Baffinland Iron Mines Corporation
Mary River Project

Borrow Pit and Quarry Management Plan

Appendix 10D-6

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2011-12-09	B	Approved for Use	A. Grzegorczyk	J. Binns	S. Perry	
2011-11-03	A	Approved for Use – Environment Permit	J. Donetz	J. Binns	J. Casson	
DATE	**REV.**	**STATUS**	**PREPARED BY**	**CHECKED BY**	**APPROVED BY**	**APPROVED BY**
			HATCH			**CLIENT**

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1. Introduction

1.1 Purpose and Approach

This management plan is prepared within the context of the Baffinland Mary River Final Environmental Impact Statement (FEIS), and is meant to provide supporting information for consideration towards a Type A Water Licence for the project. A more complete Project description of all components can be found in Volume 3: Project Description and further management plan descriptions in Volume 10: Appendix 10-D of the FEIS. The purpose of the Borrow Pit and Quarry Management Plan is to set out the objectives and measures to maintain and enhance environmental performance of the quarries while avoiding to the extent practical, remedying, and mitigating any potential adverse environmental effects associated with quarrying.

The goal of the Management Plan for the Type A Water Licence is to provide regulators with a selection of quarry operations necessary for the Mary River Project. In total, 67 quarries will be required for railway and road construction, plus additional material for infrastructure. Rather than evaluating separate management plans for each site, it was agreed that an overall management strategy would be prepared, and that a more detailed description of quarry operations would be provided for five separate quarries. These would include two quarries primarily utilized for construction of infrastructure (Steensby Inlet (QS2) and Mary River Mine Site (QMR2), and three quarries for construction of the railway bed, representing the north section (Quarry Q7+500), the centre section (Q77 + 200) and the south section (Q133 + 500) of the route. This provides a good representation of the different terrain and issues likely to be encountered for the entire project.

Although the terrain differs over the entire RSA, it should be noted that the actual quarry management strategy will remain relatively constant. All quarries will be blast / crush types of operations, with an attempt to minimize the creation of depressions that would permanently alter water regimes. All quarries will avoid, as much as is practical, sensitive areas and features. All quarries will be relatively free of spoils piles, due to the limited soil overburden throughout the area.

Figure 8-1 shows the location of all quarries under consideration for the Mary River Project, and Table 8 2 summarizes the quarry yields (where available).

1.2 Regulatory Requirements

Under the guidelines provided by the Nunavut Water Board (NWB), quarrying is not specifically listed as an activity that requires a Type A Water Licence. Under Guideline 3 Activities Requiring Licence Types, Table 2: Summary of Type B and A Water Licence Criteria pursuant to the Regulations, Industrial Undertakings,3(c)), quarrying is listed as only requiring a Type B Licence.

The Mary River borrow pit or quarry development requires a quarry permit under the Territorial Quarrying Regulations, and if activities include the use of equipment that exceeds the thresholds

of the applicable land-use regulations, a land-use permit is required. Both permits include terms and conditions specifying how operations must be conducted. A quarry lease may be applied for instead of a quarry permit if longer-term tenure is desired.

Quarry operations that require blasting might require regulatory approval from the Worker's Safety and Compensation Commission.

1.3 Baffinland's Commitments

Baffinland provides adequate resources to implement and maintain the Environmental, Health, and Safety (EHS) Management System including the necessary human, material and financial resources.

Baffinland's Sustainable Development Policy is included in Annex 1.

1.4 Application of this Management Plan

Aggregate requirements for the Mary River Project are described elsewhere in this document and will be supplied by the quarry and borrow sites located at Milne Inlet, Mary River and Steensby Inlet, and along the railway corridor. Volume 3, Section 2.1.6 of the FEIS describes the overall strategy for sourcing aggregate. The following summarizes the sources and applications.

Aggregate will be used during construction activities at the Mary River Mine Site, Milne Inlet Site, and the Steensby Inlet site as both general fill and structural fill for activities such as site grading for airstrips, backfill, foundations for fuel storage, camp expansion, local roads and administration and maintenance facilities, and heavy equipment storage. The aggregate will be obtained from borrow sources located within the PDA and pit overburden and rock quarries at various locations).

Development of a number of quarries along the railway corridor will be necessary for the construction of the rail bed, and the temporary access road. These quarries will be developed as the construction of the rail line progresses, and will be sequenced on an "as needed" basis.

Results of geochemical testing conducted to date for acid rock drainage and metal leaching indicate that quarry materials have low potential for acid generation (ARD) and metals leaching (See FEIS Volume 6, Appendix 6 B 2). Geotechnical drilling samples have been obtained for all sites, or are in the process of being obtained (Table 1-1). No ARD issues have been noted. Any acid rock generating sites will be deemed as unusable for quarry applications.

This Borrow Pit and Quarry Management Plan will be updated to reflect situations related to incident investigations, regulatory changes, or other Project-related changes. Start of the construction phase will be a major milestone for the Project.

1.5 Relationship to other Management Plans

This plan should be viewed in concert with the following additional management plans prepared for the 2012 Work Plan. All management plans can be found in FEIS, Volume 10 under their respective headings as follows:

- Emergency Response and Spill Contingency Plan (Appendix 10C-1);
- Surface Water and Aquatic Ecosystems Management Plan (Appendix 10D-2);
- Fresh Water Supply, Sewage and Wastewater Management Plan (Appendix 10D-3);
- Explosives Management Plan (Appendix 10C-4) and;
- Preliminary Mine Closure and Reclamation Plan (Appendix 10G).

In addition, completed management plans as described in the FEIS should be consulted if other details are required.

2. Targeted VEC's

Valued Ecosystem Components (VECs) were established in the studies and evaluations related to the FEIS. For the construction work, targeted VECs for the Pit and Quarry Management Plan are:

1. Health and safety (compliance with Baffinland's Health and Safety Management Plan);
2. Surface water quality;
3. Air quality, noise, and vibration; and
4. Terrestrial wildlife.

3. Mitigation Measures

3.1 Planning and Design

Potential borrow pit and quarry sites have been identified for each area of the construction works for the Project. These sites are located in the footprint of Project facilities.

Volume 10, Appendix 10-D-6 of the FEIS provides further location information and includes quarry boundaries, distances from creeks and streams (31-m setback), presence of bird-nesting areas, and potential tonnage.

The requirement for a 31-m setback from creeks or streams will ensure minimal adverse impacts of the pit/quarry operation on surface water quality. A similar setback is required from known bird-nesting locations.

In cases where feasible, a 100 m set back will be considered for sensitive areas.

An important aspect of planning is to assess suitability of quarry material. Baffinland will avoid using quarry material that has the potential for generating Acid Rock Drainage (ARD). Geotechnical investigations have been carried out at the proposed sites, and ARD sources are being avoided. A protocol for ARD sampling is attached to this Plan (see 0).

3.2 Environmental Concerns and Mitigation Techniques

Environmental concerns for all Project works, including the quarries and borrow areas, are presented in Volume 6 to 8 of the FEIS. Table 3-1, below presents a summary of environmental concerns and mitigation techniques associated with development of borrow pits and quarries

Table 3—1: Pit and Quarry Environmental Concerns and Mitigation Techniques

Development Phase	Activities	Potential Environmental Effects	Mitigation Techniques
Site layout/ Site preparation	• Timber clearing • Vegetation removal • Soil and overburden removal	• Soil erosion • Habitat loss	• Retain vegetation to maintain slope stability • Maintain natural drainage patterns • Maintain vegetation buffer zones to protect water bodies • Construct ditches to direct runoff away from site • Locate the development in a well-drained area • Salvage and properly store organics, topsoil, and overburden for use in reclamation
Operations/ Monitoring	• Blasting • Stockpiling • Crushing • Access road maintenance	• Soil erosion and sediment deposition	• Limit sediment movement using silt fences or straw bales • Use rip-rap to reinforce drainage channel corners and water discharge points • Revegetate where required to stabilize slopes
		• Water quality impacts: ○ Silt ○ Fuel ○ Blasting residue	• Limit sediment movement or use settling ponds before discharging • Use proper fuel containment and handling techniques, and have spill kits accessible • Use proper explosives handling techniques to minimize wastage
		• Water Ponding: ○ Permafrost degradation	• Minimize sources of in-pit water by diverting surface water away from the development area • Place ice-rich material to thaw in a location where melt water will not re-enter pit • Limit pit or quarry depth
		• Dust generation	• Spray water and use dust skirts on conveyors to minimize dust

Source: Northern Land Use Guidelines, Pits and Quarries, INAC 2008

3.3 Development Plans of Borrow Pit and Quarry

A detailed development plan will be prepared by the selected contractor before the starts of extraction of material from each borrow pit or quarry. Site development plans will augment this operations plan with specific details. These development plans will include:

- Site layout and boundaries with the following provisions:
  - Minimum setback of 31m from environmentally sensitive areas, a 100 m when feasible;
  - Adequate room for all activities;
  - Estimates of the resources to be extracted;
  - Refuelling station with appropriate containment (if required);
  - Stockpiling location;
  - Dust and noise consideration;
  - Waste management;
  - Water management structures;
  - Sequence of operation;
  - Contractor involved in the operation;
  - Site operating procedures; and
  - Spill response procedures.
- Monitoring:
  - Pit wall stability (for quarry);
  - Extent of permafrost or ground-ice;
  - Wildlife interactions or sightings; and
  - Contingencies if changes to the original development scenario are required.
- Reclamation:
  - Overburden replacement for site grading and re-contouring;
  - Reclamation of natural drainage;
  - Slope reconstruction;
  - Removal of all garbage and debris;
  - Removal of all temporary storages/structures/equipment;

- Reclamation of access road and block access (if required); and
- Replacement of all salvaged topsoil (if required).

3.4 Water Management

Site development must ensure positive drainage to prevent water pooling or flooding of the pit. The following measures will be implemented to enhance re-establishment of equilibrium and minimization of erosion and water ponding:

- Where possible, excavations will be minimized by utilizing above grade sources for material (hills and swales), which will minimize water collection and drainage disruption;
- Cut and fill areas will be stabilized by constructing gentle slopes less prone to erosion.
- Cut and fill areas are expected to be relatively small in horizontal and vertical extent. The side slopes of the borrow pits will be 1H:1V to 2H:1V, slightly gentler than natural slopes to reduce erosion;
- In low-lying areas where roadbed fill is in the order of 1 m and permafrost can be expected to rise to a meaningful degree, swales or culverts will be installed as part of road maintenance to prevent water ponding;
- At closure, swales will be left in place, or alternatively, the road bed will be breached to allow drainage;
- Borrow activities will be concentrated in few areas to limit the area of disturbance;
- Thawed layers will be removed sequentially;
- Areas of unexpected settlement will be filled to re-establish natural contours and eliminate water ponding; and
- Borrow locations will be regularly inspected and unstable slopes regraded to eliminate depressions and re-establish natural drainage patterns.

3.5 Resource Extraction

Extraction methods will depend on the nature of the material, equipment used, and extent and nature of the permafrost.

Pits and quarries will not be excavated below the water table. If excavated material contains ground-ice, the material will be stored at a location in the pit where it can thaw and drain. Meltwater from such stockpiles must be treated for sediment control (see Appendix 10D-2, Surface Water and Aquatic Ecosystems Management Plan).

Machinery and equipment used on the site will be serviced on a routine maintenance schedule to ensure proper operation and thus minimize emissions and noise.

If fuel storage is required, fuel tanks must be double-walled and placed within a containment berm. A well-stocked spill response kit must be placed in the refuelling area. Vehicles must be equipped with spill response kits and drip trays. Used oil and fuel must not be stored at the pit/quarry sites.

A spill contingency plan must be in place for each quarry site. This plan outlines the logical order of how operators should respond to spills, resources available onsite for spill response, and notification procedures.

3.6 Closure

The abandonment of the Project works and site reclamation for the quarries and borrow pits will be undertaken at or before the close of the Project. The works will be integrated into the overall Project Abandonment and Reclamation Plan, although separate closure plans for each quarry and borrow pit will be required. Closure of the Project will involve removing construction materials, equipment and infrastructure and reclaiming the site to self sustaining productive ecosystem near its original condition.

In addition to the measures described in Section 3.1 to Section 3.5 above, the general abandonment and reclamation plans include the following:

- Dismantle and transport all fuel/chemical storage and handling infrastructure to an approved facility or for reuse where applicable;
- Dismantle and remove all buildings and related infrastructure;
  - Any remaining concrete piles will be cut to below grade and covered with overburden.
- Dismantle water and sewage treatment plants for reuse or disposal at an approved facility;
- Remove all hazardous waste and explosives;
- Regrade as necessary to establish safe slopes and restore the natural drainage to the area; and
- Test soils and granular materials for hydrocarbon content; contaminated soils will be remediated.

4. Roles and Responsibilities

The quarries and borrow pits described in this document are being exploited for specific construction activities related to the Mary River Project. Although there is the potential for the quarries to continue operating as part of the overall Project development, there is no current commitment past those outlined for the Mary River Project, and no general commercial operation is anticipated.

4.1 Baffinland Personnel

The HSE Manager is responsible for implementing Baffinland's EHS policies and environmental management plans, and for ensuring that the EPCM contractor and subcontractor have the organization, policies, and operating practices in place to ensure ongoing compliance with Baffinland's EHS requirements.

4.2 HSE Manager

The HSE Manager is responsible for:

- Preparing necessary documentation for permitting of quarries and borrow pits;
- Selecting the subcontractors who will undertake development of borrow pits and quarries;
- Ensuring that subcontractors comply with Baffinland's health and safety policies;
- Daily supervision and monitoring of subcontractors to ensure compliance with regulatory requirements; and
- Reporting to Baffinland as required.

Before material extraction from a borrow pit or quarry sites, the EPCM contractor will submit a detailed pit/quarry development plan to Baffinland (see Section 3.3).

5. Performance Indicators and Thresholds

The performance indicators for the pit/quarry are visual and depend on regular inspection and maintenance of the pit/quarry site. These indicators are:

- Site safety and security;
- General site condition and "housekeeping";
- Positive drainage and absence of water pooling/ponding on the pit/quarry site; and
- Ground/slope stability.

6. Monitoring and Reporting Requirements

Operation of the borrow pits and quarries must be monitored to ensure they are proceeding according to the Borrow Pit and Quarry Management Plan and remain in compliance with regulations and land-use permits. Monitoring focuses on:

- Regular inspection of site-preparation measures:
  - Site safety and security; and
  - Site maintenance and general housekeeping conditions.

- Regular inspection of drainage and water management structures and assessment of their effectiveness;
- Determining if the granular resource material is still suitable for end-use;
- Establishing how much ground-ice is present in the material and behaviour and volume loss of the material as thawing occurs;
- Inspecting records of wildlife interactions and sightings; and
- Reporting quantities of material extracted.

Site monitoring is required for several years after closure to assess whether reclamation objectives have been met. Post-closure monitoring requirements will be specified in the land-use permits.

7. Adaptive Strategies

Baffinland is committed to continuous improvement in its work activities with the aim of reducing risks to the environment and improving operational effectiveness. All development activities will be subject to this approach, and will focus on the outcome of the overall 2012 Work Plan. All works will need to fit seamlessly into the overall Project plans. The strategy at Baffinland is regular monitoring supported by operational change and adoption of other mitigation measures if warranted.

As per the requirements of Baffinland's EHS Management Framework, the company will conduct and document regular management reviews of its Borrow Pit and Quarry Management Plan. Such reviews will ensure monitoring results for the Borrow Pit and Quarry Management Plan are integrated with other aspects of the Project and that necessary adjustments are implemented as required. These reviews also provide a formal mechanism to assess effectiveness of management in achieving company objectives and maintaining ongoing compliance with Project permits and authorizations.

8. References

1. Northern Land Use Guidelines, Pits and Quarries, INAC 2008;
2. Drawing #H337697-7000-10-014-1101;
3. Drawing #H337697-7000-10-014-1102; and
4. Drawing #H337697-7000-10-014-1107.

Figure 8—1: Quarry Locations (from Baffinland Iron Mines FEIS; Volume 3, Figure 3-2.4)

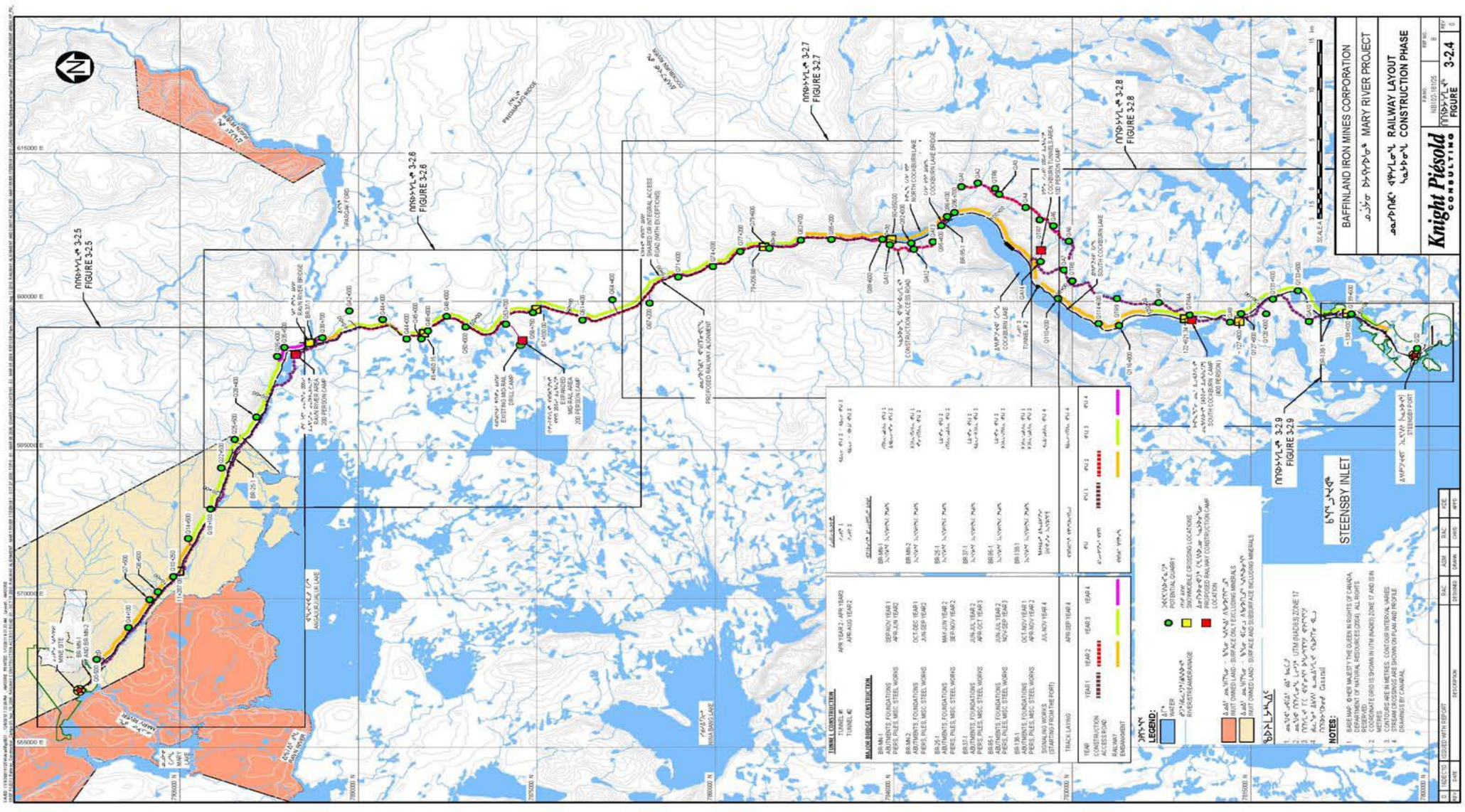

Table 8—1: Yields for Quarries for Mary River Project along Rail Corridor

Quarry Name	Approximate Station[1]	Northing Coordinates	Easting Coordinates	Volume with Contingency (m^3)[2]			Drilled in 2011
				Railway	Road	Total	
QMR2	Mary River	7,914,203	560,128	491,079	47,052	538,130	Yes
Q-0+500	- 0+500	7,911,899	563,668	826,508	196,174	1,022,683	Yes
Q4+100	4+100	7,909,418	566,698	570,968	199,833	770,801	Yes
Q7+500	7+500	7,907,667	569,432	619,585	174,374	793,959	Yes
Q10+250	10+250	7,905,378	572,883	1,007,536	206,620	1,214,157	Yes
Q14+500	14+200	7,904,382	575,868	1,232,091	240,446	1,472,537	Yes
Q18+100	18+100	7,902,853	578,804	1,463,455	263,943	1,727,398	Yes
Q22+500	22+500	7,901,663	583,415	1,484,696	230,582	1,715,278	Yes
Q25+500	25+500	7,900,221	586,954	755,019	124,801	879,820	Yes
Q28+400	28+400N	7,898,617	588,240	158,886	104,426	263,312	Yes
Q31+500	31+500N	7,897,863	590,944	53,356	128,885	182,242	Yes
Q35+000	35+000N	7,896,866	594,445	77,971		77,971	
Q35+500	35+500N	7,896,244	595,477	248,555	118,172	366,726	Yes
Q38+700	38+700N	7,893,140	596,368	342,908	116,780	459,687	Yes
Q40+600	40+600N	7,889,375	596,009	812,884	153,489	966,373	
Q42+000	42+000N	7,890,881	598,151	305,177	96,131	401,308	Yes
Q44+300	44+300N	7,888,054	598,208	302,919	62,185	365,104	Yes
Q44+000	44+000	7,885,927	596,138	178,149	38,931	217,080	Yes
Q45+000	45+000	7,884,724	596,201	54,862	29,020	83,882	Yes
Q45+800	45+800	7,884,147	596,990	34,368	42,430	76,798	
Q48+000	48+000	7,882,597	598,495	28,241	58,397	86,637	
Q50+000	50+000	7,881,100	597,357	134,915	70,757	205,672	Yes
Q53+700	53+700	7,877,567	597,616	339,267	78,350	417,616	Yes
Q56+750	56+750	7,875,280	598,852	426,916	87,668	514,583	Yes
Q60+000	60+000	7,871,954	599,087	327,131	102,084	429,214	
Q64+400	64+400	7,868,565	600,221	203,898	94,957	298,854	
Q67+200	67+200	7,865,619	600,161	156,728	79,560	236,288	
Q71+000	71+000	7,863,169	602,398	161,614	71,915	233,530	
Q74+200	74+200	7,860,226	603,469	109,863	63,161	173,024	
Q77+200	77+200	7,857,588	604,840	86,660	65,983	152,642	
Q79+600	79+600	7,855,411	605,366	145,051	77,616	222,666	
Q82+700	82+700	7,852,449	605,710	166,692	90,198	256,890	Yes
Q85+200	85+200	7,850,087	606,073	227,871	89,196	317,067	Yes
Q88+800	88+800	7,846,674	605,956	238,151	63,999	302,150	Yes
QTR21	90+400	7,845,379	605,707		51,239	51,239	
Q92+000	92+000	7,843,535	605,816	98,287		98,287	
QTR22	92+000	7,843,330	605,243		47,682	47,682	
QTR23	93+600	7,841,721	606,018		33,456	33,456	
Q95+400	95+150	7,840,905	607,500	16,898	56,143	73,041	
Q96+100	96+100	7,840,533	608,580	17,031	149,531	166,562	
Q96+700	96+700	7,839,908	608,976	6,493		6,493	
QTR10	97+300	7,839,328	611,431		203,081	203,081	
QTR11	98+700	7,838,013	611,995		134,433	134,433	

Quarry Name	Approximate Station[1]	Northing Coordinates	Easting Coordinates	Volume with Contingency (m^3)[2]			Drilled in 2011
				Railway	Road	Total	
QTR6	98+900	7,836,409	611,377		101,012	101,012	
QTR13	100+700	7,833,967	609,448		165,509	165,509	Yes
QTR12	101+100	7,836,190	610,857		162,040	162,040	Yes
NTUN-DH01	102+540	7,835,656	605,976				Yes
NTUN-DH03	102+930	7,835,382	605,698				Yes
NTUN-DH05	103+140	7,835,245	605,535				Yes
STUN-DH03	108+180	7,832,812	601,490				Yes
QTR7	108+300	7,832,685	608,302		132,606	132,606	
QTR17	105+700	7,832,984	603,944		948,392	948,392	
QTR14	104+300	7,831,608	607,681		171,297	171,297	
QTR15	105+200	7,830,326	606,224		227,039	227,039	
QTR16	106+200	7,830,731	603,228		905,620	905,620	
Q110+200	110+200	7,831,193	600,359	253,809		253,809	
QTR8	112+000	7,830,182	602,012		603,136	603,136	
Q114+600	114+600	7,827,828	597,850	382,501		382,501	Yes
QTR9	116+500	7,826,260	600,261		361,991	361,991	Yes
Q116+800	116+800	7,826,194	597,422	764,455		764,455	Yes
QTR18	120+600	7,822,808	599,870		536,571	536,571	
QTR4A	123+000	7,820,410	598,555	958,066	636,598	1,594,664	Yes
QTR19	126+900	7,816,806	597,863		451,609	451,609	
Q127+800	127+800	7,815,755	598,770	545,218		545,218	
Q128+000	128+000	7,813,922	598,828		222,278	222,278	
Q131+100	131+100	7,813,509	600,177	112,666	191,240	303,906	Yes
Q133+500	133+500	7,811,052	601,482				
QTR20	134+100	7,810,467	598,087		169,565	169,565	
Q138+100	138+100	7,807,612	598,865		104,996	104,996	Yes
Q139+600	139+600	7,806,105	598,727		119,999	119,999	Yes
QS3A	Steensby	7,800,000	595,698				Yes
QS3	Steensby	7,799,349	597,500				
QS2	Steensby	7,801,066	595,200		300,000	300,000	Yes
QS1	Steensby	7,803,054	593,500				Yes
SI-OLD-004	Steensby	7,798,314	592,879				Yes
SI-OLD-005	Steensby	7,798,331	592,860				Yes
SI-OLD-006	Steensby	7,798,409	592,876				Yes
SI-OLD-007	Steensby	7,798,424	592,840				Yes
SI-OLD-008	Steensby	7,798,489	592,891				Yes

Notes:

[1] Two sets of stationing are used along the rail alignment. Following the Ravn River realignment, which extends from approximately station 26+100 to station 46+582.93, the stationing resets to 43+830 to be consistent with the stationing used prior to the Ravn River realignment. To avoid confusion, stationing along the Ravn River realignment has an "N" suffix.

[2] Volumes obtained from the DEIS.

Table 8—2: Yields for Quarries and Barrow Sources for Mary River Project along Tote Road

Name	Kilometer (km)	Coordinates		Haul distance to road (m)	Direction from Alignment	Estimated Size (m)
		Northing (m)	Easting (m)			
Q1	1+000	7976181	0503426	<25	E	~1000x200x30
Q2	2+000	7975332	0503801	<25	E	~1000x100x30
Q3	3+250	7974577	0503919	<50	E	~1000x100x40
Q4	4+125	7973774	0504325	<50	E	~1000x200x40
Q5	5+000	7973207	0504956	<50	E	~1000x200x40
Q6	5+900	7972500	0505606	<50	E	~1000x200x40
Q7	7+000	7971596	0506543	<150	E	~1000x200x75
Q8	10+300	7969748	0508465	<500	E	500x200x40
Q9	10+500	7969455	0508204	<10	W	500x75x20
Q10	13+500			<10m	W	10x20
Q11	22+200	7962800	05166566	<50	E	300x400
Q12	23+900	7961395	0577477	@ road	W	250x100
Q13	30+800	7956039	0520568	~200	W	>500 in length
Q14	38+600	7947516	0522432	<500	E	n/a
Q15	45+050	7942195	0523415	<500	E	continuous N-S bedrock ridge
Q16	49+900	7937416	0525691	<200	E	continuous N-S bedrock ridge
Q16A	50+000	7937399	0525494	<50	E	continuous N-S bedrock ridge
Q17	54+600	7933202	0527006	~200	E	continuous N-S bedrock ridge
Q18	61+500	7927975 (7928029)	0526660 (0529029)	~200	E	continuous N-S bedrock ridge
Q19	95+200	7915041	0554686	@ road	E	Several ridges/hills, approx dimensions 100x100x10
Q20	97+500	7914882	0555921	100 – 200	N	bedrock knoll, ~200x100x15
P1	62+500	7927089	059303	@ road	E	previously opened
P2	63+000	7926710	052912	@ road	W	previously opened
P3	63+900	7926138	0530139	@ road	W	previously opened
P4	65+100	7925324	0530939	@ road	W	previously opened; 30x100x1
P5	65+100	7925364	0530727	<100	W	150x50x5
P6	67+100	7923616	0531817	@ road	W	previously opened; 20x40x0.5

Name	Kilometer (km)	Coordinates		Haul distance to road (m)	Direction from Alignment	Estimated Size (m)
		Northing (m)	Easting (m)			
P7	71+700	7920584	0534800	@ road	W	previously opened
P8	73+800	7920168	0536031	@ road	W	previously opened
P9	75+700	7920709	0538703	@ road	E	previously opened
P10	75+900	7920952	0539391	@ road	W	previously opened; 30x100x1.5m
P11	80+400	7921090	0543685	@ road	S	previously opened; 30x100x1.5m
P12	83+100	7920168	0544796	@ road	S	several ridges and hills; ~100x100x10m
P13	85+500	7919693	0546932	@ road	S & N	on N side 200x150x4m
P14	90+000	797805	0550574	@ road	S & N	S side of road previously opened
P15	91+100	7916730	0551384	@ road	N	~500x250x10m
P16	97+400	7914882	0555921	@ road	N & S	previously opened source

Appendix A

Baffinland's Sustainable Development Policy

At Baffinland Iron Mines Corporation, we are committed to conducting all aspects of our business in accordance with the principles of sustainable corporate responsibility and always with the needs of future generations in mind. Everything we do is underpinned by our responsibility to protect the environment, to operate safely and fiscally responsibly and to create authentic relationships. We expect each and every employee, contractor, and visitor to demonstrate a personal commitment to this policy through their actions. We will communicate the Sustainable Corporate Policy to the public, all employees and contractors and it will be reviewed and revised as necessary on an annual basis.

These four pillars form the foundation of our corporate responsibility strategy:

- Health and Safety
- Environment
- Investing in our Communities and People
- Transparent Governance

1.0 HEALTH AND SAFETY

- We strive to achieve the safest workplace for our employees and contractors; free from occupational injury and illness from the very earliest of planning stages. Why? Because our people are our greatest asset. Nothing is as important as their health and safety.
- We report, manage and learn from injuries, illnesses and high potential incidents to foster a workplace culture focused on safety and the prevention of incidents.
- We foster and maintain a positive culture of shared responsibility based on participation, behaviour and awareness. We allow our workers and contractors the right to stop any work if and when they see something that is not safe.

2.0 ENVIRONMENT

- We employ a balance of the best scientific and traditional Inuit knowledge to safeguard the environment.
- We apply the principles of pollution prevention and continuous improvement to minimize ecosystem impacts, and facilitate biodiversity conservation.
- We continuously seek to use energy, raw materials and natural resources more efficiently and effectively. We strive to develop pioneering new processes and more sustainable practices.
- We understand the importance of closure planning. We ensure that an effective closure strategy is in place at all stages of Project development and that progressive reclamation is undertaken as early as possible to reduce potential long-term environmental and community impacts.

3.0 INVESTING IN OUR COMMUNITIES AND PEOPLE

- We respect human rights and the dignity of others. We honour and respect the unique culture, values and traditions of the Inuit people.
- We contribute to the social, cultural and economic development of sustainable communities adjacent to our operations.
- We honour our commitments by being sensitive to local needs and priorities through engagement with local communities, governments, employees and the public. We work in active partnership to create a shared understanding of relevant social, economic and environmental issues, and take their views into consideration when making decisions.

4.0 TRANSPARENT GOVERNANCE

- We will take steps to understand, evaluate and manage risks on a continuing basis, including those that impact the environment, employees, contractors, local communities, customers and shareholders.
- We ensure that adequate resources are available and that systems are in place to implement risk-based management systems, including defined standards and objectives for continuous improvement.
- We measure and review performance with respect to our environmental, safety, health, socio-economic commitments and set annual targets and objectives.
- We conduct all activities in compliance with the highest applicable legal requirements and internal standards
- We strive to employ our shareholder's capital effectively and efficiently. We demonstrate honesty and integrity by applying the highest standards of ethical conduct.

Tom Paddon
President and Chief Executive Officer
September 2011

Appendix B

Acid Rock Drainage Testing Protocol

Acid Rock Drainage Testing Protocol

Introduction

The production or collection of acid rock drainage (ARD) as a result of construction of the rail bed and temporary access road may become an issue for the Mary River Project. Quarry sites used for the production of rock fills or rip rap materials may be susceptible to the production of ARD.

In order to reduce or eliminate the potential for this situation to occur, the following protocol has been developed.

Sampling

There are no strict guidelines for establishing sampling protocols (Vallee, 1999). However, the unique setting of the Mary River Project dictates that sampling for exclusion is the most appropriate action.

In this regard, all potential quarry sites will be evaluated for the potential production of ARD. The proponent (Baffinland Iron Mines) will require that a representative test sample of the quarry be analyzed for the potential to produce ARD. A professional engineer or geoscientist (P.Eng. or P.Geo.) will be engaged who is responsible for field mapping of the quarry, collecting the representative rock sample from the areas of the quarry specifically being developed, completing a mineralogical assessment of the potential for ARD conditions, and, if required, commissioning the necessary laboratory tests to evaluate the potential for ARD. A report summarizing the results of the evaluation is to be certified by the registered professional and presented to the regulators. The professional is responsible to ensure that the evaluation reasonably represents the conditions within the currently proposed quarry development areas.

Sample Analysis

The following standard analytical procedures are required for ARD prediction:

Initially, an assessment must be conducted to determine whether or not any sulphate or acid producing mineralogy is present within the rock.

1. Where acid production is deemed possible from the assessment, then a representative sample should be collected and acid-base accounting tests conducted to include:
    i) total sulphate and sulphide-sulphur;
    ii) bulk neutralization potential;
    iii) carbonate content; and

iv) pH.

Where, one or more positive tests indicate that ARD is likely occur, then the quarry site will automatically be eliminated from the development schedule, and an alternative site will be located to supply the necessary materials for rail bed construction.

Accepted test methods for acid base accounting could include:

- Sobek, et al 1978 – EPA 600/2-78-054; and
- Coastech, 1989 - Modified Acid Base Accounting.

2. Where the initial assessment determines that mineralogy does not appear to support potential for ARD, a sample will be taken regardless. Analysis will be at the discretion of the professional engineer or geoscientist in charge of the program.
3. Once quarries are under development, if, in the opinion of the professional engineer or geoscientist in charge of the program, there is cause for further testing, then such tests will be designed and carried out as required.
4. All results will be forwarded to the appropriate regulatory agencies.

Literature

- Vallee, Marcel (1999), Sampling Quality Control, Exploration and Mining Geology, vol.7, nos. 1 and 2.
- Sobek, A.A., Schuller, W.A., Freeman, J.R. and Smith, R.M. (1978), Field and laboratory methods applicable to overburden and minesoils, EPA 600/2-78-054, 203pp.
- Coastech Research (1989), Investigation of Prediction Techniques for Acid Mine Drainage, MEND Project Report 1.16.1a, MEND, Ottawa, Ontario.