	mg/L	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Tungsten (W)	mg/L	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Uranium (U)	mg/L	< 0.000001	< 0.000001	0.000002	< 0.000001	< 0.000001	< 0.000001	0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001
Vanadium (V)	mg/L	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Yttrium (Y)	mg/L	0.000016	0.000016	0.000020	0.000021	0.000011	0.000020	0.000030	0.000019	0.000016	0.000017	0.000015	0.000023
Zinc (Zn)	mg/L	0.064	0.103	0.082	0.082	0.088	0.090	0.083	0.089	0.081	0.095	0.067	0.077

Parameter	08HEM04	08HEM05	08HEM06	08ARD06	08ARD09	08ARD10	Composite No 1 (1373,1374,1375,1376)	Composite No 2 (1372,1389,1392)	Composite No 3 (1377,1378,1390,1391,1393)	Composite No 4 (1370,1371,1382,1383,1386)	Composite No 5 (1379,1380,1381,1384,1385,1387,1388)
Sample Description	Hematite (low weathering)	Hematite (low weathering)	Hematite (low weathering)	magnetite + hematite + limonite + minor altered schist (highly weathered)	magnetite + hematite + limonite + minor altered schist (highly weathered)	hematite + limonite + magnetite + minor altered schist (highly weathered)	High manganese ore	High manganese ore	High manganese ore	High manganese ore	High manganese ore
Sample Location N	7914659	7914638	7914614	7915195	7915177	7915193	Composite of material stockpiled at Mary River site and material used for the construction of the ore stockpile pad at Milne Inlet				
Sample Location E	563244	563228	563206	563395	563422	563422					
Sample representative of	**Representative Ore**			**Weathered Ore**			**Non-representative Ore**				
Sample	600	600	600	600	600	600	300	300	300	300	300
ExtVolume	1800	1800	1800	1800	1800	1800	900	900	900	900	900
InitialpH	5.12	5.02	5.58	5.42	6.41	6.44	6.95	6.35	7.10	7.60	7.82
Final pH	6.04	6.28	6.04	5.79	7.40	7.66	7.69	7.10	7.87	8.08	8.18
Sulphate (SO_4)	13	10	16	30	16	33	19	18	19	21	17
Mercury (Hg)	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Silver (Ag)	0.0679	0.0630	0.0511	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Aluminum (Al)	< 0.0002	< 0.0002	< 0.0002	0.0512	0.0697	0.0475	< 0.01	< 0.01	0.02	< 0.01	0.01
Arsenic (As)	< 0.00001	< 0.00001	0.00001	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Barium (Ba)	0.345	0.389	0.297	0.244	0.318	0.236					
Beryllium (Be)	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth (Bi)	< 0.00001	0.00001	0.00001	0.00001	< 0.00001	< 0.00001	0.00005	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Boron (B)	nd	nd	nd	nd	nd	nd	0.0240	0.0204	0.0242	0.0228	0.0258
Calcium (Ca)	1.71	1.49	1.77	1.47	1.84	2.08	8.75	3.17	7.78	12.6	11.9
Cadmium (Cd)	0.000028	0.000016	0.000014	0.000027	0.000013	0.000006	0.000006	0.000004	< 0.000003	< 0.000003	0.000013
Cobalt (Co)	0.00556	0.00174	0.00107	0.00347	0.000198	0.000184	0.000032	0.000498	0.000019	0.000031	0.000025
Chromium (Cr)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper (Cu)	< 0.0005	< 0.0005	< 0.0005	0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Iron (Fe)	< 0.01	< 0.01	< 0.01	< 0.01	0.03	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium (K)	0.40	0.26	0.29	0.29	0.46	0.44	4.27	2.48	2.14	2.86	2.17
Lithium (Li)	0.010	0.003	0.039	0.022	0.030	0.021	0.010	0.014	0.013	0.020	0.012
Magnesium (Mg)	1.48	0.99	2.58	6.50	4.19	8.34	4.95	3.51	8.08	4.61	5.84
Manganese (Mn)	1.06	1.07	0.481	0.893	0.0377	0.0144	0.00535	0.561	0.00953	0.00282	0.00344
Molybdenum (Mo)	0.00001	< 0.00001	< 0.00001	< 0.00001	0.00020	0.00008	0.00143	0.00013	0.00208	0.00123	0.00457
Nickel (Ni)	0.0059	0.0038	0.0144	0.0083	0.0008	0.0007	0.0002	0.0020	0.0002	0.0002	0.0002
Lead (Pb)	0.00035	0.00030	0.00040	0.00030	0.00020	0.00022	0.00003	0.00006	< 0.00002	0.00003	0.00002
Antimony (Sb)	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Selenium (Se)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001
Sodium (Na)	nd	nd	nd	nd	nd	nd	1.18	0.68	0.83	0.78	0.66
Tin (Sn)	0.00002	0.00002	0.00002	0.00002	0.00002	0.00003	< 0.00001	< 0.00001	< 0.00001	0.00005	< 0.00001
Strontium (Sr)	0.0366	0.0331	0.0208	0.0124	0.0145	0.0109	0.0186	0.0178	0.0118	0.0201	0.0185
Titanium (Ti)	0.0003	0.0002	0.0003	0.0010	0.0005	0.0003	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Thallium (Tl)	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	0.00006	0.00006	< 0.00002	0.00003	0.00003
Tungsten (W)	nd	nd	nd	nd	nd	nd	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003
Uranium (U)	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	< 0.000001	0.000263	0.000012	0.000165	0.000048	0.000142
Vanadium (V)	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	< 0.00003	0.00006	< 0.00003	< 0.00003	< 0.00003	0.00003
Yttrium (Y)	0.000020	0.000017	0.000017	0.000012	0.000024	0.000013	< 0.000001	0.000001	< 0.000001	< 0.000001	0.000009
Zinc (Zn)	0.086	0.076	0.074	0.078	0.090	0.064	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

I:\102-00181-15\Assignment\Correspondence\NB09-00189\[Tables for NB09-00189.xls]Table 4 - Mod SPLP

NOTES:

1. TEST CARRIED OUT USING MODIFIED SYNTHETIC PRECIPITATION LEACHING PROCEDURE (EPA 1312) WITH A 3: 1 LIQUID TO SOLID RATIO (BY WT.) AND A DEIONIZED WATER LEACHING AGENT.
2. ND : NOT DETERMINED.
3. WEATHERED ORE = SURFICIAL ORE STOCKPILED ON DEPOSIT NO. 1.
4. REPRESENTATIVE ORE = EXPOSED BULK SAMPLE BENCHES AND ORE STOCKPILED AT MILNE INLET.
5. NON-REPRESENTATIVE ORE = HIGH MANGANESE ORE STOCKPILED AT MARY RIVER SITE AND USED TO CONSTRUCT THE ORE STOCKPILE PAD AT MILNE INLET.

0	MAR12'09	ISSUED WITH MEMO NB09-00189	QUIH	SRA	KDE
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D

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TABLE 5

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

SEEPAGE AND RUNOFF WATER QUALITY RESULTS

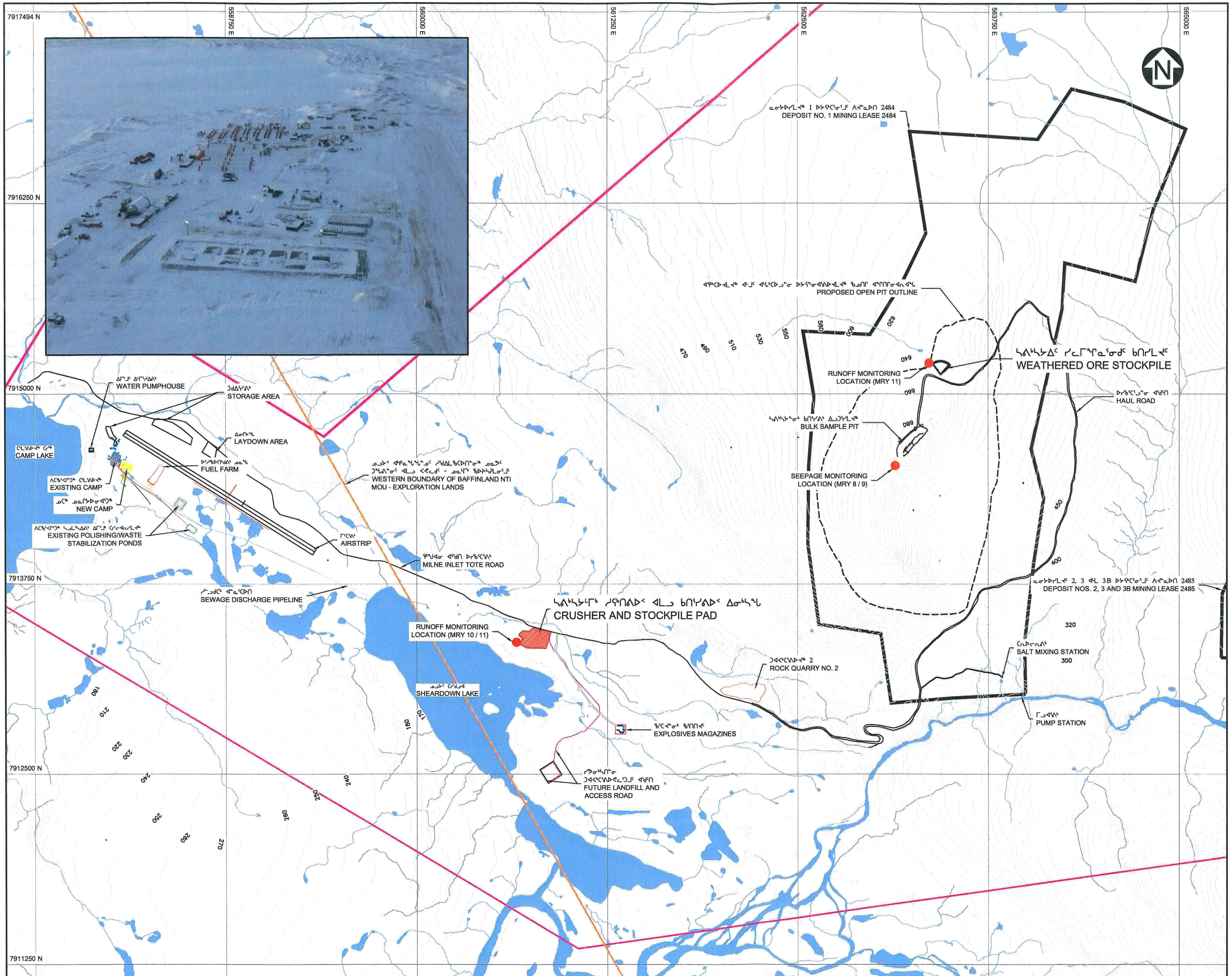
Print Mar/16/09 14:51:51

PARAMETER	**UNITS**	**Water License/MMER Limits**		**MRY-9**		**MRY-10**		**MRY-11**		**MRY-12**	
Sampling Date		**Maximum Allowable Concentration**		July 25, 2008		August 16, 2008		August 20, 2008		June 14, 2008	
		Average	Grab Sample	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved
Sample Location				*downgradient from pit, spring along side of mountain*		*weathered ore stockpile*		*crusher area, runoff from crushed ore*		*Milne Inlet, runoff from ore*	
pH		6.0 to 9.5		7.31	na	7.65	na	8.05	na	7.89	na
Total Suspended Solids		15	50[4i)] / 30[4ii)]	15	na	7	na	24	na	10	na
Oil & Grease - Total	mg/L	No visible sheen		<1	na	<1	na		na	nd	na
Arsenic	mg/L	0.5	1.0	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002
Copper	mg/L	0.3	0.6	0.005	<0.001	<0.001	<0.001	0.003	0.002	0.002	0.001
Lead	mg/L	0.2	0.4	0.016	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Nickel	mg/L	0.5	1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	0.5	1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.01

I:\102-00181-15\Assignment\Correspondence\NB09-00189\[Tables for NB09-00189.xls]Table 5 - Water License Data

NOTES:
1. MRL = METHOD REPORTING LIMIT.
2. nd = NOT DETERMINED.
3. na = NOT APPLICABLE.
4. i) Water License Limit.
   ii) MMER limit.

0	MAR12'09	ISSUED WITH MEMO NB09-00189	QUIH	SRA	KDE
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D



LEGEND:

- WATER
- RIVER/STREAM/DRAINAGE
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- MINING LEASE BOUNDARY
- WESTERN BOUNDARY OF BAFFINLAND NTI MOU - EXPLORATION LANDS
- MONITORING LOCATION

NOTE(S):

1. COORDINATE GRID IS UTM (NAD83) ZONE 17 AND IS IN METRES.
2. CONTOUR INTERVAL IS 10 METRES.
3. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
4. MINE SITE INFORMATION PROVIDED BY GENIVAR DECEMBER 9, 2008.
5. REFER TO PHOTO SHEETS FOR ADDITIONAL DETAIL OF CAMP AREA.

1. UTM (NAD83) Zone 17
2. 10
3. Eagle Mapping (2005)
4. Genivar

SCALE 250 125 0 250 500 750 1000 1250 m

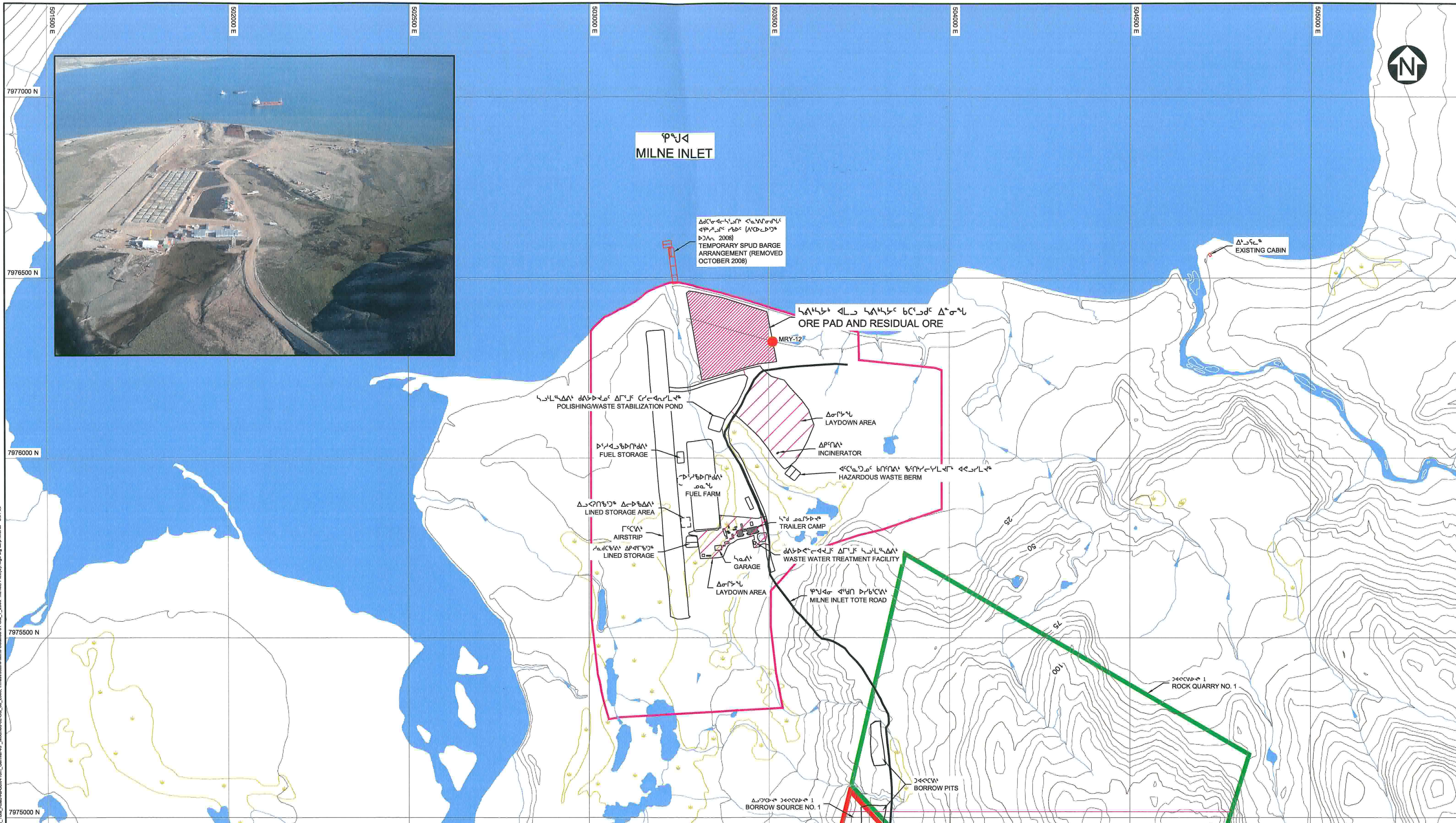
Baffinland Iron Mines Corporation

MARY RIVER PROJECT

BULK SAMPLING PROGRAM WASTE LOCATIONS (AND MONITORING LOCATIONS) AT MARY RIVER

P/A NO.	REF.	REV.
NB102-181/15	NB09-00189	0

FIGURE: 1



LEGEND:

- WATER
- WETLAND
- LAYDOWN AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- RIVER/STREAM/DRAINAGE
- DIRECTION OF SURFACE WATER RUNOFF
- MILNE INLET TOTE ROAD
- ROAD
- EXISTING ROCK QUARRY (IOL COMMERCIAL LEASE)
- EXISTING BORROW AREA (IOL COMMERCIAL LEASE)
- MONITORING LOCATION

1. EAGLE MAPPING (2005)
2. UTM (NAD83) ZONE 17
3. 5 ΓC

NOTE(S):

1. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL IS 5 METRES.

SCALE 100 50 0 100 200 300 400 500 m

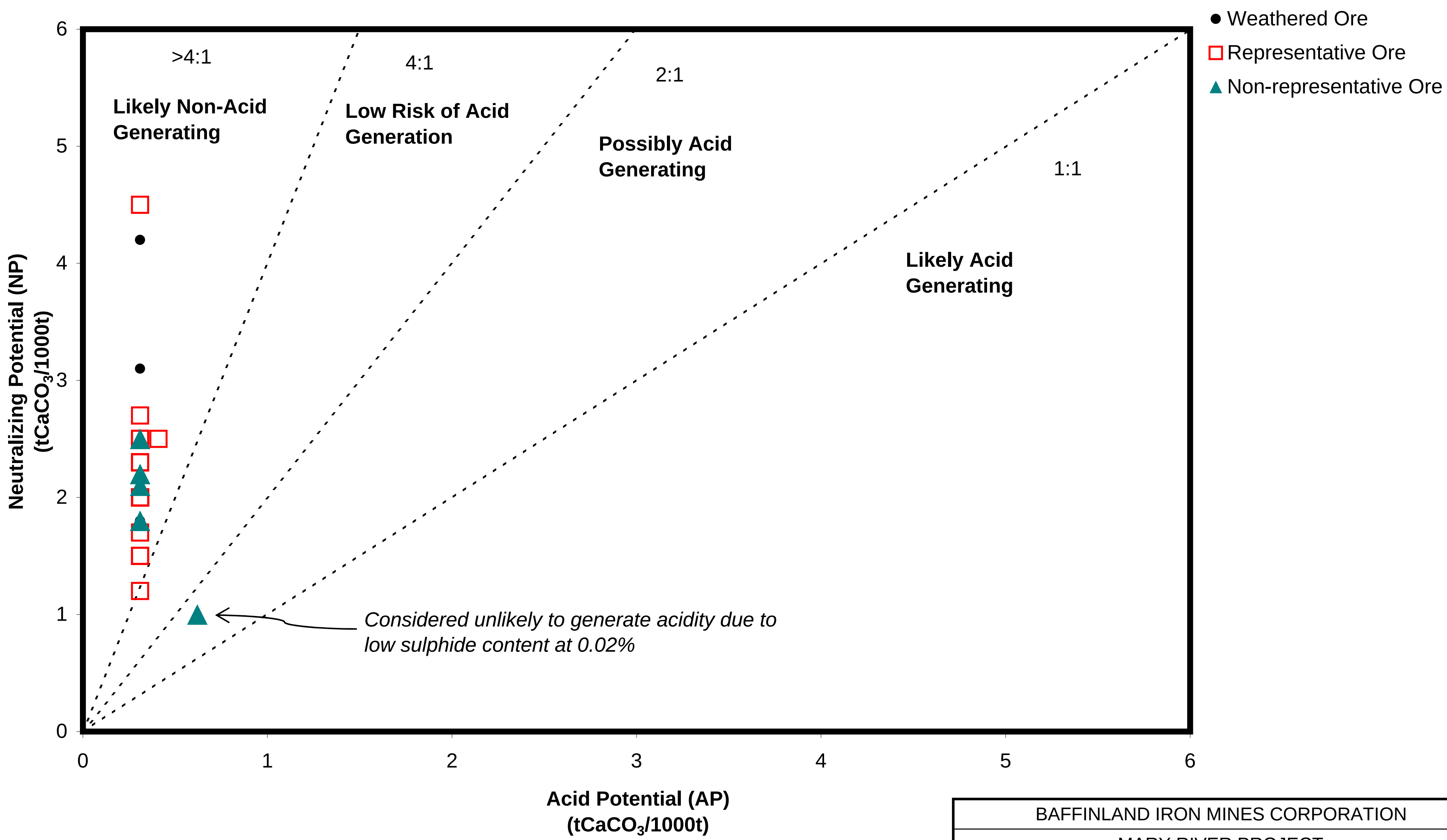
Baffinland Iron Mines Corporation

MARY RIVER PROJECT

BULK SAMPLING PROGRAM WASTE LOCATIONS (AND MONITORING LOCATIONS) AT MILNE INLET

P/A NO.	REF.	REV.
NB102-181/15	NB09-00189	0

FIGURE 2



NOTE:
1. ACID GENERATING CRITERIA TAKEN FROM DRAFT GUIDELINES AND RECOMMENDED METHODS FOR THE PREDICTION OF METAL LEACHING AND ACID ROCK DRAINAGE AT MINESITES IN BRITISH COLUMBIA, 1997.

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

BULK SAMPLE WASTE ORE
ACID POTENTIAL (AP) vs. NEUTRALIZATION POTENTIAL (NP)

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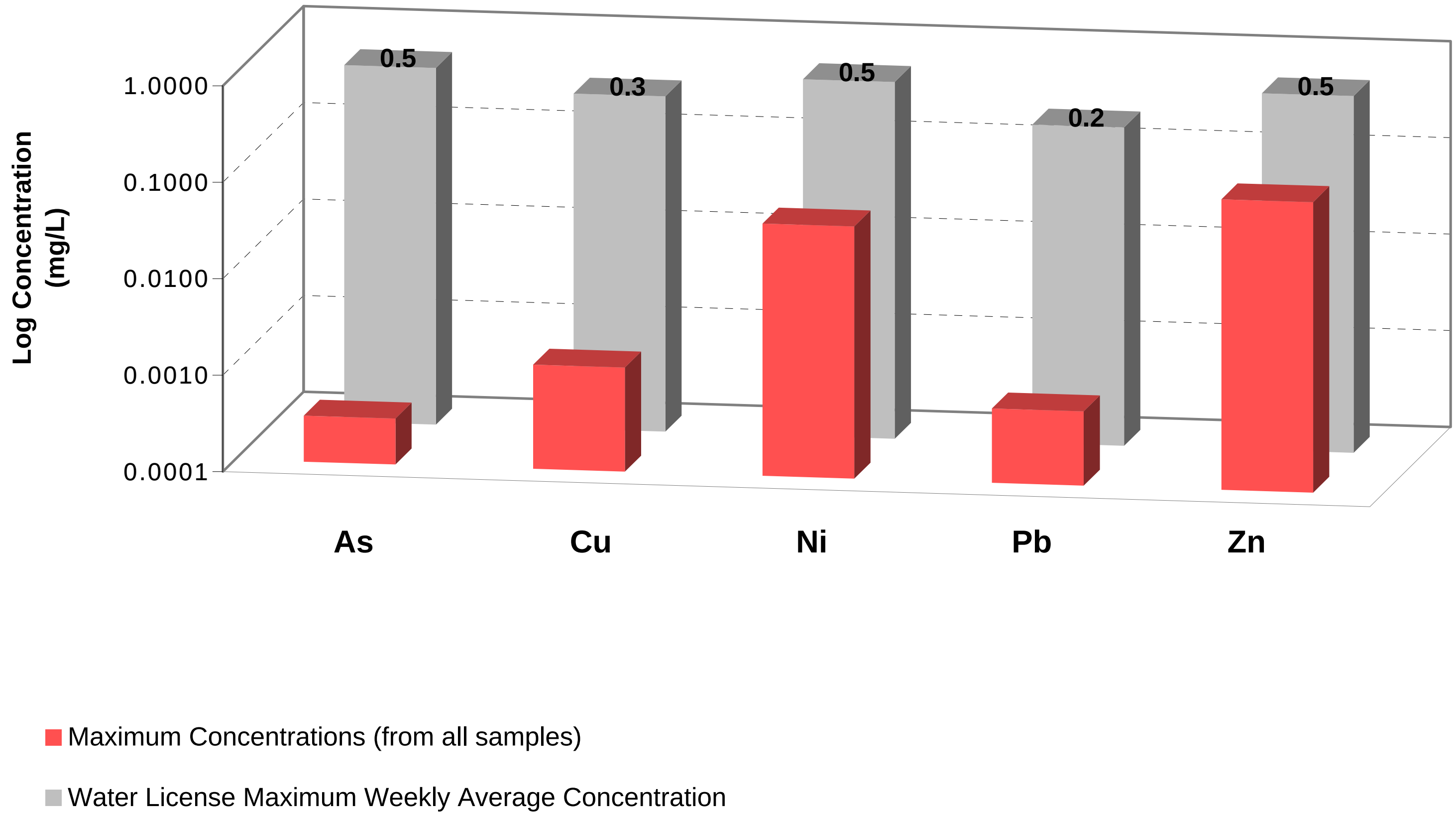
P/A NO. NB102-181/15 | REF. NO. NB09-00189

FIGURE 3 | REV 0

0	MAR12'09	ISSUED WITH MEMO NB09-00189	QUIH	SRA	KDE
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D



NOTES:
1. MMER : METAL MINING EFFLUENT REGULATIONS CONCENTRATION LIMITS FOR GRAB SAMPLES.
2. NOTE THAT MMER LIMIT FOR CYANIDE EXCLUDED SINCE ON-SITE MILLING USING CYANIDE WILL NOT BE USED.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	MAR12'09	ISSUED WITH MEMO NB09-00189	QUIH	SRA	KDE

BAFFINLAND IRON MINES CORPORATION

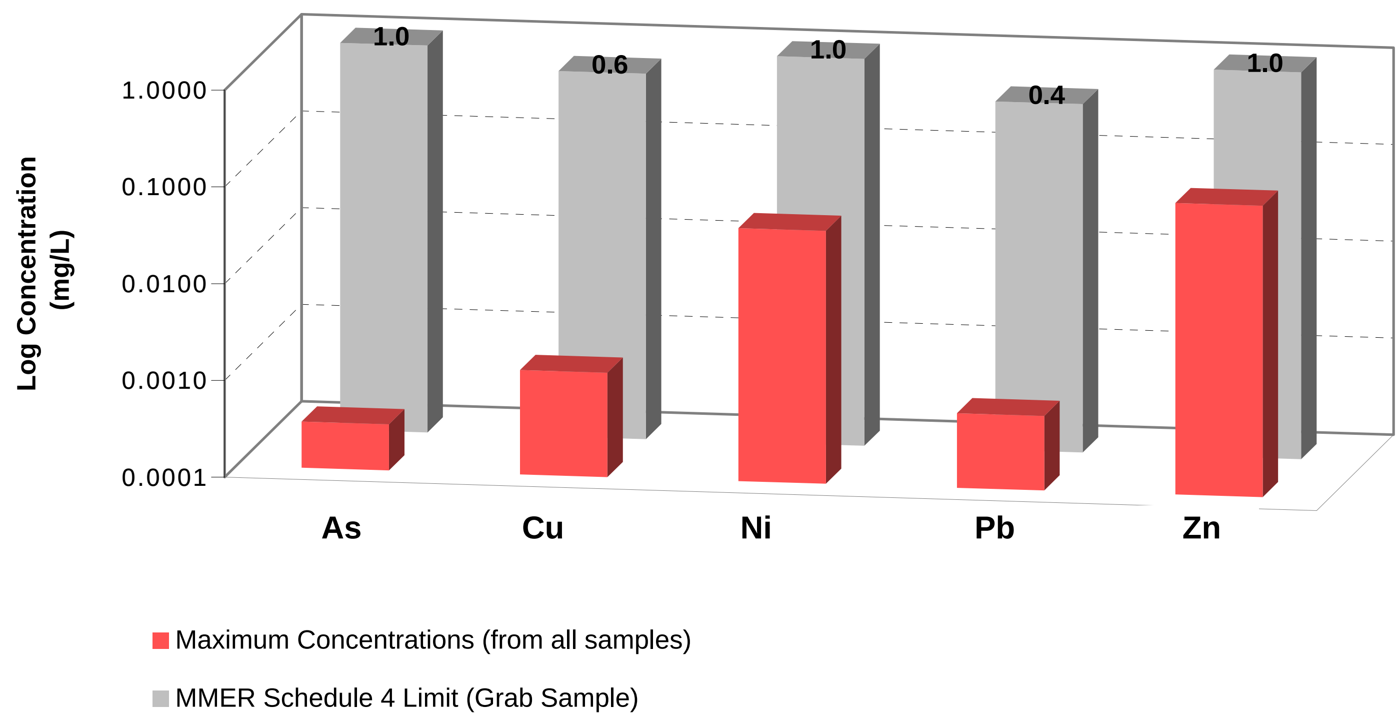
MARY RIVER PROJECT

BULK SAMPLE WASTE ORE
SHORT-TERM LEACH TEST RESULTS IN COMPARISON TO BULK SAMPLE WATER LICENSE LIMITS

Knight Piésold CONSULTING

P/A NO.	REF. NO.
NB102-181/15	NB09-00189

FIGURE 4 REV 0



NOTES:

1. MMER : METAL MINING EFFLUENT REGULATIONS CONCENTRATION LIMITS FOR GRAB SAMPLES.
2. NOTE THAT MMER LIMIT FOR CYANIDE EXCLUDED SINCE ON-SITE MILLING USING CYANIDE WILL NOT BE USED.

REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D
0	MAR12'09	ISSUED WITH MEMO NB09-00189	QUIH	SRA	KDE

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

BULK SAMPLE WASTE ORE SHORT-TERM LEACH TEST RESULTS IN COMPARISON TO MMER LIMITS

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P/A NO. NB102-181/15

REF. NO. NB09-00189

FIGURE 5

REV 0

Appendix G

Date: 2009 March 30

To: Note for Record

From: Jim Millard c/o Matthew Pickard

Subject: 2008 Drill Water Summary

Taken from the 2008 NIRB Annual Report

The 2008 exploration drilling program was conducted to further define the extent of the iron ore resource at Deposit 1, as well as to provide technical information on rock quality to assist in design of the open pit slopes for a potential future mining operation.

Drilling was initiated on July 16, 2008, and concluded on September 14, 2008. A total of 27 drillholes, with drillhole depths ranging between 102 m and 350 m, were completed using Longyear LY38 and LF70 rock coring drill rigs. In addition one hole was completed from a previous campaign. A total of 5,071m was drilled through the course of the 2008 exploration drilling program. All of the 2008 drilling was completed on mining lease 2483 (Deposit No. 1), there was no drilling undertaken on mining leases 2484 or 2485 (Deposit Nos. 2, 3, and 4). Drillhole locations are shown on Figure 2.5, and drillhole details are provided in Table 2.1 and 2.2.

To support exploration drilling activities, sumps and silt fences were constructed in the vicinity of the drill sites to intercept drill cuttings and residual drill water. Silt fences were strategically placed to minimize the transport of sediment downstream toward Mary River. The location of these sediment and drill water control structures are shown on Figure 2.5 with details provided in Table 2.2.

Drilling through permafrost and the retrieval of quality iron ore cores/samples present many technical challenges due to the frozen conditions and hardness/density of the iron deposits being drilled. To drill into permafrost, calcium chloride is mixed with drill water to depress the freezing point and to prevent loss of the drillhole. In addition, drilling additives are utilized as required to promote the removal of drill cuttings from the hole and hence aid in the adequate recovery of good quality drill cores.

In 2008, the pumping system and salt mixing station used during previous programs was replaced by an enhanced system that was redesigned to decrease water demand, salt use, minimize the potential for spillage, and improve safety and drilling productivity. The salt mixing stations location, as well as the water supply pump location on Mary River, are shown on Figure 2.5.

An exploration drilling water quality monitoring program has been undertaken since 2005 at selected locations upstream (reference), downstream along Mary River (potentially affected), and along steep seasonal flow channels that drain the rugged topographic terrain that characterizes the land surface in the vicinity of Deposit Nos. 1, 2, and 3. The main objective of the monitoring programs was to identify and measure Contaminants of Potential Concern (COPCs) in Mary River, both upstream at locations unaffected by drilling activities, and downstream at locations that may be potentially affected by drilling activities. Each year, the water quality monitoring program has been modified as needed to address any changes to the annual drill program work scopes. During 2008, the exploration drilling program was focused exclusively on Deposit No. 1 with a total of 5,071 m of drilling completed. This compares to totals of 8,072 m, 4,136.5 m, and 4,246.5 m drilled on Deposit No. 1 in 2005, 2006, and 2007, respectively.

- Design of exploration water quality monitoring program

The successful design of the exploration water quality monitoring program involves understanding the flow regime and potential drill water pathways during drill water during operations. The topography in the vicinity of Deposit No. 1 is extremely rugged and drains to Mary River located to the south and southeast via seasonal drainage channels. Sumps and silt fences were positioned to intercept and direct drill water run-off as required by regulatory approvals. In the development of the water quality monitoring program and interpretation of results, Mary River is considered to be the primary receiving environment (i.e., fish habitat). The steep seasonal channels that drain Deposit No. 1 have been assessed and determined not to contain fish habitat. The 2008 water quality monitoring program was designed to establish monitoring stations upstream of potential drill water influence (reference stations), along poorly developed steep drainage pathways proximal to drilling operations on Deposit No. 1, and in Mary River, downstream of potential drill water pathways (potentially affected stations).

The rationale for the grouping of stations is summarized below:

- Reference Stations – Mary River upstream of Deposit Nos. 1, 2 and 3: **H0-01, G6-01, and G0-09;** Mary River upstream of Deposit Nos. 1 and 2: **G0-01, G0-03 and G0-05;** and, upstream of steep drainage pathways near Deposit Nos. 1 and 2: **F0-05**.

- Proximal Stations Deposit No. 1 - steep drainage pathways close to drilling operations (not fish habitat): **F0-01, F0-02, E4-01, and E3-01**.

- Potentially Affected Stations Mary River - downstream of Deposit No. 1: **E0-10, G0-10, E0-03, and C0-10**.

The 2008 monitoring program was conducted on a weekly to monthly basis from July to early September, commencing prior to the start of drilling operations. For some sampling rounds, access to monitoring stations was limited due to unsafe conditions (e.g., extreme flows or icy conditions) and samples were therefore not retrieved. Table 2.9, 2.10 & 2.11 presents the results of the water quality monitoring program for 2008 as well as for previous years. The parameters presented are based on a comparison with Canada Council of Ministers for the Environment (CCME) guidelines for the protection of Freshwater Aquatic Life (FAL) and those parameters that are indicators of the presence of drill water. The selected parameters presented in Table 2.9, 2.10 & 2.11 include the following:

- Turbidity and total suspended solids (TSS) due to drilling activities and other activities;
- Major ions contained in the drill water which include calcium and chloride; and,
- Total dissolved solids (TDS) as a general indicator of total major ion concentrations (major ions include calcium, magnesium, sodium, alkalinity, chloride, and sulphate).

TSS and turbidity are measures of suspended sediments in the water column which can alter the physical environment of the stream, and may therefore affect fish populations. The CCME FAL guidelines for TSS and turbidity are narrative in nature and are based on comparison to measured background concentrations for a given point in time. Hence, they are difficult to apply definitively for a given monitoring event since the identification of the correct background value is interpretive. There are currently no CCME FAL guidelines for major ion parameters including calcium and chloride. There are, however, guideline criteria for chloride in several other jurisdictions in North America (e.g., USEPA Criterion Continuous Concentration and BC Ambient Water Quality Guideline). A generic and widely accepted numerical value for the protection of aquatic life does not currently exist for TDS. TDS is generally considered to be a parameter that can be used to indicate increases relative to baseline conditions that may or may not have toxicological implications.

- Summary of Water Quality Results for 2008 (Table 2.9, 2.10 & 2.11 and Figure 2.5)

The key water quality results for the 2008 program are presented by water quality station groupings below:

Mary River Reference Stations (Upstream on Mary River)

- **TSS and turbidity** levels in the upstream reaches of Mary River are naturally elevated depending on flow conditions. The headwaters of Mary River are relatively steep and subject to erosional events throughout the open water season. TSS and turbidity values ranged up to a maximum of 23 mg/L and 26.9 NTU, respectively, during the 2008 open water season for the upstream reaches of Mary River.

- **Major ion concentrations** as measured by TDS increase temporally throughout the open water season, ranging from 23 to 68 mg/L in July to as high as 112 mg/L by September. Carbonate (as measured by alkalinity), calcium, and magnesium are the naturally occurring dominant ions in Mary River originating from the erosion and dissolution of local limestone and dolomitic bedrock and soils. Maximum concentrations of chloride in upstream reaches range from 1 to 5 mg/L during the months of August and September.

Proximal Stations Deposit No. 1

- **TSS and turbidity** for the water quality monitoring stations located along steep drainages immediately down gradient of drill sites indicated variable results. For station E4-01, TSS and turbidity values ranged up to a maximum of 87 mg/L and 2.5 NTU, respectively. At Stations F0-01 and F0-02, TSS and turbidity maximum values were reported at 10 mg/L and 7.1 NTU, respectively. Station E3-01 exhibited values that ranged mainly from <2 to 104 mg/L for TSS, and from 0.5 to 44.6 NTU for turbidity. Anomalous results for TSS and turbidity of 2080 mg/L and >100 NTU were reported at station E3-01 on July 8. These results were thought to be unrelated to drilling activities; rather, the elevated results were likely related to the interaction of freshet conditions with the recently constructed haul road, located upgradient from the monitoring stations. The elevated solids were a short term condition that was managed by appropriate measures such as silt fences and check dams that were constructed along the road in an effort to minimize sediment transport.

- **Major ion concentrations** for proximal monitoring stations were variable with generally increasing concentrations observed over the open water season. Station E3-01 appeared to be the main pathway for residual drill water with TDS, calcium, and chloride concentrations ranging from 607 to 4950 mg/L, 127 to 1300 mg/L, and 243 to 2300 mg/L, respectively. Station E4-01, F0-01, and F0-02 exhibited much lower TDS values with maximums of 374, 186, and 167 mg/L, respectively.

Potentially Affected Stations - Mary River

- **TSS and turbidity** measurements at station G0-10, located immediately downstream of the confluence of drainage E3-01 with Mary River in Mary River, ranged from <2 to 47 mg/L and from 6.4 to 15 NTU, respectively. The 47 mg/L value was anomalous and observed as a once only event in July, with all other results measured below 10 mg/L. Further downstream at stations E0-03 and C0-10 maximum TSS values were reported to be 11 and 9 mg/L, respectively. Maximum turbidity values for the same stations were reported to be 27 and 17.3 NTU, respectively. The results indicated that any influence on Mary River, via the proximal drainages (mainly E3-01), is rapidly diluted to background levels. Background TSS and turbidity levels for the upstream reaches of Mary River during the 2008 open water season range up to a maximum of 23 mg/L and 26.9 NTU, respectively.

- **Major ion concentrations** for potentially affected Mary River stations increase throughout the open water season similarly to that observed in upstream reference stations. TDS concentrations for G0-10, located closest to the confluence with drainage E3-01 ranged from 34 to 156 mg/L. Further downstream, the maximum observed TDS concentration for stations E0-03 and C0-10 were reported to be 150 and 138 mg/L, respectively. Downstream calcium and chloride concentrations reported showed a decreasing trend downstream with maximum concentrations reported to be 33 and 38 mg/L, 26 and 27 mg/L, and 22 and 19 mg/L, for stations G0-10, E0-03 and C0-10, respectively. This compares to maximum reference values reported at upstream stations for TDS, calcium, and chloride of 116, 19, and 5 mg/L, respectively. Results from these sampling stations suggest only a minor influence of drilling on water quality with slightly elevated calcium and chloride concentrations, relative to upstream conditions. Whereas carbonate (as measured by alkalinity), calcium, and magnesium are the naturally occurring dominant ions in the upstream reaches in Mary River, the dominant ions for downstream reaches are carbonate, calcium, chloride and magnesium.

- Summary and comparison of findings to previous years

  - The **TSS and turbidity results** in Mary River for 2008 were slightly elevated as compared to previous years due to natural erosion resulting from an early freshet and major rainfall events during the open water season including it's influence on the newly constructed Deposit No. 1

haul road. Sediment control structures were largely effective for limiting sediment transport due to drilling operations. Anomalous short-term TSS and turbidity measurements in the downstream reach of Mary River (station G0-10) were observed in 2008 (e.g., July 21). The source for elevated inputs was thought to be a combination short term conditions due to haul road construction as well as natural factors related to major rainfall events and the erosion of steep-sided and unstable stream banks along various reaches of Mary River. In general, any sediment inputs were rapidly diluted to background levels which are naturally elevated in all Mary River reaches.

- The **major ion results** for 2008 (as compared to 2007) show reduced major ion concentrations in the downstream potentially affected reaches of Mary River and in proximal down gradient drainages. The downstream reaches of Mary River exhibit decreased TDS concentrations in 2008 as compared to 2007, particularly for calcium and chloride. For example, TDS and chloride concentrations at station E0-03 (located downstream of drilling operations) in late August and early September 2008 were reduced from 2007 levels by a factor of 2 and 3, respectively. TDS and chloride inputs from proximal drainages into Mary River are localized in nature and exhibit rapidly decreasing levels downstream with concentrations that are unlikely to be harmful to aquatic organisms. The redesign of the salt station and pumping system in 2008 has likely contributed to a reduction of salt inputs and hence concentrations into Mary River as compared to 2007. Concentrations of major ions in the downstream reaches of Mary River would also be responsive to general hydrological conditions during the open water season, with higher concentrations expected during lower flow years. Based on a three year record for a nearby stream hydrograph, flow conditions in 2008 were higher in comparison to 2007 but lower than in 2006.

TABLE 2.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLHOLE DETAILS

Drillhole ID	UTM Coordinates Northing (m)	Easting (m)	Elevation (m)	Azimuth	Dip	Depth (m)	Date Started	Date Finished
MR1-07-136	7914409	563228	597	295	-50	(192)84	2007	14-Jul-08
MR1-08-140	7914472	563300	598	295	-10	166.0	18-Jul-08	27-Jul-08
MR1-08-141	7913994	563456	463	224	-55	350.0	21-Jul-08	07-Aug-08
MR1-08-142	7914895	563622	604	295	-50	169.0	16-Jul-08	20-Jul-08
MR1-08-143	7914831	563586	608	295	-50	199.0	20-Jul-08	26-Jul-08
MR1-08-144	7915010	563718	598	295	-50	235.0	27-Jul-08	30-Jul-08
MR1-08-145	7914409	563228	597	295	-10	159.0	31-Jul-08	06-Aug-08
MR1-08-146	7914865	563684	589	295	-50	254.0	31-Jul-08	05-Aug-08
MR1-08-147	7914866	563689	590	295	-50	188.0	06-Aug-08	09-Aug-08
MR1-08-148	7914831	563586	608	295	-14	120.0	06-Aug-08	10-Aug-08
MR1-08-149	7913917	563385	463	224	-20	222.0	07-Aug-08	17-Aug-08
MR1-08-150	7914866	563689	590	295	-50	146.0	09-Aug-08	13-Aug-08
MR1-08-151	7914895	563622	604	295	-14	102.0	10-Aug-08	13-Aug-08
MR1-08-152	7915010	563718	598	295	-14	165.0	14-Aug-08	18-Aug-08
MR1-08-153	7914799	563651	591	295	-50	151.1	15-Aug-08	22-Aug-08
MR1-08-154	7913904	563429	449	224	-20	261.0	18-Aug-08	02-Sep-08
MR1-08-155	7915107	563703	606	224	-14	150.0	22-Aug-08	26-Aug-08
MR1-08-156	7914799	563651	591	295	-50	194.0	24-Aug-08	28-Aug-08
MR1-08-157	7914928	563733	589	295	-18	174.4	26-Aug-08	30-Aug-08
MR1-08-158	7914978	563786	582	295	-50	311.0	29-Aug-08	04-Sep-08
MR1-08-159	7915107	563703	606	295	-50	195.0	31-Aug-08	03-Sep-08
MR1-08-160	7913805	563401	445	224	-20	183.0	03-Sep-08	09-Sep-08
MR1-08-161	7914775	563536	618	295	-14	165.0	03-Sep-08	07-Sep-08
MR1-08-162	7913787	563462	427	224	-70	188.0	05-Sep-08	09-Sep-08
MR1-08-163	7914722	563479	620	295	-10	157.0	09-Sep-08	13-Sep-08
MR1-08-164	7913914	563297	502	224	-12	105.0	10-Sep-08	16-Sep-08
MR1-08-165	7914254	563386	536	224	-75	157.0	10-Sep-08	9/15/2008*
MR1-08-166	7914655	563441	614	295	-10	107.0	14-Sep-08	9/17/2008*

* Drills remain on these sites and may be completed in future campaigns.

TABLE 2.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER MANAGEMENT STRUCTURES

Drillhole ID	UTM Location		Elevation	Associated Drillhole(s)
	Northing (m)	Easting (m)	(m)	
Sumps				
MR1-08-SU1	7915105	563704	606	MR1-08-155, MR1-08-159
MR1-08-SU2	7915008	563720	598	MR1-08-152, MR1-08-144
MR1-08-SU3	7914970	563788	584	MR1-08-158
MR1-08-SU4	7914957	563713	596	MR1-08-157, MR1-08-146
MR1-08-SU5	7914893	563624	604	MR1-08-151, MR1-08-142
MR1-08-SU6	7914864	563691	590	MR1-08-147, MR1-08-150
MR1-08-SU7	7914827	563588	608	MR1-08-148, MR1-08-143
MR1-08-SU8	7914796	563653	592	MR1-08-156, MR1-08-153
MR1-08-SU9	7914773	563538	618	MR1-08-161
MR1-08-SU10	7914720	563481	622	MR1-08-163
MR1-08-SU11	7914653	563443	614	MR1-08-166
MR1-08-SU12	7914466	563307	594	MR1-08-140
MR1-08-SU13	7914397	563234	594	MR1-08-145
MR1-08-SU14	7913974	563487	454	MR1-08-141
MR1-08-SU15	7913952	563520	448	MR1-08-141
MR1-08-SU16	7913895	563445	448	MR1-08-154
MR1-08-SU17	7913802	563402	444	MR1-08-160
MR1-08-SU18	7913784	563465	426	MR1-08-162
Silt Fences				
MR1-08-SF1	7915104	563706	606	MR1-08-155, MR1-08-159
MR1-08-SF2	7915007	563722	598	MR1-08-152, MR1-08-144
MR1-08-SF3	7914967	563790	584	MR1-08-158
MR1-08-SF4	7914954	563717	596	MR1-08-157, MR1-08-146
MR1-08-SF5	7914891	563625	604	MR1-08-151, MR1-08-142
MR1-08-SF6	7914861	563695	590	MR1-08-147, MR1-08-150
MR1-08-SF7	7914827	563589	608	MR1-08-148, MR1-08-143
MR1-08-SF8	7914795	563656	592	MR1-08-156, MR1-08-153
MR1-08-SF9	7914770	563541	618	MR1-08-161
MR1-08-SF10	7914719	563482	622	MR1-08-163
MR1-08-SF11	7914652	563444	614	MR1-08-166
MR1-08-SF12	7914464	563310	594	MR1-08-140
MR1-08-SF13	7914396	563238	594	MR1-08-145
MR1-08-SF14	7913942	563524	454	MR1-08-141
MR1-08-SF15	7913938	563529	454	MR1-08-141
MR1-08-SF16	7913884	563447	448	MR1-08-154
MR1-08-SF17	7913881	563449	448	MR1-08-149
MR1-08-SF18	7913801	563404	444	MR1-08-160
MR1-08-SF19	7913783	563466	426	MR1-08-162

TABLE 2.9

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
UPSTREAM REFERENCE STATIONS (NO INFLUENCE FROM DEPOSIT NO. 1)

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
H0-01 (Mary River - upstream of Deposit Nos. 1, 2, and 3)						
12-Aug-05	8.5	-	34	1	6	30
9-Sep-05	2.1	-	<30	3	13	55
04-Aug-06	14.4	-	41	1	6	31
01-Sep-06	-	-	81	4	15	57
16-Jun-07	1.7	<2	38	2	7	29
29-Jul-07	15.5	8	45	1	6	32
31-Aug-07	15.1	6	95	6	14	61
09-Jun-08	0.9	<2	30	1	4	23
13-Jul-08	26.9	23	23	<1	4	18
28-Aug-08	3.5	<2	112	5	16	75
G6-01 (Mary River - upstream of Deposit Nos. 1, 2, and 3)						
04-Aug-06	2.3	-	79	<1	14	64
01-Sep-06		-	105	<1	18	83
15-Jun-07	1.0	<2	29	2	5	22
23-Jul-07	0.5	<2	95	1	16	73
31-Aug-07	0.6	<2	127	3	22	95
09-Jun-08	0.8	<2	16	1	2	11
10-Jul-08	0.5	<2	60	<1	10	46
28-Aug-08	1.6	<2	116	3	19	86
G0-09 (Mary River - upstream of Deposit Nos. 1, 2, and 3)						
18-Jun-06	1.2	-	14	<1	2	8
26-Jun-06	2.1	-	13	<1	2	8
02-Jul-06	2.7	-	7	<1	1	<5
10-Jul-06	2.0	-	15	<1	2	11
19-Jul-06	6.4	-	19	<1	3	14
31-Jul-06	20.3	-	38	<1	6	29
06-Aug-06	10.5	-	53	1	8	39
14-Aug-06	-	-	60	1	9	44
20-Aug-06	6.7	-	77	3	11	56
01-Sep-06	-	-	85	3	13	63
20-Sep-06	-	-	98	3	15	70
18-Jun-07	2.3	<2	34	2	6	26
24-Jun-07	2.7	<2	30	1	4	23
01-Jul-07	1.7	<2	16	<1	2	10
07-Jul-07	5.1	<2	29	<1	4	26
17-Jul-07	11.0	3	36	<1	5	28
22-Jul-07	33.6	18	35	1	5	26
28-Jul-07	10.5	<2	53	2	8	39
05-Aug-07	30.3	31	60	2	9	43
12-Aug-07	34.6	36	69	3	12	50

TABLE 2.9

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
UPSTREAM REFERENCE STATIONS (NO INFLUENCE FROM DEPOSIT NO. 1)

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
19-Aug-07	21.1	4	87	5	14	58
27-Aug-07	24.5	10	97	4	15	68
03-Sep-07	4.2	<2	111	6	18	77
09-Sep-07	2.2	<2	116	5	19	82
18-Sep-07	1.2	<2	138	7	15	93
23-Sep-07	0.7	<2	150	8	16	102
23-Jun-08	1.5	6	8	<1	1	8
02-Jul-08	1.5	<2	23	<1	4	18
08-Jul-08	1.0	<2	51	1	7	40
14-Jul-08	6.4	<2	46	1	7	34
21-Jul-08	6.9	<2	68	2	11	50
01-Aug-08	6.6	<2	74	2	11	55
05-Aug-08	0.6	<2	105	<1	13	86
11-Aug-08	3.5	5	107	3	18	79
18-Aug-08	3.0	<2	112	4	18	80
26-Aug-08	2.6	<2	111	4	18	79
01-Sep-08	1.5	<2	77	1	13	59
08-Sep-08	2.8	<2	100	4	16	73
G0-03 (Mary River, upstream of Deposit Nos. 1 and 2)						
11-Jun-05	0.3	-	<30	1	2	9
8-Aug-05	4.9	-	40	<1	6	36
10-Sep-05	1.6	<2	51	2	13	57
17-Jun-06	0.4	-	18	<1	2	9
04-Aug-06	9.8	-	49	1	7	39
04-Sep-06	6.7	-	88	8	13	55
18-Jun-07	1.6	<2	29	1	5	23
22-Jul-07	11.4	<2	44	<1	6	32
09-Sep-07	2.5	<2	112	7	18	76
23-Jun-08	2.1	7	9	<1	1	<5
02-Jul-08	2.4	2	17	<1	3	11
08-Jul-08	7.0	5	27	1	4	22
14-Jul-08	7.2	<2	38	2	5	28
21-Jul-08	8.5	2	68	7	13	42
01-Aug-08	9.4	5	87	13	12	46
05-Aug-08	20.7	6	86	10	13	51
11-Aug-08	14.1	8	106	12	16	61
18-Aug-08	5.3	<2	101	5	16	66
26-Aug-08	1.7	6	106	4	16	73
01-Sep-08	5.8	3	71	3	11	49
08-Sep-08	4.5	<2	89	6	14	62
16-Sep-08	2.7	<2	102	5	16	71

Baffinland Iron Mines Corporation

TABLE 2.9

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
UPSTREAM REFERENCE STATIONS (NO INFLUENCE FROM DEPOSIT NO. 1)

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
G0-05 (Mary River, upstream of Deposit Nos. 1 and 2)						
04-Aug-06	6.0	-	48	<1	7	38
04-Sep-06	6.0	-	66	1	10	50
13-Jun-07	1.5	<2	29	2	4	23
23-Jul-07	30.7	20	48	<1	7	38
31-Aug-07	6.2	<2	93	4	15	65
09-Jul-08	6.2	2	36	<1	5	28
28-Aug-08	2.3	<2	88	2	14	63
G0-01 (Mary River, upstream of Deposit No. 1 and 2)						
9-Jun-05	0.6	-	31	1	4	17
8-Aug-05	4.8	-	49	<1	6	34
10-Sep-05	1.4	-	63	2	14	60
12-Jun-06	0.6	-	42	<1	6	32
18-Jun-06	1.0	-	19	1	2	10
26-Jun-06	2.6	-	15	2	2	8
10-Jul-06	2.5	-	15	<1	2	12
19-Jul-06	4.5	-	19	<1	3	13
31-Jul-06	17.8	-	38	1	6	28
06-Aug-06	5.3	-	62	2	9	45
14-Aug-06	-	-	66	2	11	50
20-Aug-06	6.1	-	36	2	11	56
29-Aug-06	-	-	68	2	11	50
20-Sep-06	-	-	105	5	16	75
19-Jun-07	1.5	2	33	4	5	21
24-Jun-07	1.2	<2	38	3	5	27
01-Jul-07	2.4	<2	20	<1	2	15
07-Jul-07	5.7	<2	24	<1	4	22
17-Jul-07	9.1	<2	36	1	5	28
24-Jul-07	8.7	2	55	2	8	40
28-Jul-07	8.9	<2	55	2	9	40
05-Aug-07	11.5	3	70	3	11	49
12-Aug-07	7.2	4	81	4	14	57
19-Aug-07	20.9	3	85	5	13	58
27-Aug-07	11.0	6	94	5	15	64
01-Sep-07	9.3	<2	106	7	16	69
08-Sep-07	2.6	<2	115	8	19	78
18-Sep-07	0.8	<2	152	14	24	92
01-Jul-08	3.1	4	18	<1	3	13
08-Jul-08	4.9	2	29	1	4	24
14-Jul-08	7.4	3	36	1	5	28
21-Jul-08	6.1	<2	62	4	9	43

TABLE 2.9

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
UPSTREAM REFERENCE STATIONS (NO INFLUENCE FROM DEPOSIT NO. 1)

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
01-Aug-08	7.4	6	72	4	11	49
05-Aug-08	19.2	6	81	5	13	55
11-Aug-08	11.5	5	95	6	14	63
18-Aug-08	5.4	<2	106	7	16	69
26-Aug-08	2.5	<2	116	7	18	75
01-Sep-08	5.9	2	79	5	12	53
08-Sep-08	3.9	<2	99	6	15	66
16-Sep-08	1.9	<2	112	7	17	75
F0-05 (Mary River - upstream of steep drainage pathways near Deposit No. 1)						
4-Aug-06	0.2	-	89	<1	15	72
4-Sep-06	0.3	-	101	<1	17	82
23-Jul-07	0.1	<2	90	<1	15	70
1-Sep-07	0.2	<2	125	<1	22	99
2-Jul-08	0.4	<2	29	<1	5	26
8-Jul-08	0.2	<2	60	<1	9	48
14-Jul-08	0.3	<2	68	<1	11	54
21-Jul-08	0.1	<2	89	<1	15	71
1-Aug-08	0.4	<2	95	<1	16	77
5-Aug-08	18.1	6	82	3	19	60
11-Aug-08	0.3	<2	112	<1	20	90
18-Aug-08	0.6	7	116	<1	20	92
26-Aug-08	0.4	<2	123	<1	21	99
1-Sep-08	0.2	<2	76	<1	13	61
8-Sep-08	0.2	<2	107	<1	18	84

TABLE 2.10

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
PROXIMAL STATIONS (TO DEPOSIT NO. 1)

Station ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
F0-01						
9-Jun-05	0.9	-	<30	1	6	28
8-Aug-05	0.3	-	63	1	15	68
10-Sep-05	<0.1	-	40	2	22	96
12-Jun-06	0.5	-	68	<1	10	51
18-Jun-06	0.7	-	31	<1	5	25
26-Jun-06	1.0	-	66	20	10	13
02-Jul-06	1.7	-	14	1	2	7
10-Jul-06	0.5	-	29	<1	4	23
19-Jul-06	0.6	-	43	<1	7	36
31-Jul-06	0.4	-	90	3	14	68
06-Aug-06	0.8	-	114	3	18	86
14-Aug-06	-	-	101	3	17	76
20-Aug-06	0.3	-	126	4	19	94
29-Aug-06	-	-	111	2	19	88
20-Sep-06	-	-	153	8	25	109
19-Jun-07	1.1	<2	59	2	10	45
24-Jun-07	1.4	<2	33	2	5	25
01-Jul-07	1.5	<2	25	<1	4	19
07-Jul-07	0.6	<2	48	<1	7	40
17-Jul-07	0.4	<2	87	1	14	68
24-Jul-07	0.3	<2	98	1	16	75
28-Jul-07	0.2	<2	109	2	18	84
05-Aug-07	0.2	<2	102	1	17	79
12-Aug-07	0.1	<2	125	3	22	95
19-Aug-07	0.2	<2	135	5	23	102
27-Aug-07	0.1	<2	129	3	21	98
01-Sep-07	0.2	<2	145	5	24	107
08-Sep-07	0.2	<2	137	4	24	106
18-Sep-07	<0.1	<2	166	8	16	119
24-Sep-07	0.1	<2	178	9	29	127
01-Jul-08	0.8	3	31	<1	5	27
08-Jul-08	0.5	<2	55	<1	8	43
14-Jul-08	0.4	<2	77	<1	13	61
21-Jul-08	0.3	<2	99	2	16	76
01-Aug-08	0.9	<2	137	14	22	87
05-Aug-08	0.7	<2	144	11	24	97
11-Aug-08	0.9	2	166	22	30	94
18-Aug-08	1.9	3	176	24	31	98
26-Aug-08	1.0	<2	186	21	30	111
01-Sep-08	0.7	4	112	12	19	68

TABLE 2.10

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
PROXIMAL STATIONS (TO DEPOSIT NO. 1)

Station ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
08-Sep-08	0.4	<2	157	18	25	95
16-Sep-08	0.9	<2	176	21	31	105
F0-02						
23-Jun-08	4.7	10	11	<1	2	7
2-Jul-08	0.5	3	33	<1	5	30
8-Jul-08	0.4	<2	57	<1	9	45
14-Jul-08	7.1	<2	75	<1	12	58
21-Jul-08	0.4	<2	97	1	16	75
1-Aug-08	0.7	<2	125	11	21	83
5-Aug-08	0.8	<2	129	8	22	91
11-Aug-08	0.9	<2	157	19	29	92
18-Aug-08	0.4	3	162	19	30	95
26-Aug-08	0.4	<2	167	17	28	104
1-Sep-08	0.6	<2	110	12	19	66
8-Sep-08	0.4	<2	153	18	25	91
16-Sep-08	0.2	<2	166	19	31	99
E4-01						
9-Jun-05	0.4	-	51	2.1	6	24
8-Aug-05	0.2	-	926	250	138	93
10-Sep-05	<0.1	-	1270	480	256	128
17-Jun-06	0.7	-	37	4	6	26
28-Jul-06	1.1	-	229	51	41	93
29-Aug-06	-	-	428	120	93	136
13-Jun-07	0.9	<2	59	2	9	45
24-Jul-07	0.3	<2	1380	585	340	116
19-Aug-07	0.1	<2	1830	804	319	136
27-Aug-07	0.2	<2	1700	710	370	137
01-Sep-07	0.1	4	2020	905	481	139
08-Sep-07	0.1	<2	1980	892	496	139
16-Sep-07	0.3	<2	1380	575	217	143
01-Jul-08	0.8	2	70	10	12	38
08-Jul-08	2.5	4	115	17	19	59
14-Jul-08	0.4	<2	216	49	45	87
21-Jul-08	0.2	<2	322	82	67	119
01-Aug-08	0.3	<2	306	69	63	129
05-Aug-08	0.2	<2	355	90	78	135
11-Aug-08	0.2	<2	374	92	81	145
18-Aug-08	0.3	6	326	67	66	146
26-Aug-08	0.2	<2	280	52	56	135
01-Sep-08	0.2	<2	272	48	53	135

TABLE 2.10

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
PROXIMAL STATIONS (TO DEPOSIT NO. 1)

Station ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
08-Sep-08	0.6	87	296	57	63	140
E3-01						
9-Jun-05	21.2	-	586	180	80	28
8-Aug-05	0.1	-	2770	1200	449	60
10-Sep-05	0.1	-	5050	2600	1130	65
17-Jun-06	>100	-	359	139	72	31
28-Jul-06	1.9	-	1970	922	406	51
29-Aug-06	-	-	2390	1105	500	68
13-Jun-07	0.5	<2	735	322	145	45
24-Jul-07	1.2	8	5910	2890	1600	58
19-Aug-07	2.2	13	5540	2790	1380	64
27-Aug-07	1.3	9	5300	2650	1190	62
01-Sep-07	0.9	9	5130	2490	1150	66
08-Sep-07	1.9	4	4590	2210	1050	68
16-Sep-07	1.3	4	4430	2160	806	66
01-Jul-08	8.8	51	607	243	127	60
08-Jul-08	>100	2080	708	278	166	61
14-Jul-08	3.0	<2	1180	502	261	87
21-Jul-08	2.5	5	1380	607	310	90
01-Aug-08	7.6	16	3270	1470	785	83
05-Aug-08	6.6	25	4950	2300	1300	88
11-Aug-08	0.9	7	2330	1120	520	83
18-Aug-08	44.6	88	1940	904	394	89
26-Aug-08	1.7	54	1650	727	344	89
01-Sep-08	1.1	104	1740	795	364	79
08-Sep-08	23.4	87	3240	1580	777	83

TABLE 2.11

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
POTENTIALLY AFFECTED STATIONS

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
E0-10						
12-Jun-06	0.5	-	43	<1	6	32
19-Jun-06	1.0	-	24	<1	3	16
26-Jun-06	1.6	-	38	9	6	11
02-Jul-06	3.0	-	11	<1	2	5
10-Jul-06	1.9	-	17	<1	2	13
19-Jul-06	3.4	-	23	<1	4	18
31-Jul-06	17.6	-	39	1	6	31
06-Aug-06	5.4	-	62	2	9	47
14-Aug-06	-	-	67	2	11	50
20-Aug-06	5.8	-	77	2	12	57
29-Aug-06	-	-	76	2	12	57
20-Sep-06	-	-	114	5	18	81
19-Jun-07	1.8	<2	35	4	5	20
24-Jun-07	0.7	<2	62	4	9	42
01-Jul-07	1.2	<2	25	<1	4	17
07-Jul-07	3.8	<2	31	1	5	26
17-Jul-07	9.3	<2	40	1	6	30
24-Jul-07	8.6	<2	55	2	8	40
28-Jul-07	6.9	<2	61	2	9	45
05-Aug-07	3.0	<2	94	2	15	71
13-Aug-07	6.9	<2	85	4	15	60
19-Aug-07	17.9	4	87	5	13	59
27-Aug-07	9.0	7	100	5	16	69
01-Sep-07	7.6	4	108	7	17	72
08-Sep-07	2.3	<2	117	7	19	81
18-Sep-07	0.8	<2	152	13	13	94
01-Jul-08	3.0	4	20	<1	3	14
08-Jul-08	4.1	2	32	1	5	25
14-Jul-08	0.3	<2	79	<1	13	61
21-Jul-08	5.5	<2	68	3	11	48
01-Aug-08	7.1	<2	74	4	11	50
05-Aug-08	18.2	5	83	5	13	56
11-Aug-08	10.4	6	100	7	16	65
26-Aug-08	2.2	<2	118	8	18	76
01-Sep-08	6.8	3	75	4	11	51
G0-10						
08-Jul-08	6.4	<2	34	3	5	24
14-Jul-08	9.1	5	39	3	6	28
21-Jul-08	14	47	72	7	11	43
1-Aug-08	5.3	4	111	20	19	51

TABLE 2.11

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
POTENTIALLY AFFECTED STATIONS

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
5-Aug-08	15	6	156	38	33	58
11-Aug-08	12.4	8	120	16	21	65
1-Sep-08	6.1	7	88	8	14	53
E0-03						
09-Jun-05	0.9	-	69	11	8	21
9-Aug-05	4.1	-	40	4	9	34
12-Sep-05	0.6	-	130	42	35	70
12-Jun-06	4.2	-	71	13	11	31
18-Jun-06	2.3	-	28	4	5	14
26-Jun-06	2.6	-	27	6	4	10
02-Jul-06	4.9	-	8	<1	1	<5
10-Jul-06	2.6	-	16	<1	2	10
19-Jul-06	4.2	-	22	1	3	15
30-Jul-06	15.1	-	47	4	7	30
06-Aug-06	5.8	-	75	7	12	46
14-Aug-06	-	-	78	7	13	49
20-Aug-06	5.3	-	90	8	14	58
29-Aug-06	-	-	73	4	12	50
19-Sep-06	-	-	126	13	22	77
18-Jun-07	1.4	<2	51	8	9	27
24-Jun-07	1.6	<2	31	<1	4	25
01-Jul-07	2.3	<2	17	1	3	10
07-Jul-07	0.6	<2	45	<1	7	37
16-Jul-07	10.4	2	40	3	6	28
22-Jul-07	12.7	5	59	6	9	35
28-Jul-07	8.4	<2	76	11	13	41
05-Aug-07	9.6	3	100	14	17	53
13-Aug-07	12.9	10	104	15	19	54
19-Aug-07	14.6	3	114	17	19	60
27-Aug-07	10.5	5	109	11	18	65
01-Sep-07	10.0	<2	134	19	22	70
09-Sep-07	1.9	<2	161	25	30	82
16-Sep-07	1.1	<2	287	73	50	95
24-Sep-07	0.3	<2	300	73	44	107
23-Jun-08	2.8	11	12	<1	2	8
01-Jul-08	2.9	4	20	<1	3	15
08-Jul-08	4.5	2	29	1	4	23
14-Jul-08	9.3	3	38	2	5	27
21-Jul-08	7.2	<2	74	8	12	45
01-Aug-08	10.7	5	85	10	13	48
05-Aug-08	27.0	<2	99	13	16	55

TABLE 2.11

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
POTENTIALLY AFFECTED STATIONS

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
11-Aug-08	14.8	8	111	12	17	64
18-Aug-08	3.1	<2	120	14	20	71
26-Aug-08	2.5	<2	144	20	23	76
01-Sep-08	5.9	3	85	8	13	51
08-Sep-08	3.9	<2	148	27	26	66
15-Sep-08	1.9	<2	150	21	25	78
C0-10						
11-Jun-05	0.6	-	57	6	10	37
9-Aug-05	4.7	-	<30	3	8	36
12-Sep-05	0.7	-	91	23	25	68
12-Jun-06	0.6	-	62	4	9	41
18-Jun-06	1.1	-	43	4	7	29
26-Jun-06	2.1	-	33	6	5	13
02-Jul-06	5.4	-	10	<1	2	5
10-Jul-06	2.4	-	18	<1	3	12
19-Jul-06	3.9	-	23	1	4	16
30-Jul-06	6.7	-	53	4	8	37
06-Aug-06	6.6	-	72	6	12	47
14-Aug-06	-	-	77	5	13	53
20-Aug-06	4.9	-	90	7	14	59
30-Aug-06	-	-	84	5	13	58
19-Sep-06	-		122	12	21	73
18-Jun-07	0.8	<2	59	6	9	36
24-Jun-07	0.9	<2	74	16	13	30
01-Jul-07	1.9	<2	19	<1	3	11
08-Jul-07	5.5	<2	27	<1	4	21
16-Jul-07	10.4	9	44	2	7	32
22-Jul-07	25.6	6	51	4	8	33
28-Jul-07	8.1	<2	70	8	11	42
05-Aug-07	8.2	2	101	14	17	54
13-Aug-07	6.0	<2	104	13	19	59
19-Aug-07	9.1	2	103	13	19	58
28-Aug-07	8.4	<2	100	9	16	60
03-Sep-07	3.2	<2	137	18	23	75
09-Sep-07	1.9	<2	152	21	26	82
18-Sep-07	0.7	<2	157	21	31	64
24-Sep-07	0.3	<2	194	34	23	90
30-Sep-07	0.2	<2	241	53	45	104
23-Jun-08	2.4	6	15	<1	2	7
01-Jul-08	2.9	3	19	<1	3	15
08-Jul-08	4.4	<2	29	1	4	22

Baffinland Iron Mines Corporation

TABLE 2.11

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
POTENTIALLY AFFECTED STATIONS

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
14-Jul-08	11.3	4	38	2	6	29
21-Jul-08	3.8	<2	74	7	12	47
01-Aug-08	11.3	6	81	8	12	49
05-Aug-08	14.9	3	105	14	18	58
11-Aug-08	17.3	9	110	12	18	64
18-Aug-08	3.6	<2	127	15	20	72
26-Aug-08	1.7	<2	130	13	21	76
01-Sep-08	5.7	<2	84	8	13	52
08-Sep-08	3.5	<2	129	19	22	66
15-Sep-08	1.5	<2	138	17	22	76
L0-01						
10-Jun-05	0.5	-	31	1	5	24
9-Aug-05	0.2	-	86	0	15	70
9-Sep-05	0.2	-	74	1	21	99
12-Jun-06	0.4	-	53	<1	8	40
18-Jun-06	0.5	-	46	<1	7	36
26-Jun-06	0.6	-	27	<1	4	21
02-Jul-06	0.5	-	30	<1	4	24
10-Jul-06	0.3	-	53	<1	7	41
19-Jul-06	0.3	-	56	<1	8	45
30-Jul-06	0.6	-	98	<1	16	77
06-Aug-06	1.1	-	118	1	18	93
14-Aug-06	-	-	105	<1	17	84
20-Aug-06	0.7	-	125	2	19	99
29-Aug-06	-	-	118	2	19	91
19-Sep-06	-	-	144	3	24	110
19-Jun-07	0.5	<2	53	1	8	41
24-Jun-07	1.1	<2	50	1	7	37
01-Jul-07	1.6	<2	55	<1	7	42
08-Jul-07	0.3	<2	58	<1	9	46
16-Jul-07	0.4	<2	79	<1	12	62
23-Jul-07	0.7	<2	88	3	17	68
28-Jul-07	0.3	<2	109	2	17	85
05-Aug-07	0.9	4	96	2	15	72
12-Aug-07	0.3	<2	129	3	22	100
19-Aug-07	0.3	<2	140	3	23	107
27-Aug-07	0.4	2	134	4	21	100
02-Sep-07	0.3	5	147	5	23	108
10-Sep-07	0.4	<2	151	5	24	111
19-Sep-07	0.3	<2	163	6	26	123
22-Jun-08	0.9	<2	40	2	6	31

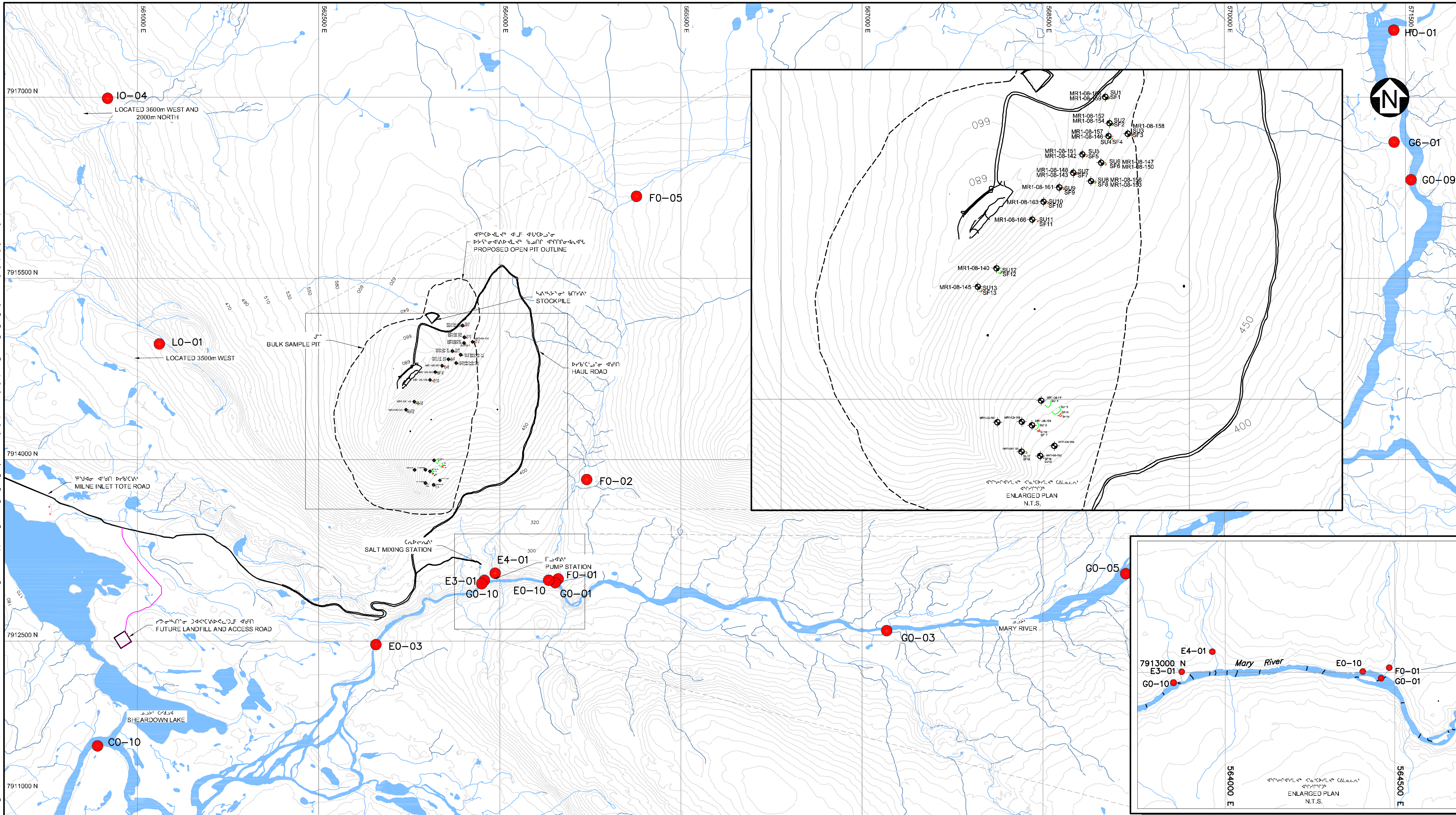
TABLE 2.11

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2008 ANNUAL REPORT TO THE NUNAVUT IMPACT REVIEW BOARD

EXPLORATION DRILLING WATER QUALITY MONITORING PROGRAM - SELECTED PARAMETERS
POTENTIALLY AFFECTED STATIONS

Site ID (date)	Turbidity (NTU)	TSS (mg/L)	TDS (mg/L)	Chloride (mg/L)	Total Calcium (mg/L)	Alkalinity (mg/L as $CaCO_3$)
02-Jul-08	0.3	<2	63	<1	10	48
08-Jul-08	0.6	<2	70	2	10	52
14-Jul-08	0.2	<2	103	4	16	75
21-Jul-08	0.5	<2	120	9	20	86
01-Aug-08	0.5	<2	131	8	21	91
05-Aug-08	0.7	<2	151	11	25	104
11-Aug-08	0.4	<2	152	11	24	103
27-Aug-08	0.6	<2	157	11	25	105
01-Sep-08	0.6	<2	123	9	20	82
08-Sep-08	0.8	<2	157	16	25	101
16-Sep-08	0.9	<2	174	16	30	111
I0-04						
17-Jun-06	0.7	-	35	<1	5	26
28-Jul-06	10.7	-	61	<1	10	49
23-Aug-06	1.6	-	108	2	17	83
20-Jun-07	4.6	2	51	2	8	37
19-Jul-07	1.8	3	67	2	10	52
10-Sep-07	0.5	<2	148	7	24	103
06-Jun-08	0.8	<2	37	1	6	27
14-Jul-08	0.7	<2	55	1	9	43
01-Sep-08	0.8	<2	89	1	15	69



LEGEND:

- WATER
- RIVER/STREAM/DRAINAGE
- WETLAND
- SUMP LOCATIONS
- SUMP AND SILT FENCE LOCATIONS
- DRILLHOLE AND/OR TESTPIT COMPLETED IN 2008
- 2008 PUMP LOCATIONS
- 2008 SEDIMENT DISPOSAL LOCATIONS
- 2008 WEEKLY AND SEASONAL SAMPLE SITES

NOTE(S):

1. COORDINATE GRID IS UTM (NAD83) ZONE 17 AND IS IN METRES.
2. CONTOUR INTERVAL IS 10 METRES.
3. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).

SCALE 300 150 0 300 600 900 1200 1500 m

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

2008 EXPLORATION DRILLHOLES AND WATER QUALITY SAMPLE LOCATIONS

P/A NO.	REF.	REV.
NB102-00181/13	NB08-01214	0

FIGURE: 2.5