Baffinland Iron Mines Corporation

INTERIM CLOSURE AND RECLAMATION PLAN

BAF-PH1-830-P16-0012

Rev 3

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Index of Major Changes/Modifications in Revision 3

Material changes from the previous revision (rev 2) are indicated with revision triangles in the right hand margin of the page.

Item No.	Description of Change	Relevant Section
1	Addition of temporal boundaries of Project lifecycle.	Section 2.0
2	Description of anticipated schedule and triggers for future updates.	Section 2.1.2.1
3	Addition of description of the Exploration Abandonment and Reclamation Plan (BAF-PH1-830-P16-0038).	Section 2.1.3
4	Add reference to Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (MVWLB/AANDC, 2013).	Section 2.1.4
5	Update of ICRP Goals and Principles.	Section 2.2
6	Discussion of mandate and establishment strategy for Mine Closure Working Group.	Section 2.3
7	Updated to reflect land ownership by Project component.	Table 3-1
8	Summary description of pre-disturbance bio-physical terrestrial and socio-economic environments added.	Section 4.1
9	Additional detail of planned and proposed progressive rehabilitation activities.	Section 5.1
10	Added section describing planned reclamation research.	Section 5.2
11	Added description of closure objectives, criteria, activities and applicable monitoring program measures taken for each component of the Project	Table 6-1
12	Addition of definitions of Closure Goal, Closure Principles, Closure Objectives.	Section 16
13	Updated to reflect current 'Care and Maintenance' Strategy and Environmental monitoring requirements	Section 8
14	Updated to reflect environmental monitoring requirements	Section 9
15	Added description of Care and Maintenance phase prior to Final Closure	Section 10
16	Additional description of closure and post closure monitoring programs	Section 11
17	Updated to reflect current status of closure cost estimates	Section 13
18	Added list of contributors	Section 14
19	Removed closure cost estimate details	Formerly Appendix B & C
20	Update of site photos to reflect current conditions.	Appendix C

TABLE OF CONTENTS

List of Table

List of Figure

List of Appendix

FOREWORD

This Interim Closure and Reclamation Plan (ICRP) outlines the closure objectives, activities and criteria associated with the closure and reclamation of the Mary River Project (the Project) as approved under Project Certificate No 005 and its Amendment No 1 issued by the Nunavut Impact Review Board (NIRB) on May 28, 2014.

The ICRP builds on the Preliminary Closure and Reclamation Plan (PCRP) which was reviewed and approved by the NIRB under Project Certificate 005 and its amendment, and, by the Nunavut Water Board (NWB) with the issuance of Type 'A' Water Licence 2AM-MRY1325. The ICRP reflects the requirements of Qikiqtani Inuit Association (QIA) Commercial Lease No. Q13C301 and requirements of Part J, Item 2 of the Type 'A' Water Licence, 2AM-MRY1325 which required the PCRP to be updated to an ICRP 60 days prior to the commencement of the mining operations.

The development of the PCRP and subsequent development of the ICRP is based on AANDC guidelines[1] which envisage three primary stages in the development of a Mine Closure and Reclamation Plan (or A&R Plan):

- A Preliminary Closure and Reclamation Plan.
- An Interim Closure and Reclamation Plan.
- A Final Closure and Reclamation Plan.

The ICRP considers the complete development of the Project and describes expected closure activities at the end of the Project Life (21 year mine life). The ICRP is thus a conceptual benchmark for the intended reclamation and closure activities associated with all components of the Mary River project approved under Project Certificate No. 005 and its Amendment No 1. The ICRP will be updated as required throughout the life of the Project.

As per Type "A" Water License 2AM-MRY1325 and QIA Commercial Lease No. Q13C301, the Final CRP will be developed and submitted no later than one (1) year, or earlier if possible, before scheduled permanent closure or immediately after notification of an unplanned closure (within 120 days) to provide greater detailed descriptions of the proposed reclamation activities such a manner that they can be subsequently implemented. If future revisions of referenced Project authorizations were to change, this timeframe will be adjusted accordingly.

[1] MVLWB/AANDC, Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories, November 2013

1 EXECUTIVE SUMMARY

The Mary River Project (the Project) is located on north Baffin Island, in the Qikiqtani Region of Nunavut. The Project is wholly owned by Canadian mining company Baffinland Iron Mines Corporation (Baffinland). The scope of the Project is defined by Project Certificate No 005 (and its Amendment No 1) and Type A Water Licence 2AM-MRY1325.

This Interim Mine Closure and Reclamation Plan (ICRP) was originally updated from the approved Preliminary Mine Closure and Reclamation Plan (H337697-0000-07-126-0014) presented in Volume 3, Appendix 3B, Attachment 10 of the Final Environmental Impact Statement (FEIS) in accordance with applicable requirements of:

- Conditions applying to security and abandonment, closure and reclamation or temporary closure in Type "B" Water Licence 8BC-MRY1416, Type "A" Water Licence 2AM-MRY1325;
- Conditions applying to closure and reclamation set forth in Commercial Lease No.Q13C301;
- The Project Certificate No. 005 (December 28, 2012) and its associated Amendment (May 28, 2014) terms and conditions;
- The Qikiqtani Inuit Association (QIA) Abandonment and Reclamation Policy for Inuit Owned Lands (Version 3.0, 2013);
- Mackenzie Valley Land and Water Board (MVLWB)/Aboriginal Affairs and Northern Development Canada (AANDC) Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the NWT (2013);
- Commitments made by Baffinland during the FEIS and Type 'A' Water Licence review processes.

Project related facilities were designed and constructed to minimize the footprint. These design and construction considerations have facilitated reclamation plans and minimized the engineering required to support the complete decommissioning and reclamation of the site.

Three closure scenarios and their associated closure and reclamation activities are described in this ICRP: Short-Term Temporary Care and Maintenance, Long-Term Temporary Mine Closure and Final Mine Closure. In addition to these scenarios, progressive reclamation measures have been proposed to facilitate temporary and final mine closures measures.

Short-Term Temporary Care and Maintenance and Long-Term Temporary Mine Closure occurs when the Project ceases with the intent of resuming activities in the future. During temporary closure, Baffinland will maintain all operating facilities and programs necessary to protect humans, wildlife, and the environment, including necessary environmental monitoring. Short-Term Temporary Care and Maintenance activities will occur if the Project ceases operation for a period of less than one (1) year with the intent of resuming activities in the future. Long-Term Temporary Mine Closure will occur if the Project ceases operation for a period of greater than (1) year with the intent of resuming activities in the future.

In Short-Term Temporary Care and Maintenance, all facilities and equipment would be secured and de-energized. An inventory of all hydrocarbon products, chemicals, hazardous wastes and explosives would be carried out and all effluents would be monitored. Personnel necessary, including environmental personnel, to maintain site security and project monitoring requirements would remain on site.

During Long-term Temporary Mine Closure the Project sites will be maintained in a secure condition, all facilities and equipment would de-energized and winterized. Hazardous waste and explosives would be removed from the site. Personnel necessary, including environmental personnel, to maintain site security and project monitoring requirements would remain on site.

Final Mine Closure and Reclamation will occur when there is no foreseeable intent by Baffinland to return to active mining. Final Mine Closure and Reclamation will include removing all infrastructure, equipment and materials into an on-site landfill, the Mine Pit, quarries and/or other approved disposal location(s) for disposal of inert, non-hazardous, non-combustible materials. All other infrastructure, equipment and materials will be sent off-site to an approved disposal location. Arrangements will be made with a sealift contractor to collect materials and equipment at Milne Port to ship material destined for off-site transport. The airstrips will be closed and reclaimed unless otherwise directed by regulatory agencies or the Land Owner in order to provide emergency/rescue landing spots for regional aircraft and access for post closure monitoring. Permanent dock structures will be left in place at Milne Port but all surface equipment and materials will be removed. Disturbed areas would undergo contouring of ground or granular surfaces as required to maintain stability and natural drainage patterns will be re-establish, if required, as reasonably possible. At Final Mine Closure and Reclamation, project components will be inspected to ensure specific closure objectives of project components are achieved and closure principles of long-term safety of the site, no long term active care requirements, physical stability and chemical stability have been met.

The final closure and reclamation activities are expected to last a period of three (3) years based on estimated duration and level of effort required for identified closure activities[2]. Post closure monitoring will continue until closure principles of long-term safety of the site, no long term active care requirements, physical stability and chemical stability have been shown to be met by monitoring results. These activities may be periodic. It is currently estimated post closure monitoring and follow-up inspections will be conducted for a period of five (5) years based on impacts assessment determinations described in the Mary River Project Final Environmental Impact Statement.

In order to account for interim closure and reclamation security adjustments to reflect project development phases until such a time planned closure commences, an updated determination of Project closure and reclamation security is currently captured on an annual basis in Annual Security Review (ASR) process to account for any planned constriction activities. This is done incrementally in such cases Baffinland would not be able to reach its planned closure phase. The ASR process is conducted in

[2] Estimated duration and level of effort required for identified closure activities is described in 'Annual Security Review (ASR)' documentation required under Section 9.2 of the Commercial Lease, No. Q13C301, and under Part C and Schedule C of the NWB Type "A" Water Licence No. 2AMMRY1325.

accordance with Part C and Schedule C of Type "A" Water License 2AM-MRY1325 and Section 9.2 of the Commercial Lease, No. Q13C301, agreed to between Baffinland and the QIA and includes consultation with Land-owners and other key stakeholders. The results of this ASR process should be considered on the interim basis to assess Project closure and reclamation liability for the end of the upcoming year until such time planned closure commences. In all cases, closure and reclamation liability estimates adhere to required closure and reclamation guidelines including, but not limited to, the QIA Abandonment and Reclamation policy guiding principles and stated assumptions.

2 INTRODUCTION

This Interim Mine Closure and Reclamation Plan (ICRP) outlines the closure goal, principles, objectives, criteria and activities associated with the final closure and reclamation of the Project as approved under Project Certificate No 005 and its Amendment No.1 issued by the Nunavut Impact Review Board (NIRB) on May 28, 2014.

Mine closure and reclamation for the Project will be regulated under Baffinland's Commercial Lease No. Q13C301, Type 'A' Water Licence 2AM-MRY1325 (Type 'A' Water Licence), Type 'B' Water Licence 8BC-MRY1314 and AANDC Land Lease 47H/16-1-2. In cases, if any, where there was conflict between Type 'B' Water Licence 8BC-MRY1314 and the Type 'A' Water Licence, Baffinland will adhere with the terms and conditions of the Type 'A' Water Licence. In cases where the term 'Abandonment and Reclamation (A&R)' is used in authorizations, regulations and other forms of communication, Mine Closure and Reclamation (MCR) is synonymous for the purpose of the Mary River Project.

The ICRP considers the complete development of the Mary River Project (the Project) and describes expected closure activities at the end of the Project Life. Based on current planning, temporal boundaries of the projected Project lifecycle are as follows:

- Pre-development or Definition Phase (nine years - 2004 to 2012);
- 2013 work in support of the Approved Project;
- ERP Construction Phase (two years - 2014 to 2015);
- ERP Operations Phase (10 to 15 years depending on market conditions);
- Railway Construction Phase (up to five years beginning in 2015);
- Railway Project Operations (21 years beginning in 2019; some overlap with ERP Operation);
- Closure (three years - 2040 to 2042);
- Post-Closure Phase (minimum five years - 2043 to 2047).

As planned final closure is decades away, the ICRP is thus a conceptual benchmark for the intended reclamation and closure activities associated with all components of the Mary River project approved under Project Certificate No. 005. The ICRP will be updated as required throughout the life of the Project.

As per Type "A" Water License 2AM-MRY1325 and QIA Commercial Lease No. Q13C301, the Final CRP will be developed and submitted no later than one (1) year, or earlier if possible, before scheduled permanent closure or immediately after notification of an unplanned closure (within 120 days) to provide greater detailed descriptions of the proposed reclamation activities such a manner that they can be subsequently implemented. If future revisions of referenced Project authorizations were to change, this timeframe will be adjusted accordingly.

2.1 Mine Closure and Reclamation Plans Progression

The Mary River Project ICRP contains and describes the plans related to closure and reclamation of the Project. The ICRP addresses the activities expected to be required to ensure the Project closure goal, principles, objectives and criteria are met. Participation of local communities and other stakeholders in the consideration of alternative reclamation activities to safeguard community values is encouraged as the Project proceeds.

2.1.1 Preliminary Mine Closure and Reclamation Plan

A Preliminary Mine Closure and Reclamation Plan (PCRP) (H337697-0000-07-126-0014) was prepared for Baffinland in support of the regulatory approval process, including the Final Environmental Impact Statement (FEIS) for the Project, and was based on available Project design information which was at a conceptual level. The PCRP assumes that the reader has access to and is familiar with the FEIS content.

The purpose of the PCRP was to provide an initial closure and reclamation plan for the Mary River Project, at a conceptual level, in accordance with the regulatory framework established by the Inuit, Federal and Territorial governments.

2.1.2 Interim Mine Closure and Reclamation Plan

The ICRP builds on the PCRP which was reviewed and approved by the (NIRB) under Project Certificate 005 and its amendment, and, by the Nunavut Water Board (NWB) with the issuance of Type A Water Licence 2AM-MRY1325. The ICRP reflects the requirements of Commercial Lease No. Q13C301, AANDC Land Lease 47H/16-1-2, and Part J, Item 2 of the Type A Water Licence, 2AM-MRY1325 which required the PCRP to be updated to an ICRP 60 days prior to the commencement of the mining operations.

The Mary River ICRP was developed to increase the detail of the closure criteria and planning presented in the PCRP. It addresses progressive rehabilitation undertaken to date and addresses temporary care and maintenance and long-term closure as well as final cessation of operations. Public health and safety is considered throughout all stages of progressive rehabilitation, closure and post-closure.

The ICRP does not constitute a Final Mine Closure and Reclamation Plan. The ICRP reflects the level of advancement of development on site and what is expect in future development.

2.1.2.1 Updates to the Interim Mine Closure and Reclamation Plan

It is anticipated the ICRP will be reviewed annually and updated regularly throughout the life of the Project, as per the terms and conditions of the Commercial Lease No. Q13C301 and the Type 'A' Water License, and AANDC Land Lease 47H/16-1-2. Once the Project reaches full planned operation and site activities and infrastructure have stabilized, less frequent updates may be discussed. Parties reserve the right to request an update if warranted. Updates to the ICRP are primarily expected to focus on the refinement and elaboration of the specific performance indicators and commitments and incorporating any reclamation strategy changes based on reclamation research.

Baffinland expects ICRP updates to mainly coincide with the development of the Annual Work Plans as ICRP updates will primarily be required when an Annual Work Plan calls for the construction and operation, or reclamation, of components of the Project that have not been adequately addressed previously or further information has become available or the Annual Work Plans notes material changes to project activities which would require consideration to closure and reclamation strategies. The update would also include any outcomes of the previous year's reclamation research, if successful or positive[3]. If a previously not considered activity or project component is proposed in an Annual Work Plan, the closure strategy will be detailed in the respective Work Plan and/or its supporting documentation.

When updates to the ICRP are required, Baffinland proposes the following timetable[4]:

- By October 15 of a given year, Baffinland will provide a draft of the upcoming Annual Work Plan to the Landlord for discussion.
- By October 31 of a given year, Baffinland will submit the upcoming Annual Work Plan to all other relevant stakeholders.
- By November 30 of a given year, Baffinland expects review and comments on the upcoming Annual Work Plan from relevant stakeholders including the Landlord.
- By December 31 of a given year, Baffinland will provide an updated ICRP, if required, to the Landlord for review.
- By February 28 of the subsequent year, Baffinland expects discussions with Landlord to be complete regarding the upcoming Annual Work Plan and ICRP revisions and Landlord approval of the ICRP, if required.
- By March 31 of the subsequent year, Baffinland will distribute the current version of the ICRP to all relevant stakeholders.

2.1.3 Final Closure and Reclamation Plan

As per Type "A" Water License 2AM-MRY1325 and QIA Commercial Lease No. Q13C301, the Final CRP will be developed and submitted no later than one (1) year, or earlier if possible, before scheduled permanent closure or immediately after notification of an unplanned closure (within 120 days) to provide greater detailed descriptions of the proposed reclamation activities such a manner that they can be subsequently implemented. If future revisions of referenced Project authorizations were to change, this timeframe will be adjusted accordingly. The Final CRP will be developed and submitted no later than one (1) year, or earlier if possible, before scheduled permanent closure or immediately after an unplanned closure to provide greater detailed descriptions of the proposed reclamation activities in such a manner that they can be subsequently implemented. The Final CRP will include a schedule for the implementation of work;

[3] The results of any reclamation research that occur during a given year will first be reported to relevant stakeholders in that year's NWB and QIA Annual Report.

[4] Proposed schedule of ICRP updates will be revisited if the frequency of the ASR process changes.

any additional appropriate closure criteria based on completed reclamation research and site monitoring; and fully describe the level of detail and certainty surrounding post-closure monitoring and contingency planning.

2.1.4 Exploration Abandonment and Reclamation Plan

The Exploration Abandonment and Reclamation Plan (BAF-PH1-830-P16-0038) is a distinct separate plan from the ICRP that describes the closure and reclamation activities and costs for the Mary River Exploration Project regulated under Baffinland's Type "B" Water Licence No. 2BE-MRY142. In the event Mary River Exploration Project activities occur on Inuit Owned Lands, Baffinland's IOL Commercial Lease (No. Q13C301) conditions will also then apply and the Exploration Abandonment and Reclamation Plan would be required to be reviewed and approved by the QIA. If exploration liability did occur on IOL, it is expected closure goal, principles, objectives, and criteria would apply for similar components.

2.1.5 Regulatory Context

Baffinland is committed to, and will be responsible for, carrying out the closure and rehabilitation measures in a phased, on-going (progressive) manner as reviewed and agreed with the Landlord, regulatory agencies and impacted communities.

This current revision of the ICRP has been developed as per the Type 'A' Water License Part J, Item 2, in accordance with the *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (MVWLB/AANDC, 2013)*; and the *Abandonment and Reclamation Policy for Inuit Owned Lands* (the Qikiqtani Inuit Association-Version 3.0).

Relevant policies, guidelines and associated regulations that Baffinland will adhere to in the development of this and future revisions to the ICRP are outlined in TABLE 2-1, below.

TABLE 2-1: APPLICABLE MINE CLOSURE PLANNING POLICIES, GUIDELINES, AND LEASE REQUIREMENTS

Title	Source
Project Certificate No.005 (with associated amendment)	(NIRB, 2014)
Type A Water Licence 2AM-MRY1325	(NWB 2013)
Commercial Lease No.: Q13C301	(QIA 2013)
AANDC Land Lease 47H/16-1-2	(AANDC, 2014)
Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (NIRB File No. 08MN053)	(NIRB 2009)
Abandonment and Reclamation Policy for Inuit Owned Lands, Qikiqtani Inuit Association, Version 3.0	(QIA, 2013)
Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories	(MVWLB/AANDC, 2013)
Mine Site Reclamation Policy for Nunavut	(AANDC 2002)
Mine Site Reclamation Policy for the Northwest Territories	(AANDC 2002a)

Title	Source
Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories	(NWTWB 1990)
NWT/Nunavut Mines Health and Safety Act and Regulations	2005

NIRB - Nunavut Impact Review Board
QIA - Qikiqtani Inuit Association
AANDC - Aboriginal Affairs and Northern Development Canada (formerly INAC - Indian and Northern Affairs Canada)
NWTWB - Northwest Territories Water Board

A Glossary of Terms, Acronyms and Abbreviations used throughout this document and the applicable guidelines and regulations can be found in Section 16. See Section 15 for a concordance review of applicable requirements.

2.1.5.1 Annual Security Review

On an annual basis, in order to account for interim closure and reclamation security adjustments to reflect project development phases until such a time planned closure commences, an updated determination of Project closure and reclamation security is captured through the Annual Security Review (ASR) process should Baffinland not be able to reach its planned closure phase. The ASR process is conducted in accordance with Schedule C of Type "A" Water License 2AM-MRY1325 and Section 9.2 of the Commercial Lease, No. Q13C301, agreed to between Baffinland and the Landlord and includes consultation with landowners and other key stakeholders.

2.2 ICRP Goal and Principles

Over the life of the Project it is expected that closure and reclamation techniques and methodologies for mine site reclamation will continue to evolve with changes to our understanding of the Project site, stakeholder's views, and technologies for cost effective and practical reclamation in northern conditions. Planning for mine site reclamation will be risk-based and remain dynamic in order to take into account the results of on-going and future studies, and identified best practices for the Project site specific conditions.

2.2.1 Policies and Guidelines for Final Closure

The Project is being designed with closure and reclamation considerations in mind in compliance with the Baffinland Sustainable Development Policy.[5] General closure and reclamation objectives of this ICRP correspond with the QIA A&R Policy. The main goals of this Policy and the above guidelines and regulations are to:

- Apply the principles of pollution prevention and continuous improvement to minimize ecosystem impacts, and facilitate biodiversity conservation;
- Use energy resources, raw materials and natural resources efficiently and effectively;

[5] Baffinland Iron Mines Corporation, Sustainable Development Policy (September 2011).

- Engage with governments, employees, local communities and the public to create a shared understanding of closure and reclamation issues and take their views into consideration in making decisions;
- Return the Project affected and viable sites (Milne Port, Mine Site, and Quarries) to "wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and human activities" [6] (NRCan, 1994);
- Where practicable, undertake reclamation of affected areas as soon as practical in an on-going and progressive manner to reduce the environmental risk once the mine ceases operation (INAC, 2002. INAC, 2002a. Northwest Territories Water Board, 1990 and QIA, 2009);
- Provide for the reclamation of affected sites and areas to a stable and safe condition and restore altered water courses to near their original alignment and cross-section. Where practical, affected areas will be returned to a state compatible with the original undisturbed area (Territorial Land Use Regulations);
- Restore altered water courses to their original alignment and cross-section (Territorial Land Use Regulations);
- Reduce the need for Long-term monitoring and maintenance by designing for closure and instituting progressive reclamation, when possible;
- Provide for mine closure using the current available proven technologies in a manner consistent with sustainable development;
- Provide sufficient detail such that adequate scopes of work can be developed for the execution of reclamation work. Where insufficient details exist, monetary allowances should be included in the cost estimate to account for additional engineering and planning.

2.2.2 Site Abandonment Goal

In accordance with the above Policy, regulations, and guidelines, the site abandonment goal of the final closure activities is to return project sites and affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities[7].

2.2.3 Closure Principles to Achieve Site Abandonment Goal

In order to achieve the Site Abandonment Goal, closure objectives and criteria have been selected for Project components (see Section 12) based on the following Closure Principles:

1. Ensure the safety of the abandoned sites for wildlife and human users;

[6] Natural Resources Canada. *The Whitehorse Mining Initiative Leadership Council Accord Final Report* (October 1994).

[7] Based on alignment with Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (MVWLB/AANDC, 2013)

2. Ensure physical stability of abandoned Project sites and remaining physical features (open pit, waste rock stockpile, quarries, road and railway embankments, stream crossings);
3. Ensure chemical stability of the mine open pit, waste rock stockpile, quarries, and, other Project disturbed areas;
4. Incorporate considerations for future land use of Project sites in Final Closure planning;
5. Achieve the "Recognized Closed Mine" status in as minimal duration as reasonably practical, as defined by Section (4) of the Metal Mining Effluent Regulations (MMER) SOR/2002-222 dated 6 June 2002 and ensure no requirements for long-term active care;
6. Implement reclamation in a progressive on-going manner during the life of the Project and restore sites as soon as an area is no longer required for operations in order to limit the need for long term maintenance and monitoring.

The objectives and criteria proposed for implementing Final Closure and achieving the stated goal and principles are discussed in Section 5 to 12 of this ICRP.

2.3 Mine Closure Working Group

Baffinland has committed to the establishment of a "Mine Closure Working Group" (Working Group) in order to best incorporate considerations for post-closure land use of the Project site. The role of this Working Group will be to facilitate the integration of community representation and technical expertise by drawing on Inuit knowledge, arctic experience for similar mining operations, and discussion of alternative uses for decommissioned facilities into the reclamation options for various Project components. A mandate or terms of reference for the Working Group will be developed in consultation with the QIA prior to the initial first meeting of the Working Group. It is anticipated that these planning initiatives will commence in approximately three (3) to four (4) years time in order to best utilize the limited human resources of the QIA, stakeholders, and Baffinland to establishing Project operations.

3 PROJECT INFORMATION

3.1 PROPONENT NAME AND ADDRESS

The proponent of this ICRP is:

Baffinland Iron Mines Corporation
2275 Upper Middle Road East, Suite 300
Oakville, ON, Canada L6H 0C3
Tel: (416) 364-8820 Fax: (416) 364-0193

3.2 PROJECT DESCRIPTION AND SITE PLANS

A summary Project Description is provided below along with location drawings for each of the major Project sites identifying when components are planned to be reclaimed.

3.2.1 PROJECT DESCRIPTION

The basis of the Project (the Project) is production and shipment of high grade iron ore from Deposit No.1 located on North Baffin Island in the Qikiqtani Region of Nunavut. There are three (3) main project locations consisting of the Mine Site, Milne Port located north of the Mine Site, and, Steensby Port located south of the Mine Site. The Mine Site is located approximately 160 km south of Pond Inlet (Mittimatalik) and approximately 1,000 km northwest of Iqaluit. Milne Port is connected to the Mine Site by a 115 km Tote Road. A 149 km railway will eventually be constructed to connect Steensby Port to the Mine Site.

The Project Description for the project has been presented in the Final Environmental Impact Statement (FEIS) (FEIS 2012 and FEIS Addendum 2013). The Project plan calls for a phased development approach. Initially, Milne Port will be developed and the Tote Road will be upgraded to enable the Company to mine and ship a nominal 3.5 Mtpa of ore via Milne Port. At a later stage, the Railway will be constructed that will connect the Mine Site at Mary River to a newly constructed Port in Steensby Inlet on the southwestern coast of Baffin Island. For the construction period, material, equipment and supplies required for the installation of needed facilities at the Mine Site and the northern portion of the Railway will be received via Milne Port. Goods received at Milne Port will be transported to the work sites via the existing Tote Road. Likewise, construction materials for the new port in Steensby Inlet and the southern portion of the Railway will be received at the Steensby Port location when railway development commences.

It is expected that the Steensby Port facilities and the Railway will take four (4) years to construct. Upon completion of the Railway and Steensby port construction, an additional 18 Mt/a of iron ore will be transported by rail and transferred to ore carrier vessels from Steensby Port for shipment to international markets. Shipping of ore from Steensby Port will occur year round and will require vessels with icebreaking capabilities.

The ERP includes development of a nominal 3.5 million tonnes per annum (Mt/a) road haulage operation from the Mine Site to Milne Port for shipping of iron ore during the open water season. The ERP introduces the following additional infrastructures that were not part of the original approved Project:

1. Milne Port:
   - Ore stockpiling, reclaiming and loading equipment;
   - Ore dock.
2. Mine Site
   - Truck haulage fleet and associated extended maintenance facilities.

The construction of the ERP facilities is scheduled to be completed by 2015 except for final commissioning of the ship loader which cannot occur until mid-July when ore shipping begins in the open water season of 2015. Iron ore will be transported to Milne Port along the Tote Road by ore truck and shipped out of the Milne Port during the open water season. Approximately 2 Mt iron ore will be shipped in 2015 with 3.5 Mtpa shipped thereafter. During the construction phase of the Project, the majority of the construction material and supplies, fuel and mining equipment will be received at Milne Port during the open-water season August to October.

Once the Railway is operational, the Project will produce and ship 3.5 Mtpa of ore via Milne Port and 18 Mtpa of via the Railway and Steensby Port.

The Project sites are shown on FIGURE 3-1. The Major Project Components are listed in TABLE 3-1.

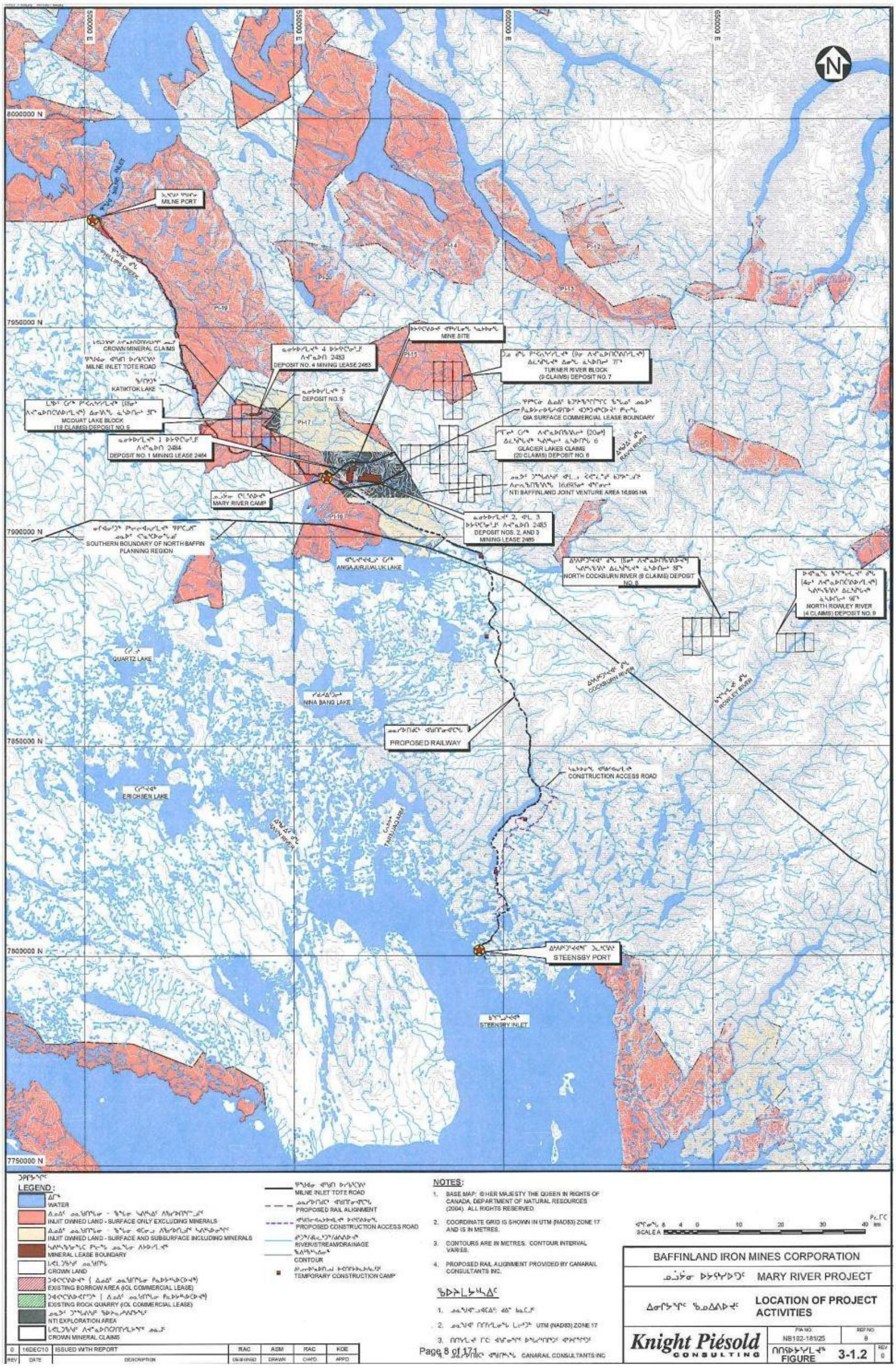

FIGURE 3-1: LOCATION MAP

TABLE 3-1: MAJOR PROJECT COMPONENTS

Major infrastructure Components	Authorized under Project Certificate No 005	Authorized under Project Certificate No 005, ERP Amendment[2]	Status of Development as of March 31, 2015	Land Ownership
Milne Port Site				
Ultimate development area	x	-	In progress	IOL
Site development, grading, roads, laydown, drainage	x	x	In progress	IOL
Water supply (intake, transport, storage and distribution)	x	-	Completed	IOL
Quarries and borrow pits	x	-	In progress	IOL
Camp	x	-	Completed	IOL
Sewage treatment plant and discharge	x	-	Completed	IOL
Polishing Waste Stabilization Pont (PWSP)	x	-	Completed	IOL
Incinerator	x	-	Completed	IOL
Service buildings (field offices, maintenance shops, vehicle wash stations, ERT, warehouses, concrete batch plant)	x	-	In progress	IOL
Waste management facilities including temporary storage areas	x	-	In progress	IOL
Landfarm	x	-	Completed	IOL
Power generation and distribution	x	-	Deferred	IOL
Transitional power generation and distribution	x	-	Completed	IOL
Hazardous material storage areas	x	-	Completed	IOL
Fuel tank farm and fuel dispensing facilities (Arctic Diesel, Jet-A Fuel)	x	-	Completed	IOL
Fuel tank farm and fuel dispensing facilities (Marine Diesel)	-	x	Not started	IOL
Ore stockpile	-	x	In progress	IOL
Ore handling facilities (unloading, transfer and stockpiling, reclaiming, ship loading) and associated surface runoff ponds	-	x	In progress	IOL
Ore dock	-	x	In progress	Crown Land
Freight dock	-	x	Not started	Crown land
Explosives storage	x	-	Completed	IOL
Tote Road				
Realignment and grade improvement	x	-	In progress	IOL/Crown
Water crossings improvement/replacement	x	-	In progress	IOL/Crown
Bridge construction	x	-	Completed	IOL
Borrow Pits and Quarries	x	-	In progress	IOL/Crown
Water withdrawal for dust control	x	x	On going	IOL

Major infrastructure Components	Authorized under Project Certificate No 005	Authorized under Project Certificate No 005, ERP Amendment[2]	Status of Development as of March 31, 2015	Land Ownership
Mine Site				
Mine Site development, grading, service roads, ore haul roads, laydown, drainage and diversions	x	-	In progress	IOL
Camp Lake water supply (intake, transport, storage and distribution)	x	-	Completed	IOL
Water crossings and surface water diversions	x	-	In progress	IOL
Quarries and borrow pits	x	-	In progress	IOL
Transitional Camps (early development)	x	-	Completed	IOL
Sewage treatment plants, PWSPs and discharge	x	-	Completed	IOL
Incinerator	x	-	Completed	IOL
Permanent camp and construction camp	x	-	In Progress	IOL
Service buildings (field offices, temporary or transitional construction facilities, light vehicles maintenance shops, ore trucks maintenance shops, vehicle wash stations, ERT, warehouses, concrete batch plant)	x	-	In progress	IOL
Mining fleet maintenance facilities	x	-	In progress	IOL
Mining activities	x	-	In progress	IOL
Waste rock storage with associated runoff control structure	x	-	Not started	IOL
Waste management facilities including temporary storage areas	x	-	In progress	IOL
Landfill	x	-	Completed	IOL
Landfarm	x	-	Deferred	IOL
Transitional power generation and distribution	x	-	Completed	IOL
Power generation and distribution	x	-	Deferred	IOL
Hazardous material storage areas	x	-	In progress	IOL
Permanent fuel tank farms and fuel dispensing facilities (arctic diesel, jet A fuel – 15.5 ML)	x		Deferred	IOL
Transitional fuel storage facilities (multiple fuel storage tanks for construction phase)	x	-	Completed	IOL
Temporary crushing facility (crusher trains)	x	-	In progress	IOL
Permanent crushing facilities	x	-	Deferred	IOL
Transitional ore stockpile and runoff control	-	x	In progress	IOL
Ore stockpiling (run of mine, crushed ore) and associated runoff control ponds	x	-	Deferred	IOL
Ore handling facilities (unloading, transfer, tertiary crushing and screening, stockpiling, reclaiming, railway loading) and associated surface runoff ponds	x	-	Deferred	IOL
Air strip extension	x	-	Completed	IOL
Explosives storage	x	-	Completed	IOL
Emulsion plant	x	-	Completed	IOL

Major infrastructure Components	Authorized under Project Certificate No 005	Authorized under Project Certificate No 005, ERP Amendment[2]	Status of Development as of March 31, 2015	Land Ownership
Railway				
Service road (up to 25 km south of Mine Site)	x	-	Deferred	IOL
Railway embankment (up to 25 km south of Mine Site)	x	-	Deferred	IOL
Borrow pits and quarries (up to 25 km south of Mine Site)			Deferred	IOL
Water crossings (bridges and culverts)	x	-	Deferred	IOL
Winter road (up to 25 km south of Mine Site)	x	-	Deferred	IOL
Service road	x	-	Deferred	Crown land
Railway embankment	x	-	Deferred	Crown Land
Winter road	x	-	Deferred	Crown Land
Railway construction and operation	x	-	Deferred	Crown Land
Railway construction camps, sewage treatment facilities, emergency ponds and incinerator	x	-	Deferred	Crown Land
Railway camps associated services facilities	x	-	Deferred	Crown Land
Water crossings (bridges and culverts)	x	-	Deferred	Crown Land
Multiple construction fuel storage units	x	-	Deferred	Crown Land
Mobile explosive units	x	-	Deferred	Crown Land
Tunnel construction and disposal of waste rock	x	-	Deferred	Crown Land
Borrow pits and quarries	x	-	Deferred	Crown Land
Steensby Port Site				
Site development, grading, roads, laydown, drainage	x	-	Deferred	Crown Land
Water supply (intake, transport, storage and distribution)	x	-	Deferred	Crown Land
Water crossings and diversions	x	-	Deferred	Crown Land
Quarries and borrow pits	x	-	Deferred	Crown Land
Camp	x	-	Deferred	Crown Land
Sewage treatment plant, PWSPs and discharge	x	-	Deferred	Crown Land
Incinerator	x	-	Deferred	Crown Land
Service buildings (field offices, temporary construction facilities, light vehicles maintenance shops, ore trucks maintenance shops, vehicle wash stations, ERT, warehouses, concrete batch plant)	x	-	Deferred	Crown Land
Waste management facilities including temporary storage areas	x	-	Deferred	Crown Land
Landfill	x	-	Deferred	Crown Land
Landfarm	x	-	Deferred	Crown Land
Power generation and distribution	x	-	Deferred	Crown Land
Hazardous material storage areas	x	-	Deferred	Crown Land

Major infrastructure Components	Authorized under Project Certificate No 005	Authorized under Project Certificate No 005, ERP Amendment[2]	Status of Development as of March 31, 2015	Land Ownership
Fuel tank farms and fuel dispensing facilities (Arctic Diesel, Jet A-Fuel and Marine Diesel)	x	-	Deferred	Crown Land
Railway switch yard	x	-	Deferred	Crown Land
Railway terminal maintenance shop	x	-	Deferred	Crown Land
Ore stockpile	x	-	Deferred	Crown Land
Ore handling facilities (unloading, transfer, tertiary crushing and screening, stockpiling, reclaiming, ship loading) and associated surface runoff ponds	x	-	Deferred	Crown Land
Ore dock	x	-	Deferred	Crown Land
Freight dock	x		Deferred	Crown Land
Air strip	x	-	Deferred	Crown Land
Explosives storage	x	-	Deferred	Crown Land
Emulsion plant	x	-	Deferred	Crown Land
Overwintering of fuel barge	x	-	Deferred	Crown Land
Dredged sediment disposal area	x	-	Deferred	Crown Land

Note 1: Includes additional authorizations under Type A Water Licence 2AM-MRY1325
Note 2: Includes additional authorizations under Type A Licence 2AM-MRY1325 and Type B Licence 8BC-MRY1416

3.2.2 SITE PLANS

The Mine Site, Milne Port and Steensby Port, final connecting infrastructure and principal camp locations site plans are shown on the series of drawings in Appendix A and described in TABLE 3-2. These figures represent the intended site layouts upon completion of Project operations including the Railway Execution Phase. Project components that are planned to be progressively rehabilitated following the construction phase are quantified separately, as are components that are located on Inuit Owned Land.

There has been no change to the closure strategy for the Railway Execution Phase of the Project (as approved under the Project Certificate No. 005). For drawings to account for interim closure and reclamation adjustments to reflect project development phases until such a time planned closure commences, see documents/figures associated with the Annual Security Review (ASR) process conducted in accordance with Schedule C of Type "A" water license 2AM-MRY1325 and Section 9.2 of the Commercial Lease, No. Q13C301, agreed to between Baffinland and the QIA.

Until such time the Railway Execution Phase commences, Steensby Camp and other explorations camps along the proposed railway corridor and exploration areas will be governed by the Exploration Closure and Reclamation Plan (BAF-PH1-830-P16-0038).

TABLE 3-2: DRAWINGS FOR MINE CLOSURE AND RECLAMATION

Drawing Number	Drawing Title
E349000-2000-07-014-00001	Areas of Reclamation – Milne Port Layout
H337697-0000-07-126-0014 (Figure 8.10)	Preliminary Mine Closure and Reclamation Plan – Tote Road
H337697-4210-07-012-0001	Preliminary Mine Closure and Reclamation Plan – Mine Site Construction Phase
H337697-4210-07-012-0002	Preliminary Mine Closure and Reclamation Plan – Mine Site Final Closure Phase
H337697-2000-07-012-0001	Preliminary Mine Closure and Reclamation Plan – Railway Alignment
H337697-7000-07-012-0002	Preliminary Mine Closure and Reclamation Plan – Ravn River Rail Camp
H337697-7000-07-012-0003	Preliminary Mine Closure and Reclamation Plan – North Cockburn Camp – Tunnels
H337697-7000-07-012-0004	Preliminary Mine Closure and Reclamation Plan – South Cockburn Lake Rail Camp
H337697-4510-07-012-0001	Preliminary Mine Closure and Reclamation Plan – Steensby Port Construction Phase
H337697-4510-07-012-0002	Preliminary Mine Closure and Reclamation Plan – Steensby Port Final Closure Phase

3.3 INUIT OWNED LANDS

The Inuit Owned Lands (IOL) surrounding the Project area is shown on FIGURE 3-1. The Commercial Lease, No. Q13C301, to the Project is held by Baffinland and is leased from the Qikiqtani Inuit Association (QIA). In accordance with this and any future surface leases held with the QIA, this ICRP incorporates the guidelines developed for the Qikiqtani lands entitled the Abandonment and Reclamation (A&R) Policy for Inuit Owned Lands (Version 3.0, QIA 2013). The guiding principles of the A&R Policy require that all disturbed IOL be returned to a safe and stable condition capable of supporting human and wildlife needs consistent to social and cultural needs of the Inuit for the undisturbed lands within that area. The QIA guidelines used for this ICRP are summarized in Appendix B. Milne Port and the Mine Site are entirely located on Inuit Owned Land. The first 25 km of the Railway and access roads are located on Inuit Owned Land. All remaining Project areas are located on Crown land.

4 PRE-DEVELOPMENT SITE CONDITIONS

A summary description of bio-physical terrestrial and socio-economic environments at the Project site locations are outlined in Section 4.1. A detailed description of the baseline social, physical, biological and chemical conditions at the Project

Location and impact area are provided in Volumes 4 to 8 of the FEIS, available through the NIRB website (http://www.nirb.ca/), as follows:

- Volume 4: Human Environment;
- Volume 5: Atmospheric Environment;
- Volume 6: Terrestrial Environment;
- Volume 7: Freshwater Environment;
- Volume 8: Marine Environment.

4.1 PROJECT ENVIRONMENT

Summary descriptions of pre-disturbance bio-physical terrestrial and socio-economic environments are outlined in the subsections below.

4.1.1 BIOPHYSICAL TERRESTRIAL ENVIRONMENT

Superficial landforms and deposits in the Mary River Project area are associated with widespread glaciation on Baffin Island. Surface geology consists of locally abundant sediment deposits from glaciers and rivers. Occasional outcrops of granitic and sedimentary rock formations occur. The North Baffin region containing the Mary River area lies within the Committee Belt, a granite-greenstone terrain mixed with sedimentary and volcanic rock. The mountains to the east are older than 540 million years old, and the lowland plateaus to the west are about 250 to 540 million years old.

The Project is situated in the Northern Arctic Ecozone. The climate is semi-arid and permafrost coverage is continuous to a depth of 500 metres, with an active layer of up to 2 metres. Extremely cold temperatures, combined with the permafrost, result in a short period of runoff that typically occurs from June to September. All rivers and creeks, except for the very largest systems, freeze during winter. Due to the combination of low temperatures and low infiltration, vegetative cover is minimal and surface water is abundant. The region is dotted with thousands of small lakes and streams.

The region experiences near 24-hour darkness with less than two hours of twilight from November to January. During the winter months the treeless topography and fine powdery snow produce blowing snow conditions, resulting in restricted visibility. Frost-free conditions occur from late June to late August. There is continuous daylight from May to August. The months of July and August usually experience the greatest precipitation. From September to November, temperature and the number of daylight hours decrease,

and by mid-October the mean daily temperature is generally well below 0 degrees C. The highest snowfall typically occurs during this period.

Air quality and noise levels in the Project area are typical of remote environment. Freshwater quality measurements in the Mary River area indicate naturally elevated concentrations of dissolved oxygen, turbidity, aluminium and iron. Some average values for pH, as well as cadmium and mercury in fresh water are greater than levels recommended by the guidelines of Canadian Council of Ministers of the Environment.

Vegetation is relatively sparse in much of the Project area and is generally consistent with flora of Arctic regions. No plant species considered to be “rare” in Canada were found to occur in the survey locations.

Terrestrial mammals in the region include barren-ground caribou of the North Baffin herd, wolf, Arctic and red fox, ermine, Arctic hare, and lemmings.

North Baffin caribou are currently present at low densities and their numbers seem to vary in accordance with a 60- to 70-year cycle. The last period of caribou abundance in the regional study area was 1980 to 2000, and the previous period of low abundance was the 1940s. Caribou are expected to remain at low numbers for the next couple of decades. There is evidence that caribou occur throughout the entire region. While some populations of caribou migrate between preferred habitats in summer and winter, North Baffin caribou appear to be non-migratory and are likely to be found relatively equally in many locations throughout the Project area.

Migratory bird species observed in the Mary River study area include snow geese, ducks, eiders, loons, and mergansers. Raptors found include rough-legged hawks, peregrine falcons, gyrfalcons, and snowy owls. Relatively low densities of songbirds and shorebirds were recorded throughout the region.

There are two fish species in the freshwater environment: Arctic char and a minnow species named nine-spine stickleback. The inland waters near the Project mainly contain landlocked char, though anadromous or sea run char are present in a lake next to Steensby Port and up the Cockburn River system next to a portion of the Railway.

4.1.2 Socio-Economic Environment

The Inuit of the North Baffin region have experienced tremendous social and cultural change over the course of a few decades. Recent changes, particularly residential schools, have affected family integrity and by implication, social cohesion. Elders are becoming more engaged in community life and in the education of youth in traditional skills. At the same time, a shift toward Western middle-class expectations appears to be taking place among Inuit youth.

The land-based economy is a major part of the livelihoods of many residents of the North Baffin. Harvesting from the land and sea is estimated to produce food worth between $12 million and $20 million per year in this region. The amount of work to harvest this food is estimated to be similar to 350 full-time jobs.

In addition, residents of the region earn money through sales of arts and crafts, through employment, and from various government social programs such as Income Support. The personal income reported by residents of the five North Baffin communities amounted to $83 million per year.

Residents' demand for wage employment is very high. People want to work, even when this work requires flying to remote locations. However, job opportunities in the North Baffin are limited. Inuit employment in North Baffin is characterized by many individuals earning small levels of income, well under what full-time work would pay, and a small number earning full-time, year-round incomes. Most residents working in full-time jobs in Iqaluit do so year-round. In North Baffin, many more full-time workers are engaged in these jobs for only short periods. Women who work full-time jobs in North Baffin are more likely to work year-round than are men.

Nunavut relies on federal transfer payments for at least 90 % of its revenue. Government employment is a mainstay of the wage economy, with many of Nunavut's small businesses and retail outlets established to support government needs or those of public servants. The public sector accounts for a large portion of Nunavut's economic activity. Government jobs in administration, education and health account for about half of all employment earnings in the territory. Construction has been growing as government infrastructure has been established.

These communities have a subsistence economy and have experienced dramatic population growth over the last 20 years. Over 70 % of the population is under 25. Underemployment and lack of opportunities is causing social stress. Community Elders recognize that the communities must position themselves to enter the wage economy.

For many North Baffin households, harvest of country food provides an important contribution to overall well-being. In all five communities, caribou, ringed seal, and Arctic char are of major importance. In addition, walrus is a major species of importance in Hall Beach and Igloolik, while narwhal is a key component of the harvest among households in Arctic Bay, Pond Inlet and, to a lesser degree, Clyde River.

4.2 Project Activity Reporting

Since 2007, Baffinland has provided annual reports to the Nunavut Impact Review Board (NIRB) summarizing the site work completed, and the work planned for the following year for the activities previously screened and approved by NIRB. These reports also provide a synopsis of compliance performance with explorations licences, permits, approvals and commitments, and include the results of monitoring activities. An update on the existing environmental conditions and progressive reclamation

activities are also contained in these reports. The reports are publicly available through NIRB (http://www.nirb.ca/). Appendix C provides site photographs of current conditions onsite.

All works and activities proposed to be conducted as part of the Project have been screened by the NIRB, considered in the Project Certificate No. 005 issued by the NIRB on December 28, 2012, and the approved Project Certificate amendment to No.005 received in spring 2014 for the ERP.

5 PROGRESSIVE REHABILITATION

Most of the Project areas will be actively used during the construction and operation phases of the Project, although where practical, areas which are no longer needed to carry out Project activities will be progressively reclaimed during construction and operations.

This section describes the proposed progressive rehabilitation measures that will be completed during the construction and/or operation phases of the Project. In accordance with the objectives and guidelines presented in Section 2.1.5, progressive rehabilitation will be implemented to achieve the Projects site abandonment goal and closure principles.

Phase:	Construction (ERP)				Operation (ERP)				Operation (ERP & Rail Phase)			
Year:	1	2	3	4	1*	2*	3*	4*	1	2	3	4
Milne Port												
PWSP (exploration)												
Bladder Farm												
Quarry (Q1)												
Mary River Mine Site												
Bladder Farm												
Quarry (QMR2)												
Laydown Areas												
Borrow Pits												
Rail Route												
Rail Access Road												

*Rail phase construction begins

FIGURE 5-1: SUMMARY OF CONCEPTUAL CURRENT AND PROPOSED PROGRESSIVE REHABILITATION SCHEDULE

5.1 PROPOSED PROGRESSIVE REHABILITATION MEASURES

The overall intent of the proposed progressive rehabilitation measures is to assist in achieving Baffinland's site abandonment goal to return project sites and affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities in as minimal duration as reasonably practical. The progressive rehabilitation measures proposed as part of the ICRP are expected to be technically and economically feasible and reflect Project closure principles. Closure criteria, to determine if the closure objectives outlined in subsections below have been achieved by closure activities, are consistent with the closure criteria described in

TABLE 6-1. It should be noted participation of the local communities, through their QIA representatives, and other applicable government stakeholders, in the consideration of alternative progressive reclamation activities is encouraged via the Working Group (see Section 2.3 for more information). The experience gained and lessons learned from the closure of the Nanisivik and Polaris mine sites, which are located in a similar climate zone, will be used, where applicable, as a benchmark for the progressive rehabilitation of disturbed Project areas.

The general progressive rehabilitation measures for each Project component is provided in the subsections below.

5.1.1 Progressive Reclamation of Current Project Components

The following areas will be progressively reclaimed during the construction and/or operation phases at Milne Port, the Tote Road, the Mine Site, and Steensby Port.

5.1.1.1 Laydown Areas

Laydown areas no longer needed during construction and/or operations will be re-graded and scarified to ensure to the extent possible, pre-disturbance surface conditions including drainage patterns have been re-established, disturbed areas are scarified to promote natural re-vegetation and remaining disturbed area is physically and geotechnically stable, any surface runoff and seepage water quality is safe for humans and wildlife, and the area encourages the desired wildlife movement. Any contaminated portions of any laydown will be remediated to ensure they do not pose an unacceptable environmental risk.

5.1.1.2 Quarries and Borrow Pits

Quarries and Borrow Pits no longer needed during construction and/or operations will be cut or filled, as required, to ensure to the extent possible, pre-disturbance surface conditions including drainage patterns have been re-established, disturbed areas are scarified to promote natural re-vegetation, any remaining disturbed area is physically and geotechnically stable, and any surface runoff and seepage water quality is safe for humans and wildlife. Any contaminated portions of any quarries and borrow pits will be remediated to ensure they do not pose an unacceptable environmental risk. Closure and reclamation of these sites will be carried out in accordance the site specific permits as outlined in the individual Borrow Pit or Quarry Operating Plan.

5.1.1.3 Landfill

Project landfills will be progressively covered with overburden, as cells are completed, to allow the contents of the landfill to remain permanently frozen to ensure the area is physically and geotechnically stable in the long term, any surface runoff and seepage water quality is safe for humans and wildlife, and the area encourages the desired wildlife movement upon site abandonment. It shall be ensured that post-closure water quality run-off objectives in receiving water bodies are met and no long-term active care is required.

5.1.1.4 Landfarms

Hydrocarbon-contaminated soils will be excavated and treated in the landfarms throughout the life of the Project to maintain the chemical stability of the site and any discharges. Soils meeting treatment guidelines will be spread over land or used as cover material. Once no longer required, landfarms will be closed to ensure the area is physically and geotechnically stable long term, any surface runoff and seepage water quality is safe for humans and wildlife, and the area encourages the desired wildlife movement. It shall be ensured post-closure water quality run-off objectives in receiving water bodies from landfarms are met and no long-term active care is required.

5.1.1.5 Camps and Associated Infrastructure

Construction camps and associated infrastructure will be demolished, removed, and/or disposed of in approved site landfills, the Mine pit, quarries, other approved disposal locations or off-site disposal facilities following the construction phase to accommodate the reduced number of personnel required on site during operations. Closure activities will ensure camp components will not be a source of contamination to the environment or a safety hazard to humans and wildlife. Surface areas occupied by construction camps and associated infrastructure will be restored to pre-disturbance conditions or to a condition compatible with future use targets, to the extent possible.

5.1.1.6 Waste Rock Stockpile

The waste rock stockpile will be monitored during operations. It is anticipated, based on current investigations, that most of the waste rock will not be prone to metal leaching or acid drainage. However, if ongoing ore characterization studies show that the minor portion of waste rock that is potentially acid generating (PAG) could cause unacceptable impact to runoff and seepage, the waste rock stockpile construction strategy will be modified accordingly. Baffinland will implement on an as needed basis any measures required to ensure:

- Generation of poor water quality from waste rock piles has been minimized, including that from Acid Rock Drainage/Metal Leaching (ARD/ML);
- Surface runoff and seepage water quality is safe for humans and wildlife;
- The pile is physically and geotechnically stable for human and wildlife safety in the long-term;
- The risks of erosion, thaw settlement, slope failure, collapse, and the release of contaminants or sediments have been minimized;
- Dust levels are safe for people, vegetation, aquatic life, and wildlife in the long-term.

5.1.1.7 Roads

Roads no longer required during operations will be decommissioned, to the extent possible, to ensure pre-disturbance surface conditions including drainage patterns have been re-established, disturbed areas are scarified to promote natural re-vegetation and remaining disturbed area is physically and geotechnically stable. Decommissioning activities will ensure adverse impacts to permafrost along the route have been limited and impacts to the environment, fish, and wildlife, from localized areas of

contamination that may be present along a route have been minimized. Any contaminated portion of a road will be remediated to ensure they do not pose an unacceptable environmental risk and post-closure public and wildlife access has been deterred or enabled as necessary to meet designated future use of the area and encourages the desired wildlife movement. Water crossings will be removed in a manner necessary to maintain the physical and chemical stability of the area in the long-term.

5.1.1.8 Fuel Bladders Farms

Once the fuel bladders are removed, any contaminated soil will be treated in the landfarms to ensure contaminated soils do not pose an unacceptable environmental risk. The no longer required area will be re-graded and scarified to ensure to the extent possible, pre-disturbance surface conditions including drainage patterns have been re-established, disturbed areas are scarified to promote natural re-vegetation and remaining disturbed area is physically and geotechnically stable, any surface runoff and seepage water quality is safe for humans and wildlife, and the area encourages the desired wildlife movement.

5.1.2 Progressive Reclamation Associated with the Railway

Following completion of the Railway, progressive reclamation activities will be undertaken by Baffinland to ensure the site abandonment goal and principles in accordance with Project requirements are met consistent with activities outlined in Section 5.1.1. Progressive reclamation associated with the railroad may be revised at a later stage in the Project and include measures relative assessing and remediating, if warranted, to:

- Railroad maintenance facilities that have generated wastes and the potential for spillage of solvents and heavy metals;
- Railroad fuelling facilities: diesel spillage, diesel recovery, water treatment, soil remediation. Storage of gasoline at fuelling facilities;
- Ballast geochemistry, potential ML/ARD;
- Other materials to be hauled on the line such as diesel which have the potential to contaminate ballast and soils;
- Ore dust from moving trains;
- Ore spillage into the ballast from movement of trains;
- Ballast cleaning and disposal of recovered fines;
- Tie replacement and disposal of used ties.

5.2 Closure and Reclamation Research

Baffinland will conduct research as necessary to resolve uncertainties pertaining to environmental risks for selected closure activities. Reclamation research may include engineering studies and/or focussed

research undertaken with the intention of reducing uncertainties to an acceptable level and provide information that can lead to the development of additional appropriate closure criteria.

The results of reclamation research, where required, are reported on an annual basis, in the Nunavut Water Board and Qikiqtani Inuit Association Annual Report. As further research is conducted, select mine components that may warrant additional study and research will be indentified and Baffinland expects a function of the Working Group will be to identify these opportunities as well as reviewing reclamation research results and determining applicability. Relevant closure and reclamation study and research findings will be incorporated into future versions of the ICRP.

5.2.1 Current Reclamation Research

Current reclamation research is focused on ensuring the selected closure activities the future open pit and waste rock stockpile will meet component specific closure criteria.

5.2.1.1 Open Pit Closure and Reclamation Research

Conceptual modelling of the pit water quality is presented in the FEIS. Open pit monitoring will be done throughout of the life of the Project as per the Surface Water, Aquatic Ecosystems, Fish and Fish Habitat Management Plan (BAF-PH1-830-P16-0026) and the Comprehensive Environmental Monitoring Plan, in accordance to all MMER requirements. Predictions of pit water quality will be updated throughout the life of the Project as more information comes available on the geochemistry of the waste rock and the pit wall. Although indications to-date demonstrate a low probability of ARD/ML, if monitoring results during Operations suggest a potential ARD/ML it shall be dealt with at that time and any associated impacts that ARD and/or ML would have on closure and reclamation planning, monitoring, Long-term maintenance and bonding will be addressed. If there are no indications from test programs or ongoing monitoring of ARD/ML throughout the Operation Phase, at final closure, the open pit will be inspected by a qualified engineering professional to assess the physical stability of the pit walls and pit lake and to reconfirm no indicators of ARD/ML.

ARD and ML will be periodically reassessed as a potential issue in the future ICRP revisions and in the Final CRP. The Final CRP will present a time frame for the potential development of ARD/ML conditions, if any, and discuss the impact of ARD/ML release on final closure identifying the need for ongoing monitoring, treatment, and potential mitigations.

See Section 9.2 for more information about regarding the closure and reclamation activities associated with the Open Pit.

5.2.2 Waste Rock Stockpile Closure and Reclamation Research

At the onset, the waste rock pile design will consider final closure considerations. A detailed sampling and testing program for the characterization of the waste rock for the period of 2012-2014 was conducted and involved:

- Devising a representative sampling program for the waste rock based on the configuration of the ore body and the mining plan;
- Analysis of the lithology, morphology and mineralogy of the waste rock;
- Additional testing (both static and humidity cell).

This program has been reviewed with guidance by independent experts. The objective of this program is to inform prediction of expected runoff quality over time. Contingencies will be put into place if there are acid rock drainage issues and treatment if necessary. The characterization program will be ongoing for the Life of the Project and will guide the development of adaptive management strategies for waste rock management. Regular updates on waste rock characterization and prediction of runoff water quality will be provided in future updates of the Life-of-Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031) as they are developed and will be incorporated into future versions of the ICRP as appropriate.

See Section 9.11 for more information about regarding the closure and reclamation activities associated with the Waste Rock Stockpile.

5.2.3 Re-Vegetation Observations

In addition to closure and reclamation research, observations during operations to identify best practices for promoting natural re-vegetation of disturbed areas will occur and incorporated into future updates of the ICRP.

It should be noted that vegetation is naturally sparse or nonexistent (e.g., waste rock stockpile footprint) over much of the Project Area, and therefore the potential for natural re-vegetation of disturbed Project areas is anticipated to be minimal. Re-vegetation by reseeding or replanting is not currently being considered by the Project based on the current site conditions and the potential for success in areas not historically vegetated. However, studies and/or observations of natural re-vegetation, such as colonization potential of vegetation species to disturbed areas, will be undertaken, as needed, to identify alternative methodologies for promoting natural re-vegetation of disturbed Project areas.

6 SUMMARY OF CLOSURE MEASURES

Baffinland acknowledges that due to various economic drivers (commodity prices, escalation of construction and production costs, extended maintenance shutdown, others), Baffinland may be forced into a temporary or permanent closure scenario. For planning purposes, Baffinland defines closure periods as follows:

- Temporary Care and Maintenance – cease commercial operation for a period of up to one (1) year;
- Long-term Closure – cease commercial operation for over (1) year for an indefinite period;
- Final Closure – cease commercial operation permanently.

Sections 7, 8, and 9 describe the measures that would be undertaken to secure, close and/or reclaim Project sites in the event or temporary care and maintenance, long-term temporary closure, and final closure, respectively. A description of the closure objectives, criteria, activities and applicable monitoring program for each component of the Project for is summarized in

TABLE 6-1: CLOSURE OBJECTIVES, CRITERIA AND ACTIVITES BY MAJOR PROJECT COMPONENTS (BASED ON ULTIMATE PROJECT DEVELOPMENT – 21.5 MTPA NOMINAL)

Major Infrastructure Components	Closure Objective	Closure Criteria	Temporary Closure Activities (up to 1 year)	Long-Term Closure Activities (over 1 year)	Final Closure Activities (Permanent)	Associated Monitoring Program(s)	Land Ownership[8]
Milne Port Site (including ERP components)							
Site Wide for Milne Port	a) Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible and disturbed areas are scarified to promote natural re-vegetation. b) Remaining area will not be a safety hazard to humans and wildlife. c) Remaining disturbed area is physically and geotechnically stable. d) Area facilitates the desired wildlife movement. e) Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk. f) No long-term active care is required. g) Dust levels safe for people, vegetation, aquatic life and wildlife. h) Landscape features (shape and vegetation) match aesthetics of the surrounding natural area.	**Geotechnical/Engineering Investigation** • Satisfactory final inspection by professional NU engineer • Closure design and drainage construction inspected and signed-off by a Professional engineer, as-built drawings produced **Environmental Site Assessment** • CCME contaminated sites guidelines or site-specific risk-based criteria met **Wildlife** • Post-closure monitoring demonstrates wildlife use in the area **Air Quality** • Mean Total Suspended Particulate concentrations less than 60 $\mu g/m^3$ annual and 120 $\mu g/m^3$ 24 hr average (NU Ambient Air Quality Standard) or site-specific risk-based criteria met. **Land Use** • No visible buildings, equipment or non-local materials. Re-vegetation activities (scarification) applied to disturbed areas.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required.	**Year 0** – Site audit **Year 1** – Rehabilitation of civil works and laydown areas **Year 2** – Decommission roads and water crossings **Year 3** – Rehabilitation (re-grading and scarification) of all surfaces	1. Geotechnical/Engineering Monitoring 2. Environmental Site Assessment 3. Wildlife Monitoring 4. Air Quality Monitoring	Crown/IOL
Ore Dock	a) Any surface runoff and seepage water quality is safe for humans and wildlife.	**SNP Monitoring** • Discharge quality meets Contact Water effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 27, Table 11 or site-specific risk-based criteria	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/degradation of the civil works.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/degradation of the civil works.	**Year 0** – Site audit **Year 1** – Decommissioning/ dismantling of all equipment **Year 2** – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	Crown
Civil works, including: • Camp Pads • Laydowns • Freight Dock • Site Roads • Water crossings • Conduit berms	a) Any surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Contact Water effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 27, Table 11 or site-specific risk-based criteria.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/degradation of the civil works.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/degradation of the civil works.	**Year 0** – Site audit **Year 1** – Rehabilitation of laydown areas **Year 2** – Decommission roads and water crossings **Year 3** – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	IOL

[8] *From Milne Port up to 25 km south of Mine Site (excluding small section around P1 Borrow Area) is Inuit Owned Land (IOL). Remainder of Project Facilities on Crown Land*

Major Infrastructure Components	Closure Objective	Closure Criteria	Temporary Closure Activities (up to 1 year)	Long-Term Closure Activities (over 1 year)	Final Closure Activities (Permanent)	Associated Monitoring Program(s)	Land Ownership[8]
Non-Hazardous Waste Disposal Locations	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Landfill effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 22, Table 7 or site-specific risk-based criteria	• Site access is secured. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit **Year 1** – Routine inspection of facilities. **Year 2** – Application of cover material and rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	IOL
Landfarm	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Landfarm facilities effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 24, Table 9 or site-specific risk-based criteria	• Site access is secured. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/degradation of the civil works.	**Year 0** – Site audit **Year 1** – Routine inspection of facilities. **Year 2** – Routine inspection of facilities. **Year 3** – Application of cover material(if required) and rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	IOL
Ore Stockpile and Sedimentation Ponds	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Open Pit, Stockpile and Sedimentation Ponds effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria • Discharge quality meets acute toxicity tests under the Fisheries Act	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation	**Year 0** – Site audit **Year 1** – Rehabilitation of ore stockpiles **Year 2** – Decommission sedimentation ponds **Year 3** – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	IOL
Polishing Waste Stabilization Ponds (PWSP)	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Sewage Treatment Facilities to the ocean effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 19, Table 5 or site-specific risk-based criteria	• Maintain/monitor water quality	• Maintain/monitor water quality	**Year 0** – Site audit **Year 1** – Decommission sedimentation ponds **Year 2** –Breach and re–profile all pond sites	1. SNP Monitoring	IOL

Major Infrastructure Components	Closure Objective	Closure Criteria	Temporary Closure Activities (up to 1 year)	Long-Term Closure Activities (over 1 year)	Final Closure Activities (Permanent)	Associated Monitoring Program(s)	Land Ownership[8]
Fuel and Hazardous Materials, including: • Fuel Tank Farm and Fuel Dispensing Facilities (Arctic Diesel, Jet–A Fuel) • Hazardous Material Storage Areas • Waste Management Facilities Including Temporary Storage Areas • Hazardous Waste and Hazardous Chemicals • Fuel • Explosives • Explosives Storage	a) All fuel and hazardous materials removed from site. b) Surface runoff and seepage water quality is safe for humans and wildlife c) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Bulk Fuel Storage Facilities effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria and/or discharge quality meets Oily Water Treatment Facilities effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria (as appropriate).	• Maintain/secure	• Maintain/secure fuel • De-mobilize all hazardous materials	**Year 0** – Site audit **Year 1** – Decontamination and disposal of all non–essential fuel and hazardous materials **Year 3** – Off-site disposal of all remaining material – Rehabilitation of all surfaces	1. SNP Monitoring	IOL
Tote Road (including ERP components)							
Site Wide, including: • Road Alignment • Water withdrawal access areas • Water crossings (bridges and culverts)	a) Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible. b) Remaining area will not be a safety hazard to humans and wildlife. c) Remaining disturbed area is physically and geotechnically stable. d) Area facilitates the desired wildlife movement. e) Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk. f) No long-term active care is required. g) Dust levels safe for people, vegetation, aquatic life and wildlife. h) Landscape features (shape and vegetation) match aesthetics of the surrounding natural area.	**Geotechnical/Engineering Investigation** • Satisfactory final inspection by professional NU engineer • Closure design and drainage construction inspected and signed-off by a Professional engineer, as-built drawings produced **Environmental Site Assessment** • CCME contaminated sites guidelines or site-specific risk-based criteria met **Wildlife** • Post-closure monitoring demonstrates wildlife use in the area **Air Quality** • Mean Total Suspended Particulate concentrations less than 60 $\mu g/m^3$ annual and 120 $\mu g/m^3$ 24 hr average (NU Ambient Air Quality Standard) or site-specific risk-based criteria met. **Land Use** • No visible buildings, equipment or non-local materials. Re-vegetation activities (scarification) applied to disturbed areas excluding road surface.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit **Year 1** – Rehabilitation of laydown areas **Year 2** – Decommission roads and water crossings **Year 3** – Rehabilitation (re-grading and scarification) of all surfaces – Secure stream banks to prevent erosion – Secure access as required.	1. Geotechnical/Engineering Monitoring 2. Environmental Site Assessment 3. Wildlife Monitoring 4. Air Quality Monitoring	Crown/IOL
Borrow Pits and Quarries	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets for Borrow Pits and Quarries effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 27, Table 11 or site-specific risk-based criteria	• Remove quarry equipment • Secure access	• Remove quarry equipment • Secure access	**Year 0** – Site audit **Year 2** – Rehabilitation for borrow pits and quarries – Secure access as required.	1. SNP Monitoring	Crown/IOL

Major Infrastructure Components	Closure Objective	Closure Criteria	Temporary Closure Activities (up to 1 year)	Long-Term Closure Activities (over 1 year)	Final Closure Activities (Permanent)	Associated Monitoring Program(s)	Land Ownership[8]
Mine Site (Site Fully Developed for Mining of 21.5 Mtpa Nominal)							
Site Wide for Mine Site	a) Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible and disturbed areas are scarified to promote natural revegetation. b) Remaining area will not be a safety hazard to humans and wildlife. c) Remaining disturbed area is physically and geotechnically stable. d) Area facilitates the desired wildlife movement. e) Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk. f) No long-term active care is required. g) Dust levels safe for people, vegetation, aquatic life and wildlife. h) Landscape features (shape and vegetation) match aesthetics of the surrounding natural area.	**Geotechnical/Engineering Investigation** • Satisfactory final inspection by professional NU engineer • Closure design and drainage construction inspected and signed-off by a Professional engineer, as-built drawings produced **Environmental Site Assessment** • CCME contaminated sites guidelines or site-specific risk-based criteria met **Wildlife** • Post-closure monitoring demonstrates wildlife use in the area. **Air Quality** • Mean Total Suspended Particulate concentrations less than 60 $\mu g/m^3$ annual and 120 $\mu g/m^3$ 24 hr average (NU Ambient Air Quality Standard) or site-specific risk-based criteria met. **Land Use** • No visible buildings, equipment or non-local materials. Re-vegetation activities (scarification) applied to disturbed areas	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit **Year 1** – Rehabilitation of laydown areas **Year 2** – Decommission roads and water crossings – Rehabilitation (re-grading and scarification) of all surfaces	1. Geotechnical/Engineering Monitoring 2. Environmental Site Assessment 3. Wildlife Monitoring 4. Air Quality Monitoring	IOL
Open Pit	a) Remaining area will not be a safety hazard to humans and wildlife. b) Surface runoff and seepage water quality is safe for humans and wildlife c) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets for Open Pit, Stockpile and Sedimentation Ponds effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria **Environmental Effects Monitoring Program (EEM)** • Achieve the "Recognized Closed Mine" status as defined by Section (4) of MMER **Safety Compliance Inspection** • Satisfactory final inspection by Inspector of Mines	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation	**Year 0** – Site audit **Year 1** – Rehabilitation of ore stockpiles **Year 2** – Decommission sedimentation ponds – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring 2. Environmental Effects Monitoring Program 3. Safety Compliance Inspection	IOL
Waste Rock Stockpile	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met. c) Will not be a safety hazard to humans and wildlife.	**SNP Monitoring** • Discharge quality meets for Open Pit, Stockpile and Sedimentation Ponds effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria **Environmental Effects Monitoring Program (EEM)** • Achieve the "Recognized Closed Mine" status as defined by Section (4) of MMER	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation	**Year 0** – Site audit **Year 1** – Rehabilitation of ore stockpiles **Year 2** – Decommission sedimentation ponds – Rehabilitation (re-grading and scarification)of all surfaces	1. SNP Monitoring 2. Environmental Effects Monitoring Program 3. Safety Compliance Inspection	IOL

Major Infrastructure Components	Closure Objective	Closure Criteria	Temporary Closure Activities (up to 1 year)	Long-Term Closure Activities (over 1 year)	Final Closure Activities (Permanent)	Associated Monitoring Program(s)	Land Ownership[8]
		Safety Compliance Inspection • Satisfactory final inspection by Inspector of Mines					
Ore Stockpile and Sedimentation Ponds	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets for Open Pit, Stockpile and Sedimentation Ponds effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria **Environmental Effects Monitoring Program (EEM)** • Achieve the "Recognized Closed Mine" status as defined by Section (4) of MMER **Safety Compliance Inspection** • Satisfactory final inspection by Inspector of Mines	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation	**Year 0** – Site audit **Year 1** – Rehabilitation of ore stockpiles **Year 2** – Decommission sedimentation ponds – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring 2. Environmental Effects Monitoring Program 3. Safety Compliance Inspection	IOL
Civil works, including: • Camp Pads • Laydowns • Air Strip • Ore Dock • Freight Dock • Site Roads • Water crossings • Conduit berms	a) Any surface runoff and seepage water quality is safe for humans and wildlife. b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets for Contact Water effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part I, Item 23 and limits established based on site-specific risk based criteria	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit **Year 1** – Rehabilitation of laydown areas **Year 2** – Decommission roads and water crossings – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	IOL
Landfills, including: • All non-hazardous waste disposal locations	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets for Landfill effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 22, Table 7 or site-specific risk-based criteria	• Site access is secured. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit **Year 1** – Routine inspection of facilities. **Year 2** – Application of cover material and rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	IOL
Polishing Waste Stabilization Ponds (PWSP)	a) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Sewage Treatment Facilities to the freshwater effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 18, Table 4 or site-specific risk-based criteria	• Maintain/monitor water quality	• Maintain/monitor water quality	**Year 0** – Site audit **Year 1** – Decommission sedimentation ponds **Year 2** – Breach and re–profile all pond sites	1. SNP Monitoring	IOL
Fuel and Hazardous Materials, including:	a) All fuel and hazardous materials removed from site	**SNP Monitoring** • Discharge quality meets Bulk Fuel Storage Facilities effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F,	• Maintain/secure	• Maintain/secure fuel • De-mobilize all hazardous materials	**Year 0** – Site audit **Year 1**	1. SNP Monitoring	IOL

Major Infrastructure Components	Closure Objective	Closure Criteria	Temporary Closure Activities (up to 1 year)	Long-Term Closure Activities (over 1 year)	Final Closure Activities (Permanent)	Associated Monitoring Program(s)	Land Ownership[8]
• Fuel Tank Farm and Fuel Dispensing Facilities (Arctic Diesel, Jet–A Fuel) • Hazardous Material Storage Areas • Waste Management Facilities Including Temporary Storage Areas • Hazardous Waste and Hazardous Chemicals • Fuel • Explosives • Explosives Storage	b) Surface runoff and seepage water quality is safe for humans and wildlife c) Water quality run-off objectives in receiving water bodies are met.	Item 25, Table 10 or site-specific risk-based criteria and/or discharge quality meets Oily Water Treatment Facilities effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria (as appropriate).			– Decontamination and disposal of all non–essential fuel and hazardous materials **Year 3** – Off-site disposal of all remaining material – Rehabilitation of all surfaces		
Borrow Pits and Quarries	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets for Borrow Pits and Quarries effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 27, Table 11 or site-specific risk-based criteria	• Remove quarry equipment • Secure access	• Remove quarry equipment • Secure access	**Year 0** – Site audit **Year 2** – Rehabilitation for borrow pits and quarries – Secure access as required.	1. SNP Monitoring	IOL
Railway (For Transportation of 18 Mtpa)							
Site Wide Railway, including: • Track • Embankment • Tunnels • Access Road Alignment • Water crossings (bridges and culverts)	a) Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible. b) Remaining area will not be a safety hazard to humans and wildlife. c) Remaining disturbed area is physically and geotechnically stable. d) Area facilitates the desired wildlife movement. e) Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk. f) No long-term active care is required. g) Dust levels safe for people, vegetation, aquatic life and wildlife. h) Landscape features (shape and vegetation) match aesthetics of the surrounding natural area.	**Geotechnical/Engineering Investigation** • Satisfactory final inspection by professional NU engineer • Closure design and drainage construction inspected and signed-off by a Professional engineer, as-built drawings produced **Environmental Site Assessment** • CCME contaminated sites guidelines or site-specific risk-based criteria met **Wildlife** • Post-closure monitoring demonstrates wildlife use in the area. **Air Quality** • Mean Total Suspended Particulate concentrations less than 60 $\mu g/m^3$ annual and 120 $\mu g/m^3$ 24 hr average (NU Ambient Air Quality Standard) or site-specific risk-based criteria met. **Land Use** • No visible buildings, equipment or non-local materials. Re-vegetation activities (scarification) applied to disturbed areas	• Routine inspection and maintenance to ensure integrity	• Routine inspection and maintenance to ensure integrity	**Year 0** – Site audit **Year TBD** – Rehabilitation of laydown areas **Year TBD +1** – Decommission roads and water crossings **Year TBD +2** – Rehabilitation (re-grading and scarification) of all surfaces – Secure stream banks to prevent erosion – Secure access as required. **Year TBD +3** – Remove rails and railway ties – Cap tunnels	1. Geotechnical/Engineering Monitoring 2. Environmental Site Assessment 3. Wildlife Monitoring 4. Air Quality Monitoring	Crown/IOL
Borrow Pits and Quarries	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets for Borrow Pits and Quarries effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part	• Remove quarry equipment • Secure access	• Remove quarry equipment • Secure access	**Year 0** – Site audit **Year TBD**	1. Geotechnical/Engineering Monitoring 2. Environmental Site Assessment	Crown/IOL

Major Infrastructure Components	Closure Objective	Closure Criteria	Temporary Closure Activities (up to 1 year)	Long-Term Closure Activities (over 1 year)	Final Closure Activities (Permanent)	Associated Monitoring Program(s)	Land Ownership[8]
		F, Item 27, Table 11 or site-specific risk-based criteria			– Rehabilitation for borrow pits and quarries – Secure access as required.	3. Wildlife Monitoring	
Steensby Port Site (Site Fully Developed for Railway Phase)							
Site Wide at Steensby Port	a) Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible and disturbed areas are scarified to promote natural revegetation. b) Remaining area will not be a safety hazard to humans and wildlife. c) Remaining disturbed area is physically and geotechnically stable. d) Area facilitates the desired wildlife movement. e) Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk. f) No long-term active care is required. g) Dust levels safe for people, vegetation, aquatic life and wildlife. h) Landscape features (shape and vegetation) match aesthetics of the surrounding natural area.	**Geotechnical/Engineering Investigation** • Satisfactory final inspection by professional NU engineer • Closure design and drainage construction inspected and signed-off by a Professional engineer, as-built drawings produced **Environmental Site Assessment** • CCME contaminated sites guidelines or site-specific risk-based criteria met **Wildlife** • Post-closure monitoring demonstrates wildlife use in the area. **Air Quality** • Mean Total Suspended Particulate concentrations less than 60 $\mu g/m^3$ annual and 120 $\mu g/m^3$ 24 hr average (NU Ambient Air Quality Standard) or site-specific risk-based criteria met. **Land Use** • No visible buildings, equipment or non-local materials. Re-vegetation activities (scarification) applied to disturbed areas	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit **Year TBD** – Rehabilitation of laydown areas – Decommission roads and water crossings – Rehabilitation (re-grading and scarification) of all surfaces	1. Geotechnical/Engineering Monitoring 2. Environmental Site Assessment 3. Wildlife Monitoring 4. Air Quality Monitoring	Crown
Ore Dock	a) Any surface runoff and seepage water quality is safe for humans and wildlife.	**SNP Monitoring** • Discharge quality meets Contact Water effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 27, Table 11 or site-specific risk-based criteria	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit areas **Year TBD** – Decommissioning/ dismantling of all equipment – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	Crown
Civil works, including: • Camp Pads • Laydowns • Freight Dock • Site Roads • Water crossings • Conduit berms	a) Any surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Contact Water effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 27, Table 11 or site-specific risk-based criteria.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit **Year TBD** – Rehabilitation of laydown areas – Decommission roads and water crossings – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	Crown
Landfills, including:	a) Surface runoff and seepage water quality is safe for humans and wildlife	**SNP Monitoring** • Discharge quality meets Landfill effluent limits as defined by Type A Water Licence	• Site access is secured. • Routine inspection of facilities.	• Site access is secured. • Routine inspection of facilities.	**Year 0** – Site audit **Year TBD**	1. SNP Monitoring	Crown

Major Infrastructure Components	Closure Objective	Closure Criteria	Temporary Closure Activities (up to 1 year)	Long-Term Closure Activities (over 1 year)	Final Closure Activities (Permanent)	Associated Monitoring Program(s)	Land Ownership[8]
All non-hazardous waste disposal locations	b) Water quality run-off objectives in receiving water bodies are met.	2AM-MRY1325 Part F, Item 22, Table 7 or site-specific risk-based criteria	• Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Maintenance of site as required to prevent erosion/ degradation of the civil works.	– Routine inspection of facilities. – Application of cover material and rehabilitation (re-grading and scarification) of all surfaces		
Landfarm	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Landfarm facilities effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 24, Table 9 or site-specific risk-based criteria	• Site access is secured. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	• Site access is secured. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation of the civil works.	**Year 0** – Site audit **Year TBD** – Routine inspection of facilities – Application of cover material(if required) and rehabilitation ((re-grading and scarification) of all surfaces	1. SNP Monitoring	Crown
Ore Stockpile and Sedimentation Ponds	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Open Pit, Stockpile and Sedimentation Ponds effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria • Discharge quality meets acute toxicity tests under the Fisheries Act	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation.	• Site access is secured. • Site is maintained in its current state at time of closure. • Routine inspection of facilities. • Maintenance of site as required to prevent erosion/ degradation	**Year 0** – Site audit **Year TBD** – Rehabilitation of ore stockpiles – Decommission sedimentation ponds – Rehabilitation (re-grading and scarification) of all surfaces	1. SNP Monitoring	Crown
Polishing Waste Stabilization Ponds (PWSP)	a) Surface runoff and seepage water quality is safe for humans and wildlife b) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Sewage Treatment Facilities to the ocean effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 19, Table 5 or site-specific risk-based criteria	• Maintain/monitor water quality	• Maintain/monitor water quality	**Year 0** – Site audit **Year TBD** – Decommission sedimentation ponds – Breach and re–profile all pond sites	1. SNP Monitoring	Crown
Fuel and Hazardous Materials, including: • Fuel Tank Farm and Fuel Dispensing Facilities (Arctic Diesel, Jet–A Fuel) • Hazardous Material Storage Areas • Waste Management Facilities Including Temporary Storage Areas • Hazardous Waste and Hazardous Chemicals • Fuel • Explosives • Explosives Storage	a) All fuel and hazardous materials removed from site. b) Surface runoff and seepage water quality is safe for humans and wildlife c) Water quality run-off objectives in receiving water bodies are met.	**SNP Monitoring** • Discharge quality meets Bulk Fuel Storage Facilities effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria and/or discharge quality meets Oily Water Treatment Facilities effluent limits as defined by Type A Water Licence 2AM-MRY1325 Part F, Item 25, Table 10 or site-specific risk-based criteria (as appropriate).	• Maintain/secure	• Maintain/secure fuel • De-mobilize all hazardous materials	**Year 0** – Site audit **Year TBD** – Decontamination and disposal of all non–essential fuel and hazardous materials – Off-site disposal of all remaining material – Rehabilitation of all surfaces	1. SNP Monitoring	Crown

7 SHORT-TERM TEMPORARY MINE CLOSURE - CARE AND MAINTENANCE

Short-Term Temporary "Care and Maintenance" activities will occur when the Project ceases operations for a period of less than one (1) year with the intent of resuming operational activities or final closure activities. When entering a "Care and Maintenance" phase, the main objective is to maintain all equipment and facilities in a state of readiness to resume operation with minimal delay or have project components at the ready for use to support closure activities.

Care and maintenance of the Project sites will be implemented and executed by operational maintenance staff and other support personnel on site and will be carried out within approximately six (6) months of the initiation of the Temporary Closure Care and Maintenance phase based on the level of effort required. Access to the Project sites, buildings and structures will be restricted to authorized persons only, as during operations. Buildings where potential hazards exist will be locked or otherwise secured.

The Mine Site Reclamation Policy for Nunavut (2002) and the Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (2013) require that contingency measures be established in the ICRP for Temporary Closure of a mine site. Temporary closure is defined as the planned shutdown of a mine site for a period of less than one (1) year. This section of the report presents the plans for suspension of activities of less than one (1) year. Section 8 below covers Long-term Temporary Closure beyond one year.

TABLE 6-1 provides an overview of the actions taken for each component of the Project for a Temporary Closure Care and Maintenance scenario.

7.1 Health and Safety of Workers and the Public During Temporary Closure

The health and safety of workers and the Public will be ensured during Temporary Closure Care and Maintenance. Infrastructures will be kept secure by routine maintenance and inspections to eliminate any hazard to the public health and safety or material erosion to the terrestrial or aquatic receiving environment at concentrations that are harmful. Access to buildings and infrastructures will be restricted to authorized personnel only (see Section 7.2).

Employees on site will be trained in site-specific health and safety requirements. Baffinland commits to abide by all applicable *NWT/Nunavut Mines Safety Act* and Regulations, and the *Explosives Use Act*.

Baffinland will ensure that emergency procedures are updated, if required, and implemented and that all equipment necessary to properly carry out these procedures will be accessible and kept in good working condition.

7.2 Restriction of Access and Site Security

During Temporary Closure Care and Maintenance, the Mine Site and Milne Port will be maintained in a secure condition through the provision of on-site site security. Mine dewatering and water treatment, where required, will be on-going. As a result a number of operational maintenance staff, environmental personnel and other support personnel will be onsite at the Mine Site and Milne Port. Access to buildings, structures, and storage compounds will be restricted to authorized persons, as during operations. Buildings where potential hazards exist will be locked or otherwise secured. Fences and/or barriers with signs will be constructed to restrict access as required.

Security personnel will carry out routine inspections of security, safety and environmental measures and maintain a record of these inspections. Contact information will be provided to pertinent government and Inuit agencies to facilitate their communication and potential access to the Mine Site and/or Milne Port, if and when necessary.

The explosives contractor will manage explosives in accordance with applicable regulatory requirements as per NRCan Permit and the Mine Safety Act.

During Temporary Closure Care and Maintenance, reclamation activities such as re-grading may continue as per the progressive reclamation plan (see Section 5). Erosion and discharge streams will be controlled as part of regular maintenance activities. Additionally, all unused pipelines will be drained and/or care will be taken that lines and pipes do not freeze and rupture.

7.3 Security of Mine Openings

Due to the current configuration of Deposit No 1 as an above grade deposit, an open pit is not expected to occur until years 10 to 12 of operation at full production volume (21.5 Mtpa nominal). Once a pit is formed, closure activities will take into consideration access to the mine pit. The entrance ramp to the open pit will be fenced using boulders or other means to prevent inadvertent access. Signage indicating an "Open Hole" will already be in place around the open pit perimeter during operations as per NWT/Nunavut Mines Safety Act Regulations.

7.4 Security of Mechanical, Hydraulic Systems and Electrical Systems

During Temporary Closure Care and Maintenance, equipment required for the security and safety of the infrastructure systems, including environmental aspects, will be maintained in working condition.

Buildings will be locked or otherwise secured to prevent inadvertent access once the Mine Site, Tote Road and Milne Port are evacuated by the majority of the personnel, except as required by the onsite staff for site maintenance and security. Non-essential machinery, equipment and systems will be left in a no-load condition or removed from site. Live electrical systems will be fenced, locked, or otherwise secured against inadvertent entry or contact, and appropriate signs will be placed to warn of potential hazards.

7.5 Hazardous Materials & Waste Management Sites

During or prior to Temporary Closure Care and Maintenance, an inventory of all hydrocarbon products, chemicals, explosives and hazardous wastes/materials (e.g. used oils, ammonium nitrate and greases) will be updated and the materials stored in a secure and environmentally sound manner.

All storage facilities that contain any such materials will be secured and monitored. Inert waste will be disposed of in the landfill site at the Mine Site or other approved repositories.

During Temporary Closure Care and Maintenance, the non-hazardous waste management facilities at the Project will continue as in normal operations on an as-required basis. If waste management facilities are no longer required, landfills will be covered with 1.5 m of overburden.

If the Temporary Closure Care and Maintenance phase lasts longer than one (1) year, all hazardous materials and wastes will be removed from Project sites via sealift and disposed of at a licensed hazardous waste disposal facility in Southern Canada (see Section 8.5).

7.6 Docks and Airstrip

During Temporary Closure Care and Maintenance activities, the airstrip, dock infrastructure and equipment will be left in place. All non-essential airstrip and dock machinery, equipment and systems will be left in a no-load condition. Live electrical systems will be fenced, locked, or otherwise secured against inadvertent entry or contact, and appropriate signs will be placed to warn of potential hazards.

7.7 Control of Effluents

The water management requirements at the Mine Site and Milne Port during Temporary Closure Care and Maintenance will include:

- Domestic sewage treatment.
- Surface/discharge waters, as per applicable regulatory requirements.

The drainage system established during operations will be retained and surface water will continue to collect in existing settlement ponds and, where required by the Water Licence, waters will be treated prior to discharge to the receiving environment.

The waste rock stockpile will be monitored during operations (see Section 7.11). Current investigations identify that most of the waste rock will not be prone to metal leaching or acid drainage; however, if ongoing work characterization studies show that the minor portion waste rock that is potentially acid generating (PAG) could cause unacceptable impact to runoff and seepage, the waste rock stockpile construction strategy will be modified accordingly. If treatment is required, water will be batch treated with lime dosing for Acid Rock Drainage (ARD) affected water or a treatment plant such as a High Density Sludge (HDS) treatment plant may be provided.

The Life-of-Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031) provides treatment options in the event that waste rock run-off requires treatment. The Fresh Water Supply, Sewage, and Wastewater Management Plan (BAF-PH1-830-P16-0010) provide the design criteria and operations and maintenance requirements for the collection and treatment of the site's wastewater.

7.8 Stabilization of Stockpiles

Ore and waste rock stockpiles will be visually assessed for stability at the start of the Temporary Closure Care and Maintenance period and stabilized if required. The stockpiles will be periodically inspected.

7.9 Site Inspection Program

The general site areas at the Mine Site, Milne Port and Tote Road will be periodically inspected by onsite security personnel. Visual inspections of the Mine Site and Milne Port will be carried out to verify the physical stability of quarries/borrow pits, waste rock stockpiles and pit walls. Section 7.11 identifies the environmental management and monitoring plans that will be implemented during any potential Temporary Closure Care and Maintenance period.

7.10 Notification of Temporary Closure

Employees, local communities, and the public will be notified in advance of any scheduled short term temporary closure activities.

7.11 Environmental Management and Monitoring

During the Temporary Closure Care and Maintenance period, all terms and conditions of Type 'A' Water Licence 2AM-MYR-1325 will remain in force. "Care and Maintenance" monitoring program will include routine inspection, monitoring and reporting as required by Type' A' Water Licence 2AM-MYR-1325 and its associated management plans. As the facilities are not operational, key monitoring requirements are established within the following management plans:

- Environmental Protection Plan (BAF-PH1-830-P16-0008);
- Surface Water, Aquatic Ecosystems, Fish and Fish Habitat Management Plan (BAF-PH1-830-P16-0026);
- Terrestrial Environmental Management and Monitoring Plan (BAF-PH1-830-P16-0027);
- Fresh Water, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010);
- Air Quality and Noise Abatement Management Plan (BAF-PH1-830-P16-0002);
- Emergency Response Plan (BAF-PH1-830-P16-0007);
- Spill Contingency Plan (BAF-PH1-830-P16-0036);
- Explosives Management Plan (BAF-PH1-830-P16-0009);
- Waste Management Plan (BAF-PH1-830-P16-0028);
- Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011);
- Life-of-Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031);
- Aquatic Effects Monitoring Plan (BAF-PH1-830-P16-0039).

Throughout the Temporary Closure Care and Maintenance period, Baffinland will continue to report on its activities on an annual basis to the NIRB (as per Project Certificate No. 005), the NWB (as per Type A Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301). If a Care and Maintenance monitoring schedule is required differing from Operations, it will be established in compliance with the AEMP and other applicable Management Plans in consultation with applicable regulators.

Although through a Care and Maintenance monitoring program regulatory compliance monitoring will continue to abide by all applicable project authorizations and adaptive management, Environmental Monitoring Programs outlined in the Project Certificate will likely be suspended in consultation with applicable regulators and landowners, until recommencement of Operations.

8 LONG-TERM MINE CLOSURE & SUSPENSION OF ACTIVITIES

Baffinland may extend the mine closure over a longer timeframe than one (1) year should economic conditions deteriorate while the facility is in Temporary Closure Care & Maintenance. In the event the Project ceases operation for a period of greater than (1) year with the intent of resuming activities in the future, Long-Term Temporary Mine Closure activities will occur. Long-term Temporary Mine Closure activities will ensure the Project sites are maintained in a secure condition, and all facilities and equipment are de-energized and winterized. Hazardous waste and explosives would be removed from the site. Personnel necessary, including environmental personnel, to maintain site security and project monitoring requirements would remain on site.

A detailed "Long Term Care and Maintenance Plan" would be submitted to the NWB and the Land Owner at least 60 days prior to entering the Long-term Mine Closure period. Site personnel will conduct general inspections periodically and may decrease that frequency if the site inspections indicate that the site infrastructure is stable. A record of these inspections will be maintained. The names of contact persons will be provided to the pertinent regulators and government agencies such as AANDC and Landlord for their information, and to facilitate their access to the site, if and when necessary. The Project could reopen when the circumstances requiring the Long-term Temporary Closure change (e.g., when economic or other conditions that caused the temporary cessation of operations is no longer of concern).

The following sub-sections describe the detailed activities that would be undertaken to secure the Project components in the event of Long-Term Temporary Mine Closure.

TABLE 6-1 provides an overview of the actions taken for each component of the Project for a Long-term Temporary Closure scenario. Once these measures have been implemented, the labour force on site is reduced to the minimum required to ensure security of the site and on-going monitoring requirements. It is expected the following activities will be carried out within approximately six (6) months of the initiation of Long-term Temporary Closure based on the level of effort required.

8.1 Health and Safety Of Workers and the Public During Long-term Temporary Closure

Health and safety of workers and the Public will be ensured during Long-term Temporary Closure. Infrastructures will be kept secure by routine maintenance and inspections to eliminate any hazard to the public health and safety or material erosion to the terrestrial or aquatic receiving environment at concentrations that are harmful.

Access to buildings and infrastructures will be restricted to authorized personnel only (see Section 8.2). Safety will be reinforced by an inspection program (see Section 8.8).

Employees on site will have been trained for site-specific health and safety. Baffinland commits to abide by the NWT/Nunavut Mines Safety Act and Regulations, and the Explosives Use Act.

It will be ensured that emergency procedures will be applicable and that all equipment necessary for these procedures will be accessible and kept in good working condition.

8.2 Restriction of Access and Site Security

During Long-term Temporary Closure, the Mine Site and Milne Port will be maintained in a secure condition. Access to the buildings, structures and storage compounds will be locked and/or fenced/gated. Potentially unsafe areas will be posted with appropriate signage. Unused machinery and equipment will be removed, where practical.

The explosives contractor will manage explosives in accordance with applicable regulatory requirements by NRCan and the Mines Safety Act. On commencement of Long-term Temporary Closure, explosives will be either removed from the Project or/and detonated in a controlled and safe fashion by experienced and licensed personnel at appropriate locations away from sensitive receptors.

During Long-term Temporary Closure, reclamation activities such as re-grading will continue as per the progressive reclamation plan (see Section 5). Erosion and discharge streams will be controlled as part of regular maintenance activities. Additionally, care will be taken that lines and pipes do not freeze and break.

8.3 Security of Open Pit

Following notice of Long-term Temporary Closure the pit walls of the open pit will be inspected by a qualified engineer to assess the physical stability. Pit water will be monitored during the course of the operation for any indication of contamination at levels that exceed MMER or may adversely affect the receiving environment. During Long-term Temporary Closure dewatering of the open pit will cease and the open pit be allowed to naturally flood.

It is anticipated that the final configuration of the open pit will take an estimated 85 to 150 years to passively fill with water from natural sources such as direct precipitation and surface runoff (KP 2008). Therefore, it is anticipated that the open pit will not completely flood during Long-term Temporary Closure and drainage from the open pit is not considered to be an issue.

Other Long-term Temporary Closure activities to close out the open pit include:

- Barricading access ramps into the open pit.
- Placing of fencing and “Danger”/”Open Hole” signage as necessary.

8.4 Security of Mechanical, Hydraulic, and Electrical Systems

All buildings will be locked and/or otherwise secured to prevent inadvertent access once the Project is evacuated by the majority of the personnel, except as required by the onsite staff for site maintenance and security. All non-essential machinery, equipment and systems will be left in a no-load condition. Live electrical systems will be fenced, locked, or otherwise secured against inadvertent entry or contact, and appropriate signs will be placed to warn of potential hazards.

8.5 Hazardous Materials and Waste Management Sites

Inert waste will first be disposed of in the landfill site at the Mine Site or other approved repositories. During operations the landfills will be covered with an interim soil cover layer to ensure wastes are encapsulated within permafrost. As such, contaminated runoff or seepage from the landfill sites are not anticipated during Long-term Temporary Closure.

During or prior to the Long-term Temporary Closure an inventory of all hydrocarbon products, chemicals, explosives and hazardous wastes (e.g. used oils, ammonium nitrate and greases) will be updated and all hazardous materials and wastes will be shipped south to the appropriate hazardous waste disposal facility via sealift. All storage facilities that contained any such materials will be secured and monitored. Inert waste will be disposed of in the landfill site at the Mine Site or other approved repositories.

8.6 Stabilization of Stockpiles

At the onset of Long-term Temporary Closure the waste rock stockpile may undergo minor re-contouring and the physical and chemical stability of the waste rock stockpile will be assessed. Following this

investigation and according to the stockpile geometry at the time of Long-term Temporary Closure, aspects related to erosion, runoff control, slopes, benches, and discharges will be addressed.

Ore stockpiles are expected to be depleted prior to Long-term Temporary Closure. In the event the ore stockpiles remain during Long-term Temporary Closure, they will be monitored.

8.7 Docks and Airstrip

During Long-term Temporary Closure activities, airstrip the ore dock, ore dock office, and the ship loader will be left in place. All non-essential machinery, equipment and systems will be left in a no-load condition. Live electrical systems will be fenced, locked, or otherwise secured against inadvertent entry or contact, and appropriate signs will be placed to warn of potential hazards. The dock office will be secured to prevent inadvertent access. Infrastructure will be kept secure by routine maintenance and inspections to eliminate any hazard to the public health and safety or material erosion to the terrestrial or aquatic receiving environment at concentrations that are harmful. The names of contact persons will be provided to the pertinent regulators and government agencies such as AANDC for their information, and to facilitate their access to the site, if and when necessary.

8.8 Control of Effluents

Mine Site and Milne Port water management will be required during Long-term Temporary Closure, including:

- Domestic sewage treatment;
- Surface/discharge waters, as per applicable regulatory requirements.

Surface water will be collected in settlement ponds and those for the ore stockpiles and waste rock stockpile will be tested for Mining Metal Effluent Requirements (MMER). The waste rock stockpile will be monitored during operations. Based on current investigations it is anticipated that most of the waste rock will not be prone to metal leaching or acid drainage. However, if ongoing work characterization studies show that the minor portion waste rock that is potentially acid generating (PAG) could cause unacceptable impact to runoff and seepage, the waste rock stockpile construction strategy will be modified accordingly. If treatment is required, water will be batch treated with lime dosing for Acid Rock Drainage (ARD) affected water or in a treatment plant such as a High Density Sludge (HDS) treatment.

The Life-of-Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031) provides treatment options in the event that waste rock run-off requires treatment. The Fresh Water Supply, Sewage, and Wastewater Management Plan (BAF-PH1-830-P16-0010) provide the design criteria and operations and maintenance requirements for the collection and treatment of the site's wastewater.

8.9 Site Inspection Program

The Project areas at the Mine Site, Milne Port and Tote Road will be periodically inspected by onsite security personnel. Visual inspections of the Mine Site and Milne Port will be carried out to verify the physical stability of quarries/borrow pits, docks, and port facilities, waste rock stockpiles and pit walls. The environmental management and monitoring requirements for the Long-term Temporary Closure Care and Management period are identified in Section 8.10.

8.10 Environmental Management and Monitoring

During Long-term Temporary Closure, all terms and conditions of Type 'A' Water Licence 2AM-MYR-1325 would remain in force unless an amendment to this Licence is requested by Baffinland as part of the "Long-Term Care and Maintenance Plan". The application for a licence amendment would identify the changes proposed for the facilities required to be shutdown, the location of new discharges (if any), updates to any management plans and/or the Aquatic Effects Monitoring Plan (AEMP) (BAF-PH1-830-P16-0039) (if required), and an indication of sites to be permanently rehabilitated. A monitoring schedule, if differing from Operations, will be established as part of the "Long-Term Care and Maintenance Plan" in compliance with the AEMP and other applicable Management Plans in consultation with applicable regulators.

Routine inspection, monitoring and reporting as required by the Type' A' Water Licence 2AM-MYR-1325 and its associated management plans remain applicable. As the facilities are not operational, key monitoring requirements are established within the following management plans:

- Environmental Protection Plan (BAF-PH1-830-P16-0008);
- Surface Water, Aquatic Ecosystems, Fish and Fish Habitat Management Plan (BAF-PH1-830-P16-0026);
- Terrestrial Environmental Management and Monitoring Plan (BAF-PH1-830-P16-0027);
- Fresh Water, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010);
- Air Quality and Noise Abatement Management Plan (BAF-PH1-830-P16-0002);
- Emergency Response Plan (BAF-PH1-830-P16-0007);
- Spill Contingency Plan (BAF-PH1-830-P16-0036);
- Explosives Management Plan (BAF-PH1-830-P16-0009);
- Waste Management Plan (BAF-PH1-830-P16-0028);
- Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011);
- Life-of-Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031);
- Aquatic Effects Monitoring Plan (BAF-PH1-830-P16-0039).

Baffinland will continue to report on its activities throughout the Long-term Temporary Closure period on an annual basis to the NIRB (as per Project Certificate No.005, Amendment No. 1), the NWB (as per Type A Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

Although regulatory compliance monitoring will continue to abide by all applicable project authorizations, adaptive management Environmental Monitoring Programs outlined in the Project Certificate will likely be suspended in consultation with applicable regulators and landowners, until Operations recommence.

9 FINAL MINE CLOSURE AND RECLAMATION MEASURES

Mining activities are anticipated to be completed when the ore deposit is exhausted and the mine ceases operations without the intent to resume mining activities in the future. As per Type "A" Water License 2AM-MRY1325 and QIA Commercial Lease No. Q13C301, the Final CRP will be developed and submitted no later than one (1) year, or earlier if possible, before scheduled permanent closure or immediately after notification of an unplanned closure (within 120 days) to provide greater detailed descriptions of the proposed reclamation activities such a manner that they can be subsequently implemented. If future revisions of referenced Project authorizations were to change, this timeframe will be adjusted accordingly. The Final Mine Closure and Reclamation Plan will be issued to relevant stakeholders including the Land Use Engineer of AANDC (Territorial Land Use Regulations, Sections 33 and 35), to the Lands Director at QIA, and to the Nunavut Water Board.

For final mine closure and reclamation, materials and equipment will either be removed from site or disposed of in on-site landfills/approved waste disposal areas, and all hazardous materials and wastes will be removed from site to licensed disposal facilities. The open pit and waste rock stockpiles will be inspected for physical and chemical stability. Roads, airstrips and development areas will be re-contoured as required to provide long-term stability and reduce the potential for erosion. The ore dock at Milne Port will remain in place but all equipment and associated surface infrastructure shall be removed. Based on current estimates of the level of effort required for closure activities, the Final Closure phase is expected to be three (3) years. Following the Final Closure Phase a minimum of five (5) years of post-closure safety and environmental monitoring and treatment, as and if required, will be conducted. A five (5) year post-closure phase is estimated to be required based on impacts assessment determinations described in the Mary River Project Final Environmental Impact Statement and this estimate is expected to be validated by the operations monitoring program as the Project progresses.

This section describes the measures that will be undertaken for final closure of the Project, based on the current design. Project components will be considered closed and reclaimed when closure criteria outlined in

TABLE 6-1 are met. As the Project advances through the detailed design phase, changes to the Project may occur that will alter the Interim Mine Closure and Reclamation Plan. Though changes may occur, at this time, it is anticipated that the major components of the Project will remain the same.

Prior to closing out the Project Baffinland will consult with the Landlord and surrounding communities regarding transfer of ownership of structures that may be utilized by the surrounding communities during harvests, camping and other recreational uses or relocated to local hamlets.

9.1 Health and Safety Of Workers and the Public

Health and safety of workers and the Public will be ensured during Final Mine Closure. Until final reclamation of infrastructure, all infrastructures will be kept secure by routine maintenance and inspections to eliminate any hazard to the public health and safety or material erosion to the terrestrial or aquatic receiving environment at concentrations that are harmful. Access to buildings and infrastructure will be restricted to authorized personnel only (see Section 9.2). Safety will be reinforced by an inspection program.

Employees on site will have been trained for site-specific health and safety. Baffinland commits to abide by all applicable Northwest Territories and Nunavut Health and Safety Regulations, including the Mine Health and Safety Act and the Explosives Use Act.

Emergency procedures will be revised as necessary to ensure they will be applicable during final closure.

9.2 Open Pit

Backfilling of open pits at closure is rarely conducted due to the high cost even when sufficient materials are present on the property. As previously mentioned, due to the configuration of Deposit No 1, an open pit is not expected to occur until years 10 to 12 of operation at full production volume (based on a nominal 21.5 Mtpa). The proposed closure activities for the open pit suggest that the open pit be allowed to naturally flood to form a “pit lake”. At closure, inert wastes (i.e. material having insignificant leachability and pollution content) may be disposed of in the open pit. It is anticipated that the open pit will take an estimated 85 to 150 years to passively fill with water from natural sources such as seepage into the pit, direct precipitation and surface runoff (KP 2008). There are a number of different potential scenarios for accelerating the pit filling which are presented below in Section 9.2.1. These will be further assessed prior to final closure if accelerated filling is deemed required.

Once the open pit fills to the point of overflow, pit drainage will enter the natural environment through the spillway and natural drainage from the southeast corner of the open pit (KP 2008). It is currently anticipated that the discharge from the open pit will not require treatment (AMEC 2010). However, if treatment is required several effective technologies are currently available to manage Acid Rock Drainage and/or Metal Leaching (ARD/ML). If ARD/ML drainage were to develop, batch treatments will be carried out to adjust the pH and/or metal concentrations of the water in the pit so that it meets discharge

requirements before overflow into the environment. The overflow location at the southeast area of the pit will provide emergency access to and from the open pit/pit lake.

Conceptual modelling of the pit water quality is presented in the FEIS. Open pit monitoring will be done throughout of the life of the Project as per the Surface Water, Aquatic Ecosystems, Fish and Fish Habitat Management Plan (BAF-PH1-830-P16-0026) and the Comprehensive Environmental Monitoring Plan, in accordance to all MMER requirements. Predictions of pit water quality will be updated throughout the life of the Project as more information comes available on the geochemistry of the waste rock and the pit wall. Although indications to-date demonstrate a low probability of ARD/ML, if monitoring results during Operations suggest a potential ARD/ML it shall be dealt with at that time and any associated impacts that ARD and/or ML would have on closure and reclamation planning, monitoring, Long-term maintenance and bonding will be addressed. If there are no indications from test programs or ongoing monitoring of ARD/ML throughout the Operation Phase, at final closure, the open pit will be inspected by a qualified engineering professional to assess the physical stability of the pit walls and pit lake and to reconfirm no indicators of ARD/ML.

ARD and ML will be periodically reassessed as a potential issue in the future ICRP revisions and in the Final MCRP. The Final MCRP will present a time frame for the potential development of ARD/ML conditions, if any, and discuss the impact of ARD/ML release on final closure identifying the need for ongoing monitoring, treatment, and potential mitigations

Other activities to close and reclaim the open pit will include barricading access ramps into the open pit, removal of any dewatering infrastructure (i.e., pumps, surge box and pipelines), clean up of any soil contamination (i.e., hydrocarbon), and placing of boulder fencing or equivalent and hazard signage as necessary.

The Open Pit will be considered closed and reclaimed when the following closure objectives are met:

- Physically and geotechnically stable long term;
- Surface runoff and seepage water quality is safe for humans and wildlife;
- Area encourages the desired wildlife movement upon site abandonment;
- Water quality run-off objectives in receiving water bodies are met;
- Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk.
- No long-term active care is required;
- Will not be a safety hazard to humans and wildlife.

9.2.1 Accelerated Pit Filling

The mining plan and the waste characterization plan (2012-2014) will inform the prediction modeling of the mine pit water quality at the end of mine life. Should the modeling indicate potential exceedance of water quality objectives, alternative pit closure scenarios will be considered, including accelerated pit filling.

The filling of the pit can be accelerated via pumping water from a nearby water source – thereby complementing the accumulation of natural precipitation and ground water accumulation. The pit has an estimated "fill volume" of 43,400,000 m^3 until the overflow lip is reached, at which point the pit will drain into Mary River.

Assisted pit filling is governed by two parameters – pumping costs and water source drawdown limits. Water source drawdown limits are designed to ensure that the volume of water extracted from a given source does not significantly lower the water table and has minimal impact on the aquatic ecosystem. Key factors to consider when calculating maximum acceptable drawdown of a lake include: potential spawning habitat as well as the residency time of the water body. According to current best management practices and per The Canadian Department of Fisheries and Oceans (DFO) – Protocol for Winter Water Withdrawal from Ice-covered water bodies in the Northwest Territories and Nunavut, 2010 - the water source from which the pit is filled should have a draw rate of approximately 10% of the water bodies' total volume per annum. In addition to this the water body chosen should be as close to the pit and over as level terrain as is reasonably practical in order to reduce pumping costs.

The Project pit has four potential water sources that can be used for filling the pit – Sheardown Lake, Camp Lake, Mary Lake and Mary River. This information is summarized in TABLE 9-1

TABLE 9-1: POTENTIAL WATER SOURCE PIT FILL DATA

Water Source	Pumping Distance	Total Volume/ Annual Flow (m^3)	Permissible Annual Water Take (m^3)	Number of Years to Fill Pit
Sheardown Lake (NW Basin)	2 km	8,175,410	820,000	53
Camp Lake	4.7 km	29,690,200	3,000,000	15
Mary Lake (Main Basin)	12 km	112,000,000	11,200,000	4
Mary River (at MR-12, east pond discharge location)	< 1 km	78,185,678 (mean) 53,166,261 (10-year dry)	25,000,000 (difference between mean and low flow)	2

Sheardown Lake and Camp Lake are significantly closer to the proposed final pit at a distance of 2 km and 4.7 km respectively, as opposed to Mary Lake which sits at a distance of 12 km from the pit. This results in Sheardown and Camp Lakes having significantly lower pumping costs than Mary Lake. Unfortunately Sheardown and Camp Lakes have total volumes of 8,175,410 m^3 and 29,690,200 m^3, allowing to draw a maximum volumes of only 820,000 m^3 and 3,000,000 m^3 per annum, thus resulting in a total pit fill times

of 53 and 15 years respectively. In addition to this Sheardown and Camp Lakes have a very long "residence" time for the water in the lake to completely recycle itself. As a result it may be necessary to draw even less than 10% of the total lake volume in order to ensure no significant impact to the Sheardown or Camp Lake ecosystem.

The main basin of Mary Lake has a volume of 112,000,000 m^3 providing a total draw volume of 11,200,000 m^3 per annum. Assuming the maximum available volume of water is drawn this will result in a pit fill time of approximately four (4) years. In addition to this Mary Lake has a very high recharge rate completely "recycling" approximately every 1.5 years – resulting in minimal impact to the lakes ecosystem. Unfortunately Mary Lake is located 12 km from the pit, which would result in substantial pumping costs – which are not expected to be economically feasible.

The Mary River offers the fourth pit filling alternative. It has been calculated that the Mary River can run at the "10-year-dry" conditions, which runs approximately 67% less than the mean flow, with no loss of habitat or damage to the aquatic ecosystem. The difference between the mean flow and the 10-year-dry flow provides us with a volume of 25,000,000 m^3 (please refer to TABLE 9-1). Drawing a volume of 25,000,000 m^3 of water from the Mary River over a four month period each year would enable the pit to be filled in two (2) years. Although there will be substantial pumping costs to draw this volume of water over a four month period – given the reduced length of pipe line, the shortened fill pit time and the limited effect on habitat – drawing from the Mary River is considered the preferred option for pit filling at this time.

9.2.1.1 PERIODIC PUMPING

Periodic pumping involves pumping from the Mary River during the summer months only, when ice cover is not an issue. This period, June to September provides us with a maximum four month pumping window. Pumping during this time is essential as Mary River is expected to freeze solid during the winter months. Warm weather pumping also reduces the cost of constructing and maintaining a pipe line.

Assuming pumping continues 24 hours a day for the entire period this would require a pumping rate of 8700 m^3/hour, over approximately a 1 km distance. During the winter months the pump and pipeline would be drained and locked out to ensure that the equipment is not damaged by the winter conditions.

9.2.1.2 CONTINUOUS PUMPING

Continuous pumping assumes that water will be pumped to the Mine Site pit 24 hours a day all year long. Mary River is not an option for this scenario as it freezes during the winter, leaving Mary Lake the only practical choice for continuous pumping although economic feasibility is a challenge due to distance and site conditions.

Assuming pumping continues 24 hours a day with no delays or malfunctions for the entire year this would require a pumping rate of 1,300 m^3/hour, over a 12 km distance.

In addition to pumping costs there are numerous other factors that must be accounted for during winter pumping including: the heating of pipe lines, snow removal, ice removal from discharge and intake points, extreme weather conditions, increased maintenance costs and risk to personnel. Given these conditions it is expected that continuous pumping would not be an economically feasible option.

9.3 Removal of Buildings and Infrastructure

Upon Final Mine Closure, buildings and infrastructure will be decommissioned and decontaminated, if necessary, as appropriate to contamination type. Buildings and infrastructure located at the Mine Site, Tote Road and Milne Port will be removed and either:

- Transported to Milne Port for shipment to the mainland for either disposal or salvage;
- Disposed of in the open pit;
- Disposed of in the onsite landfills or other approved repository;
- Donated to local communities.

The water supply system at the Mine Site and Milne Port will be demolished, removed and either sealifted to the mainland for disposal/salvage or will be disposed of in the onsite landfills or other approved repository.

The sewage treatment plants located at the Mine Site and Milne Port will be decommissioned as per the manufacturer's specifications. The remaining sewage treatment plant components will be either transported for sealift to the mainland for disposal or salvaged or disposed of in the onsite landfill.

The Mine Site utilidor/corridor will be dismantled and disposed of in either the Mine Site landfill or transported offsite to the mainland via sealift for disposal at an approved facility.

Buildings and infrastructure will be considered closed and reclaimed when the following closure objectives are met:

- Will not be a source of contamination to the environment;
- Will not be a safety hazard to humans and wildlife;
- No long-term active care is required.

9.4 Concrete Structures

Concrete foundations will be demolished to grade and exposed rebar will be cut to grade to prevent safety hazards. Concrete and rebar will be disposed of in the open pit, waste rock stockpile or landfill, and the concrete foundation areas will be drilled to allow for water infiltration. The area will be re-graded to restore the natural drainage. Any remaining concrete piles will be cut to grade and covered with

overburden. Concrete foundations will be considered closed and reclaimed when the following closure objectives are met:

- Will not be a source of contamination to the environment;
- Will not be a safety hazard to humans and wildlife;
- No long-term active care is required.

9.5 Removal of Mechanical Equipment

Salvageable machinery, equipment and other materials (incinerator, crusher, screen, stacker etc.) will be dismantled and taken offsite for sale or reuse if economically feasible. If not, they will be cleaned of oil and grease, where appropriate, and deposited within onsite landfills, the open pit or other approved repositories. Gearboxes or other equipment containing hydrocarbons that cannot readily be cleaned will be removed and sent to Milne Port for sea-lift to an approved disposal facility.

Empty fuel storage tanks, drums and other fuel storage containers will be drained and removed from the Mine Site and Milne Port for disposal at an approved facility or will be decontaminated and deposited within onsite landfills, the open pit or other approved repository. Secondary containment structures such as liners will also be removed, tested for hydrocarbon content and sent to an approved offsite facility for disposal or will be decontaminated and deposited within onsite landfills, the open pit or other approved repository , as required.

Mechanical equipment will be considered closed and reclaimed when the following closure objectives are met:

- Will not be a source of contamination to the environment;
- Will not be a safety hazard to humans and wildlife.;
- No long-term active care is required.

9.6 Transportation Corridors

Bridges, culverts and other water crossings along the Milne Inlet Tote Road will remain in place until all the closure activities requiring Milne Port access at the Mine site are completed. This road is part of the Inuit-Owned Lands referenced in the Nunavut Land Claims Agreement. It is designated for public use and the road will be left in good physical condition in accordance with Project requirements, with water crossings removed. The final decision on the removal of the water crossings will remain with the Land Owner although the removal cost of the bridge spans has been included for closure planning. Bridge abutments will be left in place to maintain long term stability of the section of the road abutting the water course however this strategy will be reviewed based on performance of the structure throughout the Project life cycle.

The bridges, culverts and other water crossings associated with the Steensby Port rail alignment will be decommissioned and the natural drainage and water flows will be restored. Tunnel portals will be backfilled and plugged with rock or equivalent material as available and the openings at each end sealed with concrete.

The steel rails and rail ties will be removed from the Railway and transported to Steensby Port for sealift and offsite salvage. The embankment will remain.

The reclamation measures for the rail alignment will be carried out on the entire length of the rail and on a width of 10 m. Reclamation for these transportation corridors will take place on both Inuit Owned Land and Crown Land.

The railroad embankment is to be left in place upon closure. However, the rail ballast will be tested to determine if it can be left in place at closure. If found unacceptable (from an environmental perspective), the ballast will be cleaned. The resultant fines material will be hauled away for more controlled disposal.

Locomotives and cars will be sea lifted offsite for resale, salvage or disposal at an approved facility.

As more information becomes available, the discussion of railroad closure may be expanded to include the following:

- Railroad maintenance facilities – wastes and releases. Solvents are often an issue at maintenance facilities, as are heavy metals;
- Railroad fuelling facilities – diesel spillage, diesel recovery, water treatment, soil remediation. Storage of gasoline at fuelling facilities;
- Quarries and their reclamation: 27,000,000 tonnes of rock will be quarried for railroad use from 63 quarries;
- Phase I Environmental Site Assessment (ESA) will be carried out on the rail embankment. Further assessment will follow the ESA protocols;
- Other materials to be hauled on the line such as diesel which may ultimately contaminate ballast and soils.

The shelters and communication towers along the rail alignment will be dismantled and disposed of in either the Mine Site or Steensby Port landfills or transported offsite via sealift for disposal at an approved facility.

Transportation corridors will be considered closed and reclaimed when the following closure objectives are met:

- Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible and disturbed areas are scarified to promote natural re-vegetation;Remaining disturbed area

is physically and geotechnically stable and adverse impacts to permafrost along the route have been limited;

- Impacts to the environment, fish, and wildlife, from localized areas of contamination that may be present along a route have been minimized;
- Any surface runoff and seepage water quality is safe for humans and wildlife;
- Area facilitates the desired wildlife movement;
- Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk;
- No long-term active care is required.

9.7 Docks and Airstrip

The causeway and docks at Milne Port will be left in place. Dock infrastructure at Milne Port will be removed and either recycled, shipped offsite to an appropriate facility for disposal, or deposited within onsite landfill, the open pit or other approved repositories.

The docks at Steensby Port will be left in place. The rock causeway connecting Steensby Port and Steensby Island will be left in place. Dock infrastructure at Steensby Port will be removed and either recycled, shipped offsite to an appropriate facility for disposal, or deposited within onsite landfill, the open pit or other approved repositories.

The lighting associated with the airstrips will be removed. The airstrips will be re-graded and reclaimed unless otherwise directed by regulatory agencies or the Land Owner to provide emergency/rescue landing spots for regional aircraft, when no other options are available.

Docks and airstrips will be considered closed and reclaimed when the following closure objectives are met:

- Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible and disturbed areas are scarified to promote natural re-vegetation;
- Remaining disturbed area is physically and geotechnically stable;
- Remaining area will not be a safety hazard to humans and wildlife;
- Any surface runoff and seepage water quality is safe for humans and wildlife;
- Area facilitates the desired wildlife movement;
- Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk;
- No long-term active care is required.

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9.8 Removal of Chemicals

At final closure, Baffinland will undertake a comprehensive site Phase 1 Environmental Site Assessment (ESA) to determine extent of contaminated areas and appropriate techniques and methods to deal with such sites.

The stock of explosives will be depleted towards the end of the operations phase and any remaining explosives will be securely contained and shipped from the site by a licensed contractor to an approved facility for disposal or reuse or detonated in a controlled and safe fashion by experienced and licensed personnel at appropriate locations away from sensitive receptors.

Oil, grease, ammonium nitrate and chemicals will be transported offsite for disposal at an approved facility or where applicable for reuse. All batteries and hazardous waste will be removed and disposed of or recycled at an approved facility offsite.

9.9 Waste Management Sites

Combustible non-hazardous wastes will be incinerated at the Project incinerators. Once the incinerators are no longer required, they will be managed as described in Section 9.5. Sewage treatment facilities disposal is also addressed in Section 9.5.

Liners will be removed from polishing ponds and Polishing Waste Stabilization Ponds (PWSPs), and berms will be re-graded and levelled.

The onsite landfill located at the Mine Site will be reclaimed by capping the landfill with 1.5 m of overburden or equivalent material to freeze the core of the landfill. The landfill sites will be scarified to encourage natural re-vegetation.

A list of non-salvageable materials has been developed and will be provided annually as part of the Annual Security Review process conducted in accordance with Schedule C of Type “A” water licence 2AM-MRY1325. Any additional disposal locations identified as the project progresses, shall align with the disposal location criteria outlined in Section 9.10.1.

Waste disposal locations, such as the landfills or PWSPs, will be considered closed and reclaimed when the following closure objectives are met:

- Physically and geotechnically stable long term;
- Surface runoff and seepage water quality is safe for humans and wildlife;
- Area encourages the desired wildlife movement upon site abandonment;
- Water quality run-off objectives in receiving water bodies are met;

- Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk;
- No long-term active care is required;
- Will not be a safety hazard to humans and wildlife.

9.9.1 Quality Assurance and Quality Control Program for Waste Management sites

Quality assurance (QA) procedures will be implemented at final disposal sites to ensure all activities will result in meeting reclamation objectives and closure criteria defined in Section **Error! Reference source ot found.**. To ensure QA is being met at final disposal sites, quality control (QC) systems will be implemented to evaluate QA procedures and identify any deviations or non-compliance and make the require correction prior to having an undesired result.

A comprehensive Quality Assurance and Quality Control (QA/QC) Program will be developed prior to final disposal of any final closure material based in part on the Project's current approved onsite landfilling operating procedures and aligned with industry best practices for Arctic conditions. Procedures for managing the demolition landfill and other waste disposal areas will be captured therein. Operating instructions and maintenance procedures shall be adhered to and documented to ensure that activities function safely and meet reclamation objectives.

The QA/QC Program shall, at a minimum, include the details of the proposed methods and standards of inspections and testing, reporting by the designated QA/QC personnel and decisions regarding any necessary corrective actions taken.

The plan may consist of the following, QA procedures:

- Waste tracking and documentation. Waste streams will be sorted, stacked, and/or piled within designated laydown areas to create distinct areas of like materials for loading and transportation, as directed based on Project waste streams;
- Pre-demolition review. Identified work areas shall be reviewed for specific hazards from an engineering survey and/or site characterization;
- Daily work activity tracking log;
- Periodic work activity review meetings;
- Regularly track the turn-around time for trucks hauling waste to each disposal facility;
- Compliance with project specifications, traffic laws, permits, best management practices etc.;
- Samples and measurements of the physical parameters of landfill test areas.

9.10 Soils Testing

A site investigation will be conducted at the onset of closure to identify soils that may be contaminated with hydrocarbons or chemicals. Soil materials found to exceed the appropriate cleanup criteria for hydrocarbons (based on CCME contaminated sites guidelines or site-specific risk-based criteria) will be remediated onsite in the landfarm units or removed offsite to a licensed waste management facility.

If there is reason to suspect an area of soil has been contaminated by chemicals other than hydrocarbons (such as explosives), samples will be collected and the soil will be tested. If the applicable regulatory requirements are exceeded, an appropriate method of disposal will be sought in consultation with the appropriate authorities.

9.10.1 Materials Suitability for Closure Needs

Reclamation activities shall restore the physical and chemical stability of areas where material was removed or altered for Project purposes (i.e. excavation activities). Reclamation activities may include, but are not limited to, replacing those affected areas with suitable cover materials sourced locally, importing/producing fill, restoring drainage to limit unnatural standing water through re-grading, routing of any trapped surface water and scarification. All such reclamation activities shall be performed in a manner that will reduce the risk of erosion and sedimentation to the surrounding environment and limit disturbance to the permafrost.

Criteria for sourcing suitable materials for closure needs requires consideration of several chemical (i.e.: pH, sodicity, salinity, saturation, etc.) and physical (i.e.: texture, moist consistency, content, etc.) properties. A comprehensive assessment of suitable materials for closure needs will be completed prior to the use of any material for cover purposes focusing on the following objectives:

- Identifying and mapping suitable locations of material as well as its distribution. Locations will be evaluated for chemical and physical stability, impact to natural environment, etc.;
- Geochemical and physical characteristics for suitability for reclamation such as the consistency to prevent erosion, porosity, ability to alter natural snow and water runoff conditions, stability, etc.;
- Determining depth and volumes of material types;
- Development of a schedule of availability.

9.11 Waste Rock Stockpile

At closure the principal objectives of the waste rock stockpiles are the safety of the public and maintaining the physical and chemical stability of the permanent structure to ensure that there is no long-term environmental impact. Mine planning will ensure that at closure the exterior of the dump consists of a layer of non-PAG material up to 50 m thick. To minimize active layer thickness, a stockpile of overburden will be retained to spread a layer of less permeable material over the top of the dump.

Studies of waste rock in permafrost demonstrate that permafrost forms an effective long-term barrier to water and oxygen, thereby preventing significant oxidation of sulphidic waste rock located below the surficial active zone. The surficial "active" zone, which will be subject to seasonal freeze-thaw, will not reach the 50m thickness of non-PAG material in the long-term (within 200 years) under the influence of climate change (Intergovernmental Panel on Climate Change, 2007). Therefore, over the long term, runoff water quality which is influenced by contact water that flows through the active layer in the waste rock stockpile will not be affected.

The Waste Rock Stockpile will be considered closed and reclaimed when the following closure objectives are met:

- Physically and geotechnically stable long term;
- Surface runoff and seepage water quality is safe for humans and wildlife;
- Area encourages the desired wildlife movement upon site abandonment;
- Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk;
- Water quality run-off objectives in receiving water bodies are met;
- No long-term active care is required;
- Will not be a safety hazard to humans and wildlife.

9.11.1 Waste Rock Characterization Program

At the onset, the waste rock pile design will consider final closure considerations. A detailed sampling and testing program for the characterization of the waste rock for the period of 2012-2014 involves:

- Devising a representative sampling program for the waste rock based on the configuration of the ore body and the mining plan;
- Analysis of the lithology, morphology and mineralogy of the waste rock;
- Additional testing (both static and humidity cell).

This program has been reviewed with guidance by independent experts. The objective of this program is to inform prediction of expected runoff quality over time. Contingencies will be put into place if there are acid rock drainage issues and treatment if necessary. The characterization program will be ongoing for the Life of the Project and will guide the development of adaptive management strategies for waste rock management. Regular updates on waste rock characterization and prediction of runoff water quality will be provided in future updates of the Life-of-Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031) as they are developed.

9.11.2 Closure of the Waste Rock Stockpile

The waste rock stockpile at final closure is expected to have a total volume of about 640 Mt with average side slopes of 2H: 1V. The physical stability of the waste rock stockpile will be investigated at the onset of closure. This investigation will take into account the final geometry of the stockpile, including the aerial extent, height, cross-sections and the volume in place. A preliminary assessment of this geometry and its impact on erosion, runoff control, slopes, benches, and discharges will be done, and be included in future Interim and Final Closure and Reclamation Plans. If geo-technical investigations indicate it necessary, the waste rock stockpile may undergo re-contouring to ensure physical and chemical stability. Following re-contouring and stabilization investigations and activities, as required, the waste rock stockpiles will be considered closed. Based on the current state of the Mine Site prior to mining activities, the Mine Site is characterized by a rugged rocky terrain with minimal vegetation. Therefore, an uncovered waste rock stockpile is considered environmentally compatible with the current undisturbed surrounding areas.

9.11.3 Runoff from the Waste Rock Stockpile

Runoff from the Waste Rock Stockpile will be discharged from two runoff ponds that will be left in place and monitored as described in Section 11. Following closure, generation of ARD/ML is not anticipated. During operations drainage from the waste rock stockpile will be monitored and should ARD/ML be identified the waste rock will be segregated based on acid generating potential. If treatment is required following closure a variety of ARD/ML treatment technologies are available. If treatment is required the waste rock stockpile drainage will be treated with batch lime doses. During operations total suspended solids (TSS) may be identified as being a potential problem. If TSS is identified as a concern following operations the surface water from the waste rock stockpiles will be directed to additional settlement ponds for treatment prior to discharge to the surrounding environment. Please refer to the Life-of-Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031) for further discussion on potential treatment methods.

9.12 Quarries and Ore/Aggregate Stockpiles

Each quarry permit application presents a quarry development plan, drainage information as well as a closure plan. All borrow areas and quarries will be progressively reclaimed maintaining stable side slopes in accordance with the individual site permit. At the onset of closure the borrow areas and quarries will be investigated to assess for potential thermal damage and instability due to thaw impacts. At closure re-contouring and filling with overburden may be required to ensure slope stability and restore the natural drainage due to thermal disruptions.

The ore/aggregate stockpiles will be depleted upon closure. Soils below the stockpiles will be sent for testing and treatment, if required, as discussed in Section 9.10. The ore/aggregate stockpile bases will be re-contoured as necessary scarified and allowed to naturally re-vegetate. If ore/aggregate stockpiles remain at closure, they will be graded and re-contoured to ensure long term physical stability.

The quarries, borrow sources and stockpiles will be considered closed and reclaimed when the following closure objectives are met:

- Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible and disturbed areas are scarified to promote natural re-vegetation;
- Disturbed area is physically and geotechnically stable;
- Water quality run-off objectives in receiving water bodies are met;
- Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk;
- Will not be a safety hazard to humans and wildlife;
- No long-term active care is required.

9.13 Watercourses and Drainage Ways

Disturbances to the surrounding areas of the Project may cause thermal disruptions to the permafrost zone resulting in ponding, settlement and/or subsidence due to changes in the active zone (the upper 1 to 2 m of soil). During closure these areas will be drained of excess water, filled with clean material to re-establish the active layer and graded, restoring the natural drainage of the area as necessary. Water crossings (bridges and culverts) will be decommissioned and the drainage channels restored to natural drainage conditions.

Water crossings will be considered closed and reclaimed when the following closure objectives are met:

- Pre-disturbance surface conditions including drainage patterns have been re-established to the extent possible and disturbed areas are scarified to promote natural re-vegetation;
- Remaining disturbed area is physically and geotechnically stable and adverse impacts to permafrost along the route have been limited;
- Impacts to the environment, fish, and wildlife, from localized areas of contamination that may be present have been minimized;
- Any surface runoff and seepage water quality is safe for humans and wildlife;
- Area facilitates the desired wildlife movement;
- Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk;
- No long-term active care is required.

9.14 Re-Vegetation

It is anticipated that re-vegetation will be difficult to re-establish due to the arctic environment. The present re-vegetation strategy is to encourage disturbed areas to naturally re-vegetate. Natural re-vegetation for the Project will include:

- Re-grading and scarifying disturbed and compacted areas;
- Allowing vegetation to re-establish through natural processes;
- As noted in Section 5.2.3, observations will be undertaken to determine which plant species, if any, are better suited to colonizing disturbed and graded areas. Results of these studies will inform any potential efforts for re-vegetation.

10 IMPLEMENTATION SCHEDULE FOR "CARE AND MAINTENANCE" AND FINAL CLOSURE ACTIVITIES

Upon initiation of Final Closure activities, a Short Term Temporary Care and Maintenance phase would be implemented consistent with Section 7, as required, to facilitate final closure planning and logistics. It is expected this phase to last no longer than one (1) year for a planned closure scenario. As consistent with the activities outlined in Section 7, the Short Term Temporary Care and Maintenance period prior to Final Closure activities would focus on maintaining a state of readiness for project components. Although activities would be consistent, the primary difference in a Short Term Temporary Care and Maintenance period prior to Final Closure is activities would be performed to ensure project components are maintained in a state of readiness to support final closure activities rather maintained in a state of readiness with the intent of resuming operational activities in the future. TABLE 6-1 presents an overview of the actions to be taken for each major Project component (by Project site) for Short Term Temporary Care and Maintenance as well as Long-Term Temporary Closure and Final Closure. The sub section below outlines the planned activities, including this Short Term Temporary Care and Maintenance period, for Final Closure activities.

It should be noted that Baffinland also recognizes that Short Term Temporary Care and Maintenance and Long-term Temporary Closure could occur during the construction or commissioning phases of the Project. The Project is being implemented in gradual phases and therefore not all components of the approved Project would be in place, or operational, should various economic drivers force the Company in Temporary Closure, Long-term Closure or Final Closure. TABLE 3-1 presents a list of the facilities that are currently under construction for the Early Revenue Phase of the Project.

10.1 SUMMARY OF ACTIVITIES DURING FINAL CLOSURE BY YEAR

The activities to achieve Baffinland's Site Abandonment Goal (see Section 2.2.2) are undertaken with the intent of achieving component specific closure criteria, as outlined in TABLE 6-1, in as short duration as practicable. Once the decision has been made to permanently close the Project and the NWB and Land Owners have approved Baffinland's Final Closure Plan, it is anticipated that the major closure activities, as described in Section 9, will be completed between July and October over a period three (3) years based on the level of effort currently estimated to be required to perform closure activities. This period is preceded by a one year final closure planning period (Year 0) and proceeded by a five (5) year post-closure monitoring period (Year 4 to 8).

The high level schedule for Final Closure (by year) has been developed assuming productive use of resources performed in a logical manner with consideration given to unique challenges of working in the Arctic, such that reclamation can be accomplished in a timely fashion, in accordance with the ICRP and the regulatory framework established by the Inuit, Federal and Territorial governments. This schedule will be reviewed and revised to include additional and more detailed information as the final closure phase is approached. New information, when available, will be provided in subsequent revisions of the ICRP.

The current high level Final Closure schedule (by year) includes, but will not be limited to:

Year 0 – Following Notification of Closure to Land Owners and NWB

Final Closure Preparation Activities

- During the first year, activities will be limited to pre-closure shutdown tasks and post-closure inspection by Landlord and any other relevant stakeholders.
- Phase 1, 2 and 3 Environmental Site Assessments for hydrocarbon contaminated soils, as required.
- Prioritize decommissioning sequence, identify equipment to remain on site for use during closure activities, and mobilize contractors.
- Care and maintenance of site as described by Section 7.

Year 1 – Following approval of Final Closure Plan by NWB and Land Owners

Routine Inspection and Monitoring:

- Monitoring of road, culverts and bridges for integrity.
- Monitoring of borrow areas.
- On-going environmental monitoring and reporting (AEMP, wildlife, other), see Section 11.
- Treatment of contaminated soil in landfarms.

Decommissioning Activities:

- Demobilize on-site contractor equipment and material for shipment through Milne Port or Steensby Port.
- Excess fuel return from Mary River Mine Site shipped to Milne Port and/or Steensby Port.
- Decommissioning and demobilization of Baffinland owned equipment identified for salvage
  - Crushing and sizing equipment.
  - Mining fleet.
  - Miscellaneous mobile equipment.
  - Locomotives, railway maintenance equipment and other specialized equipment.
- Decontamination and disposal of mobile equipment not suitable for salvage.
- Mobilization sealift of third party contractor to either Milne Port or Steensby Port and demobilization sealift of current site contractors and Baffinland equipment and material to the Port of Valleyfield.
- Begin dismantling of facilities/buildings no longer required for mining and maintenance of trucking and transport equipment fleet.

- Maintenance buildings, warehouses.
- Tanks farms.
- Sewage treatment plants.
- Camps (partial).

Year 2 – Final Closure Activities

The majority of closure and reclamation activities will occur in Year 2, including:

Routine Inspection and Monitoring:

- Monitoring of road, culverts and bridges for integrity.
- Monitoring of borrow areas.
- On-going environmental monitoring and reporting (AEMP, wildlife, other), see Section 11.

Decommissioning Activities:

- Decommissioning of the open pit, mineral exploration areas, remote sites, and stockpiles.
- Develop Mine open pit overflow discharge channel.
- Begin systematic closure of remaining borrow pits and quarry sites (re-grading and contouring).
- Mary River Mine Site, Milne Port and Steensby Port Camps are demobilized, demolished as appropriate, landfilled or packaged and shipped.
- During the decommissioning of Mary River Camp, Deposit No. 1 haul road and airstrips are inspected, graded and contoured as required.
- Decommissioning of fuel storage facilities:
  - Bulk fuel demobilization sealift.
  - Mary River Mine site – fully decommissioned.
  - Milne Port – retain one 5 ML Arctic Diesel fuel tank
  - Steensby Port – retain one 10 ML Arctic diesel tank.
  - Decontaminate fuel storage tank farm site as required.
- Waste management including:
  - Permanent closure of the Mine site landfill.
  - Packaging of hazardous waste for future shipment to disposal facilities in the south.
  - Disposal and closure of sewage and sewage ponds at Mine site, Milne Inlet and Steensby Port.

- Begin systematic removal of culverts from the Milne Inlet Tote Road if the complete decommissioning and reclamation of Mary River is completed. This will be completed following complete decommissioning of the Mary River Camp. Inspections for erosion along the road embankment will be completed and repairs made, as required.
- Begin decommissioning removal railway tracks, ties; systematic removal of culverts and bridges.
- Treatment of contaminated soil in landfarms.
- Final site cleanup of Mary River Mine Site; including grading and contouring of the site.

Year 3 – Final Closure Activities

The remaining site closure and site rehabilitation activities will occur in the third year:

Routine Inspection and Monitoring

- Monitoring of decommissioned and rehabilitated areas/sites.
- On-going environmental monitoring and reporting (AEMP, wildlife, other), see Section 11.

Decommissioning Activities:

- Complete the removal of Milne Inlet Tote Road culverts and stabilization of the road for final closure (if not completed in Year 2).
- Complete the removal of railway culverts/bridges and stabilization of the Railway bed/service road for final closure (if not completed in Year 2).
- Final site cleanup of Milne Port and, Steensby Port; including grading and contouring of the site.
- Treatment of contaminated soil in landfarms.
- Application of soil cover to any permanent disposal areas;
- Demobilization sealift from Milne Port and Steensby Port to Valleyfield of third party equipment and residual reclamation equipment, material and supplies;
- Remaining bulk fuel demobilization sealift.
- Remove/dispose of remaining camp facilities at Mary River, Milne Port and Steensby Port.
- Complete all site contouring and drainage work.

Year 4 and Year 8 – Post-Closure Activities

Baffinland anticipates that all Project sites will be fully decommissioned and rehabilitated by the end of the third year of Final Closure based on level of effort estimates for direct closure activities. The Post-Closure monitoring and reporting activities to be conducted during this period are discussed in Section 11.

Year 8 – Site Abandonment

By the end of Year 8, Baffinland expects that the Final Closure objectives and criteria for all project components will be achieved.

11 MINE CLOSURE AND POST-CLOSURE MONITORING & REPORTING

11.1 MONITORING ACTIVITIES DURING TEMPORARY CLOSURE PHASES

Refer to Section 7.11 and 8.10 for environmental monitoring requirements during Short-Term Temporary Care and Maintenance and Long-Term Temporary Mine Closure, respectively.

11.1.1 CARE AND MAINTENANCE MONITORING PROGRAM

The anticipated Care and Maintenance Monitoring program includes routine inspection, monitoring and reporting as required by Type 'A' Water Licence 2AM-MYR-1325 and its associated management plans. Please refer to is described in Section 7.11 for more information. It is expected the Care and Maintenance Monitoring program to last no longer than one (1) year for a planned closure scenario. Further definition of the Care and Maintenance Monitoring program will be provided in future ICRP revisions and/or incorporated into the Closure and Post Closure Monitoring Plan submitted as part of the Final Closure and Reclamation Plan. If a Care and Maintenance monitoring schedule is required differing from Operations, it will be established in compliance with the AEMP and other applicable management plans in consultation with applicable regulators and landowners.

Baffinland will continue to report on its activities in this Temporary Care and Maintenance period on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type A Water Licence 2AM-MYR-1325), and the Land Owners (as per Commercial Lease Q13C301).

Although through a Care and Maintenance monitoring program, regulatory compliance monitoring will continue to abide by all applicable project authorizations and adaptive management, Environmental Monitoring Programs outlined in the Project Certificate will likely be suspended in consultation with applicable regulators and landowners.

11.2 FINAL CLOSURE ENVIRONMENTAL MANAGEMENT

Final Closure activities will result in significant changes to the Project sites and therefore Baffinland expects the Final Closure and Reclamation Plan to include updated management plans based upon the knowledge gained through studies during the design, construction and operational phases of the Project and consideration of the anticipated changes. The following management plans, which include monitoring and reporting requirements, are expected to be updated to support closure and post-closure activities. The management plans include, but are not limited to:

- Surface Water and Aquatic Ecosystems Management Plan
  - Updated to reflect re-contoured and natural drainage features re-established to pre-project condition, to the extent reasonably possible.
  - Consideration that sedimentation ponds will be breached and re-profiled.

- As infrastructure is removed, amended to account for the site final configuration.

- Freshwater and Wastewater Management Plan
  - Updated to reflect sewage and wastewater treatment plants will be decommissioned, dismantled and disposed of.
- Waste Management Plan
  - Modified to account for disposal of equipment, material and waste resulting from demolition and dismantling of facilities considered.
- Terrestrial Wildlife Management Plan
  - Modified to account for closure activities.
- Aquatic Effects Monitoring Plan
  - As some infrastructure is removed, the AEMP will be amended to account for the site final configuration.

Baffinland will continue to report throughout the Final Closure Phase on its activities on an annual basis to the NIRB (as per Project Certificate No.005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type "A" Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

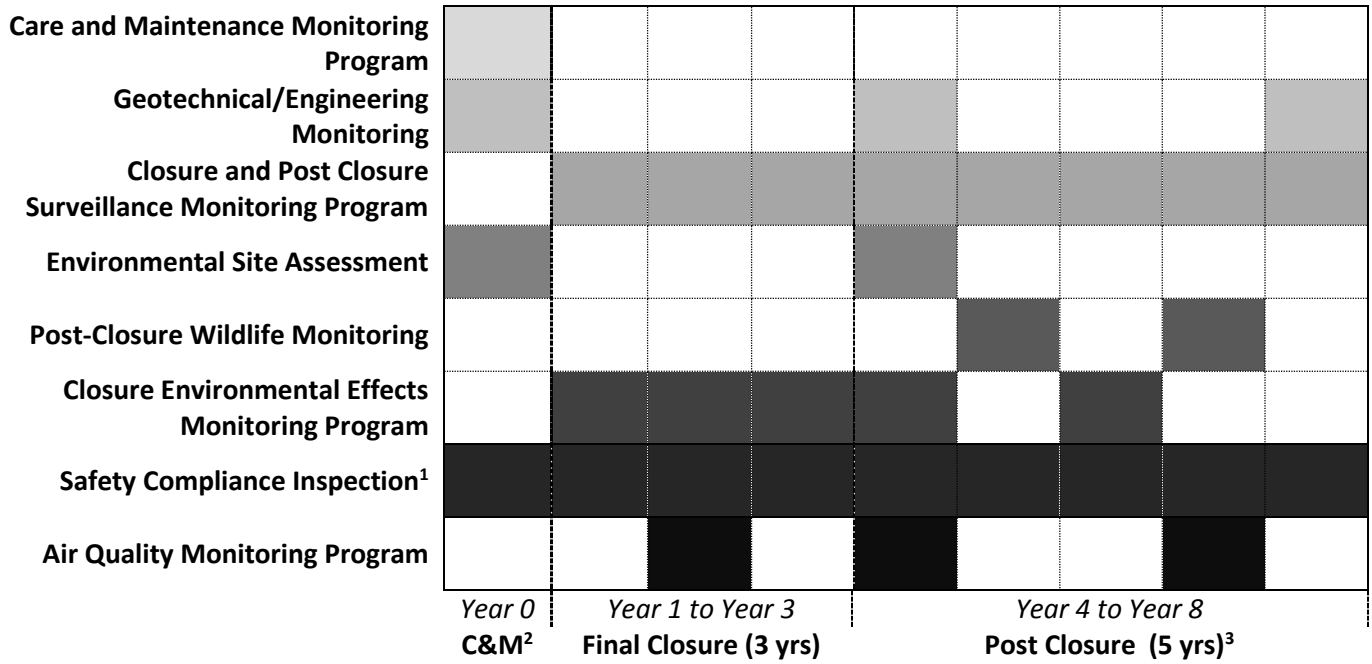
11.3 Closure and Post-Closure Monitoring Programs

Upon commencement of the Final Closure Phase, a Closure and Post Closure Monitoring Plan will be updated and submitted as part of the Final Closure and Reclamation Plan. The activities to be identified in the Closure and Post-Closure Monitoring Plan are expected to focus on two (2) key objectives:

1. Reporting on the physical stability of abandoned Project sites and remaining physical features (open pit, waste rock stockpile, road and railway embankments, stream crossings); and,
2. Reporting on the chemical stability of the mine open pit, waste rock stockpile, and, other Project disturbed areas.

The monitoring programs presented in the subsequent sub-sections are conceptual in nature at this period of the Project life (initial phased operations) and will be updated with additional detail as the results of studies are compiled and the Project evolves or approaches Final Closure. Monitoring the NIRB requirements are dealt with in the implementation of current Management Plans that will be updated regularly throughout the life of the Project. These Management Plans will still be applicable during Closure and, as necessary, Post Closure Monitoring. Based on environmental effect predictions, post-closure monitoring is expected to be required over a five (5) year period, although this time period may be revised, as necessary, as the monitoring programs are further developed to address additional information obtained over the Project lifecycle. The progressive reclamation activities described in Section 5 will help

inform practices to be used for the Final Closure phase. FIGURE 11-1 represents the anticipated closure and post closure monitoring program schedule by closure year.



NOTES:

[1] Frequency will be established at the discretion of the Chief Inspector of Mines in consultation with Baffinland

[2] Care and Maintenance Phase, up to one (1) year

[3] Post Closure activities are expected to last five (5) years based on environmental impact predictions but will be extended if closure criteria are not met in that timeframe.

FIGURE 11-1: ANTICIPATED CLOSURE AND POST CLOSURE MONITORING PROGRAM SCHEDULE

11.3.1 GEOTECHNICAL/ENGINEERING MONITORING

The objective of the closure and post-closure geotechnical/engineering monitoring will be to demonstrate the physical safety of the Mine Site, Milne Port, Tote Road and Steensby Port to ensure that all lands and structures remaining are left in a long-term physically stable condition. The geotechnical/engineering monitoring will also be utilized to identify any physical instability issues (e.g. slumping of slopes, the presence of rills and gullies, cracking, etc) in order to take appropriate corrective measures to ensure component specific closure criteria are met.

The year prior to Final Closure Activities (Year 0), Baffinland will commission an inspection of the sites/structures to determine long term stability of the Project sites and areas of focus for final closure activities. The year following completion of closure activities (Year 4), a second inspection of the sites/structures to confirm long term stability of the Project sites will be conducted. A final inspection will occur in the final year of Post Closure activities (Year 8) to ensure project specific closure criteria have been met long-term. All inspections will be carried by licensed NU engineer. During

geotechnical/engineering monitoring inspections, it is expected special attention will be given to the following areas:

1. Milne Port
    a) Ore and freight docks – integrity of dock embankment and indication of shore erosion.
    b) Port site drainage – indications of excessive erosion.
2. Tote Road
    a) Abandoned quarry sites – site condition and advancement of re-vegetation.
    b) Former water crossing – bank stability and indications of excessive stream bank erosion.
    c) Road – bed erosion and progress of re-vegetation cover.
3. Mine Site
    a) Overall site drainage patterns and indication of erosion channels.
    b) Open pit water level and barriers to access.
    c) Integrity of waste rock stockpile slopes (erosion, slumping of slopes).
    d) Landfill site status (indication of bank erosion, depression of cover material)
    e) Waste Rock temperature readings to ensure stability/permafrost aggradation
4. Railway Embankment and Stream Crossing Site
    a) Abandon quarry sites –site condition and advancement of re-vegetation.
    b) Former water crossing – inspection of bank stability and indications of excessive stream bank erosion.
    c) Road/railway - embankment erosion.
5. Steensby Port
    a) Ore and freight docks –integrity of dock embankment and indication of shore erosion.
    b) Port site drainage –indications of excessive erosion.

As indicted respectively by project component in TABLE 6-1, a satisfactory final inspection by professional NU engineer and/or a closure design and drainage construction inspected (with as-built drawings signed-off) by a Professional engineer will mean a project component has met the following closure objectives:

- Physically and geotechnically stable long term;
- Have had adverse impacts to permafrost limited;
- Pre-disturbance surface conditions including drainage patterns re-established to the extent possible and disturbed areas are scarified to promote natural re-vegetation;
- Will not be a safety hazard to humans and wildlife.

Baffinland will report on any new Geotechnical/Engineering Monitoring on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type A Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

NOTE: A third-party 6th Annual Water License Geotechnical Inspection Report was prepared in August 2013 (completed by Barry H. Martin Consulting Engineer and Architect), inspecting the on-site containment structures and soil structure at both the Mary River and the Milne Port sites. The structures were inspected for conformance with the design basis as presented in as-constructed and as-built drawings, settlement, cracking and seepage through berms, surrounding areas around the sites were examined for seepage, and photographs were taken to document any observations made during the inspection.

Stability results for the Mary River site reported that there were no visible signs of cracking, or any indication of seepage, from the structures for all inspected facilities. The structures and the soil structure, for all inspected facilities, were considered to be stable in the present condition, as well as in conformance with the design basis' for the inspected facilities. It was noted in the inspection report that the weather conditions are such that little or no erosion has taken place from wind or rain and the dykes constructed of the sand/gravel soil remain stable at slopes of 3:1 and 4:1. The dykes, after a 5 year period, still have only minor vegetation growing on the horizontal surfaces and it shall most certainly take a long period of time for the natural vegetation to form a stabilized surface, however, there is no sign of erosion to the surfaces over this period.

Stability results for the Milne Inlet site reported that there were no visible signs of cracking, or any indication of seepage, from the structures for all inspected facilities. The structures and the soil structure, for all inspected facilities, were considered to be stable in the present condition, as well as in conformance with the design basis' for the inspected facilities.

11.3.1.1 Closure and Post Closure Surveillance Network Program (SNP) Monitoring

Mandated by the NWB, the SNP Monitoring program focuses on detecting the discharge of potential contaminants from various Project components. During Final Closure, the SNP Monitoring program will be maintained as outlined by the Aquatic Effects Monitoring Plan (AEMP) (BAF-PH1-830-P16-0039) and in accordance with Type 'A' Water Licence 2AM-MRY1325. If the SNP closure monitoring schedule is required to be revised from Operations, it will be established in compliance with the AEMP and other applicable Management Plans in consultation with applicable regulators and landowners.

Upon the commencement of Post-Closure phase, it is anticipated all project sites will be reclaimed and rehabilitated and therefore all "end of pipe" discharges sampling points will be eliminated. The SNP Monitoring program will thus be revised to focus on surface water quality monitoring at strategic locations on the abandoned sites. It is expected sampling of the revised, approved SNP locations will take place once per year, during a low flow period (end of summer).

As indicted respectively by project component in TABLE 6-1, if SNP monitoring of effluent discharge quality is in compliance with the appropriate respective section of Type 'A' Water Licence 2AM-MRY1325, the project component will be considered to have met the following closure objectives:

- Surface runoff and seepage water quality is safe for humans and wildlife
- Water quality run-off objectives in receiving water bodies have been met.

Baffinland will report on its SNP Monitoring program on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), the NWB (as per Type 'A' Water Licence 2AM-MYR-1325), AANDC Land Lease 47H/16-1-2, and the Land Owners (as per Commercial Lease Q13C301).

11.3.1.2 Environmental Site Assessment

The objective of the Environmental Site Assessment will be to determine areas of focus for final closure activities and to demonstrate conformance with CCME contaminated sites guidelines or site-specific risk-based criteria at the Mine Site, Milne Port, Tote Road and Steensby Port.

If not already done so, in the year prior to Final Closure activities (Year 0), Baffinland will commission an Environmental Site Assessment of project sites to help determine adequacy of Final Closure activities ability to meet closure criteria. Based on results, closure activities will be modified accordingly to ensure closure objectives are met. The year following completion of closure activities (Year 4), a second Environmental Site Assessment of project sites will be conducted to confirm CCME contaminated sites guidelines or site-specific risk-based criteria have been met. If results indicate CCME contaminated sites guidelines or site-specific risk-based criteria have not been met, additional closure activities will be performed as necessary to ensure closure objectives are achieved.

As indicted respectively by project component in TABLE 6-1, if Environmental Site Assessment results indicate a project component meets CCME contaminated sites guidelines or site-specific risk-based criteria, the project component will be considered to have met the following closure objectives:

- Will not be a source of contamination to the environment
- Impacts to the environment, fish, and wildlife, from localized areas of contamination that may be present have been minimized
- Any contaminated soils will be remediated to ensure they do not pose an unacceptable environmental risk.

Baffinland will report on any new Environmental Site Assessment results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

11.3.1.3 Post-Closure Wildlife Monitoring

The objective of the Post-Closure Wildlife Monitoring program will be to determine if Project areas encourage the desired wildlife movement upon completion of Final Closure activities. As noted in Section 2.3, Baffinland intends to establish a "Closure Working Group" and Baffinalnd expects this Closure Working Group to help drive desired wildlife movement considerations upon completion of Final Closure activities.

Baffinland expects to commence the Post-Closure Wildlife Monitoring program the second year following completion of closure activities (Year 5) incorporating lesson learned from Operations. This schedule was determined to allow for a one (1) year wildlife activity normalization period between active Final Closure activities and Post-Closure monitoring activities to help ensure an accurate representation of abandonment conditions. The wildlife monitoring program is expected to be a focused program monitoring key indicator species in both the terrestrial and marine environment in the Project area. Results of the first post-closure wildlife monitoring period in Year 5 are anticipated to be confirmed using a second period, two (2) years after the first, in Year7.

As indicted respectively by project component in TABLE 6-1, if Post-Closure Wildlife Monitoring program results indicate evidence of indicator species presence in the Project area, the project component will be considered to have met the following closure objective:

- Area encourages the desired wildlife movement upon site abandonment.

Baffinland will report on any new Post-Closure Wildlife Monitoring program results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

11.3.1.4 Environmental Effects Monitoring Program (EEM)

Mandated by the Metal Mining Effluent Regulations (MMER), Schedule 5, the EEM Program focuses on determining if the discharge of mine contact water to the receiving environment will result in adverse environmental effects on the receiving streams and water bodies. As the locations of the mine contact water will not change after Final Closure (i.e. open pit water discharge, and, waste rock stockpile runoff discharge), it is expected the EEM component of the AEMP will remain unchanged until Baffinland has achieved the "Recognize Closed Mine" status under Section 4 of the MMER. Procedures for EEM monitoring are detailed in the AEMP (BAF-PH1-830-P16-0039) including sampling locations, number of samples for each location, frequency of sampling and methods of interpretation.

Baffinland expects to conduct the EEM Program annually during Final Closure activities (Year 1 to 3) to ensure component specific closure criteria are met. Post Closure confirmatory sampling would then be conducted the first year following completion of Final Closure activities (Year 4) and the third year following the completion of Final Closure activities (Year 6) to ensure closure objectives are met unless "Recognize Closed Mine" status under Section 4 of the MMER is achieved first. Although not anticipated based on current monitoring results, this schedule was determined to ensure any potential environmental contamination is identified as early as possible so mitigation measures can be implemented if necessary.

For select project components as indicted respectively in TABLE 6-1, if EEM monitoring of effluent discharge quality is in compliance with MMER and the Project has achieved "Recognized Closed Mine" status as defined by Section (4) of MMER, the project component will be considered to have met the following closure objectives:

- Surface runoff and seepage water quality is safe for humans and wildlife;
- No long-term active care is required.

Baffinland will report on any new EEM Program results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

11.3.1.5 Safety Compliance Inspection

The objective of the Safety Compliance Inspection will be to determine if project components are closed and reclaimed in compliance with the Northwest Territories (NT) and Nunavut (NU) Mine Health and Safety Act and Regulations, and the Explosives Use Act and Regulations. The Safety Compliance Inspection will be conducted by an Engineer/Inspector of Mines under the direction of the Chief Inspector of Mines working on behalf of the Workers' Safety and Compensation Commission (WSCC) of the Northwest Territories and Nunavut. Inspection frequency and scope will be established at the discretion of the Chief Inspector of Mines in consultation with Baffinland.

As indicted respectively by project component in TABLE 6-1, a satisfactory final inspection by Engineer/Inspector of Mines will mean a project component has met the following closure objective:

- Will not be a safety hazard to humans and wildlife.

Baffinland will report on any Safety Compliance Inspection results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

11.3.1.6 Air Quality Monitoring

The objective of the Air Quality Monitoring program will be to determine if project components are closed and reclaimed in such a way that dust levels safe for people, vegetation, aquatic life and wildlife. Baffinland expects to commence the Air Quality Monitoring program the second year of closure activities (Year 2) incorporating lesson learned from Operations. This schedule was determined to allow for one (1) year of baseline during closure activities to determine if any additional activities need to be conducted in the final year of closure (Year 3) to ensure objectives are met. The wildlife monitoring program is expected to be a focused program monitoring key Project areas. Results of the first post-closure wildlife monitoring period in Year 2 are anticipated to be confirmed using a second period, two (2) years after the first, in Year 4. If results indicate dust levels near or above threshold levels in Year 4, a second confirmatory monitoring campaign will be conducted in Year 7.

As indicted respectively by project component in TABLE 6-1, if Air Quality Monitoring program results demonstrate Mean Total Suspended Particulate (TSP) concentrations less than 60 µg/m3 annual and 120 µg/m3 24 hr average (based on criteria stated in the Environmental Guideline for Ambient Air Quality, Department of Environment, Government of Nunavut, October 2011) or site-specific risk-based criteria are met, the project component will be considered to have met the following closure objective:

- Dust levels safe for people, vegetation, aquatic life and wildlife.

Baffinland will report on any new Post-Closure Wildlife Monitoring program results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

11.3.1.7 Project Certificate Monitoring Programs

Although regulatory compliance monitoring will continue to abide by all applicable project authorizations, adaptive management Environmental Monitoring Programs outlined in the Project Certificate will likely be suspended in consultation with applicable regulators and landowners upon commencement of final closure if not already completed.

12 EXPECTED SITE CONDITIONS FOLLOWING FINAL CLOSURE

12.1 LAND USE

The site abandonment goal of the final closure activities is to return project sites and affected areas to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities[9]. Baffinland closure principles, objectives and criteria's have been developed to achieve this future land use goal in as short of duration as reasonably practical.

As noted in Section 2.3 in order to best incorporate additional considerations for future land use of abandoned Project sites, Baffinland intends to establish a "Closure Working Group". The role of this Working Group will be to facilitate the integration of community representation and technical expertise by drawing on Inuit knowledge, arctic experience for similar mining operations, and discussion of alternative uses for decommissioned facilities into the reclamation options for various Project components. Once established, additional considerations for future land use of abandoned Project sites provided by the Closure Working Group will be incorporated into future versions of the ICRP as appropriate.

12.2 SITE TOPOGRAPHY

12.2.1 MINE SITE

Relative to predevelopment site conditions, the principal topographic changes to the site will include the following:

- The waste rock stockpile will remain at closure with a maximum elevation of ~810 masl.
- The open pit will naturally flood at closure ultimately forming a pit lake that will naturally drain in a designed manner.
- Remnants of other infrastructure at the Mine Site, including the crusher and buildings will be demolished and laydown areas re-graded and scarified to enhance natural re-vegetation at closure.

12.2.2 LONG-TERM MILNE PORT AND TOTE ROAD

Relative to pre-development conditions at Milne Port, the remnants of infrastructure including buildings will be removed and laydown areas re-graded and scarified to allow for natural re-vegetation at closure. Milne Port ore dock will remain in place to provide on-going fish habitat. The water crossings along the Milne Inlet Tote Road will be removed.

[9] Based on alignment with Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (MVWLB/AANDC, 2013)

12.2.3 Steensby Port and Rail Alignment

Relative to predevelopment conditions at Steensby Port, the remnants of infrastructure including buildings will be demolished and laydown areas re-graded and scarified to enhance natural re-vegetation at closure. All dock structures will be left intact at Steensby Port but infrastructure will be removed.

Steel rails and ties will be removed from the Railway. All water crossings will be removed. The railway embankment will remain intact.

Tunnels will be sealed. The portals will be backfilled and plugged with rock and sealed with concrete.

12.2.4 Airstrips

The airstrips at the Mine Site, Milne Port and Steensby Port will be removed unless otherwise directed by regulatory agencies, Land Owner, or the Working Group to remain in place and left in operating condition. Abandoned airstrips may provide emergency landing locations for regional aircraft or helicopters, when other options are unavailable.

12.3 Local Surface Water

Disturbances to the surrounding areas of the Project may cause thermal disruptions to the permafrost zone resulting in ponding, settlement and/or subsidence due to changes in the active layer (approximately the upper 1 to 2 m of soil). During closure these areas will be drained of excess water, filled with clean material to insulate and re-establish the active layer and graded, restoring the natural drainage of the area as necessary.

The natural drainage of water courses will be re-established for long term stability.

13 ESTIMATED CLOSURE AND RECLAMATION COSTS

Closure and reclamation costs for the Mary River Project are determined under the Annual Security Review (ASR) process conducted in accordance with Schedule C of Type "A" Water Licence 2AM-MRY1325 and Commercial Lease No. Q13C301. Under the ASR process, Baffinland, the respective landowners (QIA & the Crown), the NWB, and other interested parties confer to determine the estimated closure and reclamation costs for an upcoming year on an annual basis. This approach allows for Baffinland to post financial security in incremental adjustments prior to the commencement of work. Publically available ASR document submissions for a respective year, describing in detail annual estimated closure and reclamation costs, can be downloaded from the NWB FTP site at: ftp.nwb-oen.ca, with Username: "public", and the Password: "registry", without the quotes.

13.1 Preliminary Mine Closure and Reclamation Plan Costs

Prior to commencement of the ASR process, which is the current overriding process to determine Project closure and reclamation costs, Baffinland's estimated closure and reclamation costs were established and outlined in the Preliminary Mine Closure and Reclamation Plan (Rev D, H337697-0000-07-126-0014) which was submitted as part of the Mary River Project FEIS (see FEIS Appendix 10G). Estimated costs and assumptions were made based on project design and costs available at the time of development using the Mining RECLAIM spreadsheet provided by Aboriginal Affairs and Northern Development Canada (AANDC). Details used to develop the Preliminary Mine Closure and Reclamation Plan (PCRP) Closure and Reclamation Cost Estimate are available within PCRP, Appendix B and C, and are summarized in the Section 13.1.2 for information purposes.

13.1.1 Addendum to PCRP Closure and Reclamation Cost Estimate

An addendum to the PCRP Closure and Reclamation Cost Estimate has been developed to support the Type 'A' Water License 2AM-MRY1325 amendment process for 2015. This addendum has been made using current and updated estimated closure and reclamation costs, established through the ASR process, for Milne Port and the Tote Road aggregated with estimated closure and reclamation costs for Mary River Mine Site, the Railway and Steensby Port that were presented in Baffinland's original submission of the PCRP in February 2012. The purpose of this addendum is to incorporate consideration of Baffinland's Early Revenue Phase to support the Type "A" Water License 2AM-MRY1325 amendment process. Details of the results of this process can be found in the following document: *Final Environmental Impact Statement (FEIS) Closure and Reclamation - Financial Security Estimate Addendum, H349001-0000-07-220-0001.*

Baffinland notes that the *Final Environmental Impact Statement (FEIS) Closure and Reclamation - Financial Security Estimate Addendum, H349001-0000-07-220-0001* does not override the ASR process and the ASR is still the governing process to determine reclamation financial security.

13.1.2 Summary of PCRP Closure and Reclamation Cost Estimate

The PCRP Closure and Reclamation Cost Estimate was developed using the Mining RECLAIM spreadsheet (ver 6) provided by Aboriginal Affairs and Northern Development Canada (AANDC) (formerly Department of Indian Affairs and Northern Development). The Mining RECLAIM spreadsheet model identifies several reclamation components:

- Open pit
- Waste Rock pile
- Buildings and Equipment
- Chemicals
- Water
- Mobilization
- Post Closure
- Ongoing water monitoring.

Several reclamation strategies ("Objectives") were listed for each component, and broken down into lists of actions that were priced separately. A unit cost spreadsheet provided a range of prices for actions which was completed where possible with the most accurate available or Project-specific costs at the time of estimate. To best estimate the total reclamation cost, some actions were modified or adapted to the strategies defined in the PCRP. The financial cost obtained was based on the information available at the time of publishing. Several assumptions and estimations have been made and are described in Appendix D of the PCRP. To make up for uncertainties, the highest prices of the range provided by the MINING RECLAIM unit costs spreadsheet were systematically chosen.

It should be noted this estimate of the financial cost of final closure and reclamation measures required for the fully developed Project as described in the original FEIS. It addresses Project-related activity areas and infrastructure related to the original the Project proposed in the FEIS including mobilization and post-closure monitoring. This estimate was intended to represent Baffinland's estimated closure and reclamation security for the Project, based on the information available at the time, at a planned closure scenario occurring at end of mine life.

13.1.2.1 Final Mine Closure Cost

MINING RECLAIM calculated the grand total capital costs required for the Project closure and reclamation. The cost was split into land and water liability. Additionally, the cost associated to Inuit Owned Land (IOL) and federal owned (Crown Land) was differentiated from north to south and therefore Milne Port, Tote Road, Mine Site, and the first 25 km of the Railway were attributed to IOL. The remaining section of the Railway and Steensby Port are located on federally owned land and were attributed to Crown Land. Costs relating to the infrastructure, equipments and remediation actions on these sites were attributed to the

corresponding category. Less tangible components, such as chemicals and soil management, water management and post-closure monitoring and maintenance were attributed on a basis of two thirds (2/3) to IOL and one third (1/3) to Crown Land. This was based on two of the main sites (Milne Port, Mine Site) being in IOL and one site (Steensby Port) located in Crown Land.

The Ultimate Project closure and reclamation cost, at the time of estimate, was $518,711,208. The break down between land and water liability and IOL/Crown Land is presented in TABLE 13-1.

TABLE 13-1: TOTAL COST AND BREAKDOWN FOR MARY RIVER PROJECT CLOSURE AND RECLAMATION

	Total Cost	Percentage	Land Liability	Water Liability
Inuit Owned Land	$411,234,800	79.2	$405,430,454	$6,106,421
Federal Owned Land	$107,476,408	20.7	$105,391,574	$2,160,637
Total	$518,711,208	100	$510,822,029	$8,267,058

14 LIST OF CONTRIBUTORS

This document has been prepared by Baffinland and a consultant team as follows:

Baffinland

- Erik Madsen – overall corporate responsibility
- Jim Millard – technical review
- Fernand Beaulac – consultant advisor contributing to ICRP

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- John Binns – Senior review
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- Tessa Mackay – Consultant Team Lead; technical review
- Adam Grzegorczyk – technical design and development
- Catalina Gonzalez – technical design and development

15 CONCORDANCE TABLES

TABLE 15-1 has been prepared to characterize the content of the ICRP and updated with reference to this ICRP. The concordance table is consistent with the principles of the Qikiqtani Inuit Association (QIA) Abandonment and Reclamation Policy for Inuit Owned Lands ('the Policy') and structured in accordance with Appendix C of the QIA Security Policy (v3).

TABLE 15-1: QIA ABANDONMENT AND RECLAMATION POLICY FOR INUIT OWNED LANDS CONCORDANCE TABLE

Item	QIA Abandonment and Reclamation Policy for Inuit Owned Lands (v3)	Baffinland Response
1	Have **all** reports and plans including addendums and responses been submitted?	Yes
2	Are the submitted reports and plans executable standalone documents with adequate rational and detail?	Yes
3	Do all reports and plans contain appropriate referencing (document name, author, section, and page number) to **all** supporting information?	Yes
4	Do the reports and plans demonstrate a firm understanding, of QIA's *Guiding Principles on Reclamation* and provide rationale on how these principles have been satisfied?	Yes
5	Has IQ and consultation with Community Land and Resources Committee(s) been applied? Has the Tenant provided detailed community consultation records?	Closure and reclamation issues discussed at hearings related to the Project Certificate. Commitment to Mine Closure Working Group in the future to incorporate community input and IQ.
6	Are **all** the components that are considered in the abandonment and reclamation plan listed?	Yes
7	Does each component of the Project have an abandonment and reclamation objectives and criteria?	Yes
8	Has an A&R plan been provided with a financial security estimate?	Yes. Financial security estimate is conducted in accordance to Section 9.2 of Commercial Lease, No. Q13C301
9	Have Table 1, 2, 3 and 4 of Appendix B been used in completing the financial security estimate?	Yes – was adapted to suit project specific requirements.
10	Has evidence been provided to support the Policy assumptions for all reports and plans?	Yes

TABLE 15-2 has been prepared to show all the Project Certificate No. 005 commitments outlined in that apply to this ICRP. Where the Project Certificate Terms and Conditions have requirements for

Construction, Operations, Temporary Closure/Care and Maintenance, Closure and Post Closure Monitoring the requirements are dealt with by a current Management Plan that will be updated regularly throughout the life of the Project. These Management Plans will still be applicable during Closure and, as necessary, Post Closure Monitoring.

TABLE 15-2: NIRB PROJECT CERTIFICATE CONDITIONS – APPENDIX A

Commitment Number	NIRB Project Certificate - Appendix A	ICRP Section
38	Baffinland is committed to undertaking a phased approached to any abandonment and restoration, as well as final abandonment and restoration, of the Mary River Project site(s) and relevant monitoring activities in a manner that is consistent with applicable guidelines and regulations.	5
39	Baffinland is committed to investigating and exploring the potential for native species of flora to be used for re-vegetating areas disturbed within the project area.	5.2.3
40	Baffinland is committed to undertaking environmental effects monitoring during the mine life mine as well as after closure.	11
42	Baffinland is committed to establishing a working/ advisory group consisting of stakeholders of the Mary River Project to identify and address issues surrounding abandonment and restoration activities associated with the Mary River Project. The terms of reference, as well as information on all issues identified to be resolved by the working group, will be made available to the NIRB and interested persons for information and/or review purposes.	2.3

TABLE 15-3 has been prepared to show concordance with Part J, Number 2 of the Type 'A' Water Licence, 2AM-MRY1325.

TABLE 15-3: TYPE 'A' WATER LICENCE 2AM-MRY1325, PART J, ITEM 2

TYPE 'A' WATER LICENCE 2AM-MRY1325, Schedule J	ICRP Section
a. Detailed description, including maps and other visual representations, of the preconstruction conditions for each site, accompanied by a detailed description of the proposed final landscape, with emphasis on the reclamation of surface drainage over the restored area;	**4** & 12
b. A description of how progressive reclamation will be employed and monitored throughout the life of the mine, plus reclamation scheduling and coordination of activities with the overall sequence of the project; details of reclamation scheduling and procedures for coordinating reclamation activities within the overall mining sequence and materials balance;	**5**

TYPE 'A' WATER LICENCE 2AM-MRY1325, Schedule J	ICRP Section
c. Implications of any updated water balance and water quality model prediction results and any adaptive management measures that may be required;	9.2, 9.11.3, & 9.13
d. An evaluation of closure and reclamation measures for each mine component, including the goals, objectives, closure criteria and the rationale for selection of the preferred measures;	TABLE 6-1
e. A comprehensive assessment of materials suitability, including geochemical and physical characterization and a schedule of availability for reclamation needs. Particular attention shall be given to cover materials, including maps showing sources and stockpile locations of all reclamation construction materials;	9.10.1
f. An assessment and description of any required post-closure treatment for pit water that is not acceptable for discharge, taking into consideration further studies completed and updated modeling information;	9.2
g. Contingency measures for all reclamation components including action thresholds that are linked to the monitoring programs;	**9**
h. Monitoring programs to assess reclamation performance and environmental conditions including monitoring locations for surface water and Ground Water, parameters;	11
i. Monitoring schedules and overall timeframes;	11
j. QA/QC procedures for managing the demolition landfill and other waste disposal areas;	9.9.1
k. A list of non-salvageable materials and disposal locations;	9.3, 9.5, & 9.9
l. Rock storage facility closure design plans and sections including the types of material placed and volumes;	9.11
m. Protocol for the disposal of any contaminated soil;	9.10
n. An assessment of the Long-term physical stability of all remaining project components;	TABLE 6-1
o. A revised closure and reclamation cost estimate; and	Error! Reference ource not found.
p. A detailed implementation schedule for completion of reclamation work	TABLE 6-1

16 GLOSSARY OF TERMS, ACRONYMS, OR ABBREVIATIONS

16.1 GLOSSARY OF TERMS

Term	Meaning
Abandonment	The permanent dismantlement of a facility so it is permanently incapable of its intended use. This includes the removal of associated equipment and structures.
Acid-Base Accounting (ABA)	Acid-Base Accounting (ABA) is a screening procedure whereby the acid-neutralizing potential and acid-generating potential of rock samples are determined.
Acid generating (AG)	Production of acidity irrespective of its effect on the adjacent pore water or whether the material is net acid producing or neutralizing.
Acid rock drainage (ARD)	Acidic drainage stemming from open pit, underground mining operations, waste-rock or tailings facilities that contains free sulphuric acid and dissolved metals sulphate salts, resulting from the oxidation of contained sulphide minerals or additives to the process. The acid dissolves minerals in the rocks, further changing the quality of the drainage water.
Acid Potential (AP)	Maximum potential acid generation from a sample. The calculation of AP (or MPA) is an integral part of acid/base accounting.
Acidity	Measure of the capacity of a solution to neutralize a strong base.
Active layer	The layer of ground above the permafrost which thaws and freezes annually.
Alkalinity	Measure of the capacity of a solution to neutralize a strong acid.
Backfill	Material excavated from a site and reused for filling the surface or underground void created by mining. Reinsertion of materials in extracted part(s) of the ore body. Materials used for backfilling can be waste-rock or overburden. In most cases backfill is used to refill mined-out areas in order to: • Assure ground stability. • Prevent or reduce underground and surface subsidence. • Provide roof support so that further parts of the ore body can be extracted and to increase safety. • Provide an alternative to surface disposal. and • Improve ventilation.
Background	An area near the site under evaluation not influenced by chemicals released from the site, or other impacts created by onsite activity.
Baseline	A surveyed condition and reference used for future surveys.
Benign	Having little or no detrimental effect.
Berm	A mound or wall, usually of earth, used to retain substances or to prevent substances from entering an area.
Best Management Practices	Any program, technology, process, operating method, measure, or device that controls, prevents, removes, or reduces pollution and impact on the environment.
Biodiversity	The variety of plants and animals that live in a specific area.

Term	Meaning
Bioremediation	The use of microorganisms or vegetation to reduce contaminant levels in soil or water.
Borrow Pit	A source of fill or embanking material.
Care and Maintenance	A term to describe the status of a mine when it undergoes a temporary closure.
Closure	When a mine ceases operations without the intent to resume mining activities in the future.
Closure Criteria	Detail to set precise measures of when the objective has been satisfied.
Closure Goal	The guiding statement that provides the vision and purpose of reclamation. Attainment of the closure goal happens all closure objectives have been satisfied. By its nature, the closure goal is a broad, high-level statement and not directly measurable.
Closure Principles	A fundamental basis for the selection of closure objectives.
Closure Objectives	Statements that describe what the selected closure activities are aiming to achieve; they are guided by the closure principles.
Comminution	Size reduction of an ore by crushing and/or grinding to such a particle size that the product is a mixture of relatively clean particles of mineral and gangue. In order to produce a relatively pure concentrate, it is necessary to grind the ore fine enough to liberate the desired minerals.
Contaminant	Any physical, chemical, biological or radiological substance in the air, soil or water that has an adverse effect. Any chemical substance with a concentration that exceeds background levels or which is not naturally occurring in the environment.
Contouring	The process of shaping the land surface to fit the form of the surrounding land.
Cumulative Effects	The combined environmental impacts that accumulate over time and space as a result of a series of similar or related actions or activities.
Crushing	Comminution process that reduces the particle size of run-of-mine ore to such a level that grinding can be carried out. This is accomplished by compression of ore against rigid surfaces, or by impact against surfaces in rigidly constrained motion path.
Cryoconcentration	Concentration of solutes due to exclusion by ice.
Decommissioning	Process by which a mining operation is shut down i.e.: permanently closing a site. removing equipment, buildings and structures. Rehabilitation and plans for future maintenance of affected land and water are also included.
Dewatering	Process of removing water from an underground mine or open pit, or from the surrounding rock or non-lithified area. The term is also commonly used for the reduction of water content in concentrates, tailings and treatment sludges.
Disposal	The relocation, containment, treatment or processing of unwanted materials or materials that are not reusable. This may involve the removal of contaminants or their conversion to less harmful forms.
Drainage	Manner in which the waters of an area exist and move, including surface streams and groundwater pathways. A collective term for all concentrated and diffuse water flow.

Term	Meaning
Drainage Chemistry	Concentrations of dissolved components in drainage, including element concentrations, chemical species and other aqueous chemical parameters.
Effluent	Treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond or a treatment plant.
End Land Use	The allowable use of disturbed land following reclamation. Municipal zoning and/or approval may be required for specific land uses.
Environment	Interrelated physical, chemical, biological, social, spiritual and cultural components that affect the growth and development of living organisms.
Erosion	The wearing away of rock, soil or other surface material by water, rain, waves, wind or ice, the process may be accelerated by human activities.
Evaporation	Physical process by which a liquid is changed into a gas.
Existing Operation	An installation in operation or, in accordance with legislation existing before the date on which this Directive is brought into effect, an installation authorized or in the view of the competent authority the subject of a full request for authorization, provided that that installation is put into operation no later than one year after the date on which this Directive is brought into effect.
Frost Heave	Annual ground displacements and differential ground pressures due to the freezing of water within soils.
Geochemistry	Science of the chemistry of geological materials and the interaction between geological materials with the environment.
Geology	Study of the earth, its history and the changes that have occurred or are occurring, and the rocks and non-lithified materials of which it is composed and their mode of formation and transformation.
Grade	Dimensionless proportion of any constituent in an ore, expressed often as a percentage, grams per tonne (g/t) or parts per million (ppm).
Ground Thermal Regime	Temperature conditions below the ground surface. A condition of heat losses and gains from geothermal sources and the atmosphere.
Groundwater	All subsurface water that occurs beneath the water table in rocks and geologic formations that are fully saturated. Distinct from surface water.
Humidity Cell Test	Kinetic test procedure used primarily to measure rates of acid generation and neutralization in sulphide-bearing rock.
Hydrogeology	Science of the groundwater circuit (interrelationship of geologic materials and processes with water).
Hydrology	The science that deals with water, its properties, distribution and circulation over the Earth's surface.
Inert Waste	Material having insignificant leachability and pollution content which will not require laboratory analysis.
Infiltration	Entry of water into a porous substance.
Inukshuk	A stone representation of a person, used as a milestone or directional marker by the Inuit of the Canadian Arctic.

Term	Meaning
In Situ Treatment	A method of managing or treating contaminated soils, sludges and waters "in place" in a manner that does not require the contaminated material to be physically removed or excavated from where it originated.
Landfill	An engineered waste management facility at which waste is disposed by placing it on or in land in a manner that minimizes adverse human health and environmental effects.
Leachate	Solution obtained by leaching e.g. water that has percolated through soil containing soluble substances and that contains certain amounts of these substances in solution.
Leaching	Passage of a solvent through porous or crushed material in order to extract components from the liquid phase. For example, gold can be extracted by heap leaching of a porous ore, or pulverized tailings. Other methods are tank leaching of ore, concentrates or tailings and in-situ leaching.
Lithology	Composition of rocks, including physical and chemical characteristics such as colour, mineralogical composition, hardness and grain size.
Migration	The movement of chemicals, bacteria, and gases in flowing water or vapour.
Mineral Resource	Concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
Mining	Methods and techniques to extract ore from the ground, including support facilities (e.g. stockpiles, workshops, transport, ventilation) and supporting activities in the mine itself or in the vicinity.
Mining Operation	Any extraction of ore from which mineral substances are taken, where the corporate intent is to make an operating profit or build continuously toward a profitable enterprise.
Mitigation	The process of rectifying an impact by repairing, rehabilitating or restoring the affected environment, or the process of compensating for the impact by replacing or providing substitute resources or environments.
Monitoring	Observing the change in geophysical, hydrogeological or geochemical measurements over time. Process intended to assess or to determine the actual value and the variations of an emission or another parameter, based on procedures of systematic, periodic or spot surveillance, inspection, sampling and measurement or another assessment methods intended to provide information about emitted quantities and/or trends for emitted pollutants.
Naturally Re-vegetate or Natural Re-vegetation	For the purposes of the Mary River Project natural re-vegetation will include 100 Hypersthenes and covering with overburden as required and allowing the surrounding natural vegetation to encroach and be re-established on the disturbed area.

Term	Meaning
Neutralization	Raising the pH of acidic solutions or lowering the pH of alkaline solutions to near-neutral pH (about pH 7) values through a reaction in which the hydrogen ion of an acid and the hydroxyl ion of a base combine to form water.
Neutralization Potential (NP)	General term for a sample's or a material's capacity to neutralize acidity.
Objectives	Objectives describe what the reclamation activities are aiming to achieve. The goal of mine closure is to achieve the Long-term objectives that are selected for the site.
Open Pit Mining	Mining operation takes place on the surface. Mining operation and environment are in contact over an extended area.
Operator	Any natural or legal person that is responsible for the control, operation, and maintenance of the mine, mineral processing plant, tailings dam and/or related facilities including the after-closure phases.
Ore	Mineral or variety of accumulated minerals of sufficient value as to quality and quantity that it/they may be mined at a profit. Most ores are mixtures of extractable minerals and extraneous rocky material.
Orebody (mineral deposit)	Naturally occurring geological structure consisting of an accumulation of a desired mineral and waste-rock, from which the mineral can be extracted, at a profit, or with a reasonable expectation thereof.
Overburden	Layer of natural grown soil or massive rock on top of an orebody. In case of open pit mining operations it has to be removed prior to extraction of the ore
P	Phosphate
Passive Treatment	Treatment technologies that can function with little or no maintenance over long periods of time.
Permafrost	Ground that remains at or below zero degrees Celsius for a minimum of two consecutive years.
Permafrost Aggradation	A naturally or artificially caused increase in the thickness and/or area extent of permafrost.
Permeability	The ease with which gases, liquids, or plant roots penetrate or pass through soil or a layer of soil. The rate of permeability depends upon the composition of the soil.
Phreatic Surface	The term phreatic is used in Earth sciences to refer to matters relating to ground water below the water table (the word originates from the Greek phrear, phreat- meaning "well" or "spring"). The term 'phreatic surface' indicates the location where the pore water pressure is under atmospheric conditions (i.e. the pressure head is zero). This surface normally coincides with the water table.
Potentially Acid Generating (PAG)	Rock or overburden material that has the potential to produce acidity irrespective of its effect on the adjacent pore water or whether the material is net acid producing or neutralizing.
Progressive Reclamation	Actions that can be taken during mining operations before permanent closure, to take advantage of cost and operating efficiencies by using the resources available from mine operations to reduce the overall reclamation costs incurred. It enhances

Term	Meaning
	environmental protection and shortens the timeframe for achieving the reclamation objectives and goals.
Primary Crushing	Process of reducing ore into smaller fragments to prepare it for further processing and/or so that it can be transported to the processing plant. In underground mines, the primary crusher is often located underground, or at the entrance to the processing plant.
Quarry	Whole area under the control of an operator carrying out any activity involved in the prospecting, extraction, treatment and storage of minerals, including common related infrastructures and waste management activities, being not a mine. It is distinguished from a mine because it is usually open at the top and front, and used for the extraction of building stone, such as slate, limestone, gravel and sand.
Reclamation	The process of returning a disturbed site to its natural state or one for other productive uses that prevents or minimizes any adverse effects on the environment or threats to human health and safety.
Rehabilitation	Activities to ensure that the land will be returned to a form and productivity in conformity with a prior land use plan, including a stable ecological state that does not contribute substantially to environmental deterioration and is consistent with surrounding aesthetic values.
Remediation	The removal, reduction, or neutralization of substances, wastes or hazardous material from a site in order to prevent or minimize any adverse effects on the environment and public safety now or in the future.
Restoration	The renewing, repairing, cleaning-up, remediation or other management of soil, groundwater or sediment so that its functions and qualities are comparable to those of its original, unaltered state.
Re-vegetation	Replacing original ground cover following a disturbance to the land.
Risk Assessment	Reviewing risk analysis and options for a given site, component or condition. Risk assessments consider factors such as risk acceptability, public perception of risk, socio-economic impacts, benefits, and technical feasibility. It forms the basis for risk management.
Run-of-mine (ROM)	Run of mine. Unprocessed conveyed material (ore) from the mining operation.
Runoff	Part of precipitation and snowmelt that does not infiltrate but moves as overland flow and drains off the land into bodies of water.
Scarification	Seedbed preparation to make a site more amenable to plant growth.
Screening	Separating material into size fractions.
Security Deposit	Funds held by the Crown or designated owner of the land that can be used in the case of abandonment of an undertaking to reclaim the site, or carry out any ongoing measures that may remain to be taken after the abandonment of the undertaking.
Sediment	Solid material, both mineral and organic, that has been moved by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.
Seismic	Relating to an earthquake or to other tremors of the Earth, such as those caused by large explosions.

Term	Meaning
Solubility	Quantity of solute that dissolves in a given volume and type of solvent, at given temperature and pressure, to form a saturated solution. The degree to which compounds are soluble depends on their ability, and that of the other dissolved species, to form ions and aqueous complexes in particular drainage chemistry.
Sump	An underground catch basin in a mine where water accumulates before being pumped to the surface.
Supernatant	The clear liquid that floats about the sediment or precipitate.
Surface Water	Natural water bodies such as river, streams, brooks, ponds and lakes, as well as artificial watercourses, such as irrigation, industrial and navigational canals, in direct contact with the atmosphere.
Sustainable Development	Industrial development that does not detract from the potential of the natural environment to ensure benefits for future generations.
Tailings	Material rejected from a mill after most of the recoverable valuable minerals have been extracted.
Taliks	Unfrozen zones that can exist within, below, or above permafrost layers. They are usually located below deep water bodies.
Temporary Closure	When a mine ceases operations with the intent to resume mining activities in the future. Temporary closures can last for a period of weeks, or for several years, based on economical, environmental, political, or social factors.
Thermokarst	A landscape characterized by shallow pits and depressions caused by selective thawing of ground ice, or permafrost.
Topsoil	Natural huminous layer on top of the orebody, which has to be stripped prior to start-up of ore extraction.
Traditional Knowledge	A cumulative, collective body of knowledge, experience, and values built up by a group of people through generations of living in close contact with nature. It builds upon the historic experiences of a people and adapts to social, economic, environmental, spiritual and political change.
Ultramafic	Igneous rock composed chiefly of mafic minerals, e.g. monomineralic rocks composed of 103 hypersthenes, augite, or olivine.
Waste-rock, Discard, or Spoil Material	All rock materials, except ore and tailings that are produced as a result of mining operations.
Watershed	A region or area bordered by ridges of higher ground that drains into a particular watercourse or body of water.
Water Table	The level below where the ground is saturated with water.
Weathering	Processes by which particles, rocks and minerals are altered on exposure to surface temperature and pressure, and atmospheric agents such as air, water and biological activity.

16.2 Acronyms and Abbreviations

The following are acronyms or abbreviations that may be used in this document.

Abbreviation	Description
General	
A&R	Abandonment and Reclamation
ARD	Acid Rock Drainage
Baffinland	Baffinland Iron Mines Corporation
CCME	Canadian Council of Ministers of the Environment
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EHS	Environmental Health and Safety
EIS	Environmental Impact Statement
EMMP	Environmental Mitigation and Monitoring Plans
ERP	Proposed Early Revenue Phase
ESA	Environmental Site Assessment
FEIS	Final Environmental Impact Statement
FOL	Federal Owned Lands
HADD	Harmful Alteration, Disruption, or Destruction
HTA/HTO	Hamlets, Hunters, and Trappers Association/Organization
HTO	Hunters and Trappers Organization
ICRP	Interim Closure and Reclamation Plan
IIBA	Inuit Impact and Benefits Agreement
IOL	Inuit Owned Lands
IQ	Inuit Qaujimajatuqangit (Inuit knowledge, or traditional knowledge)
KI	Key Indicator
LAC	Land Advisory Committee
LSA	Local Study Area
MASL	Metres above Sea Level
Mary River	Nuluujaak
MDAG	Mineral Development Advisory Group
MERA	Mineral and Energy Resource Assessment
ML	Metal Leaching
MOU	Memorandum of Understanding
Mt/a	Million Tonne-Per-Annum
NLCA	Nunavut Land Claims Agreement
NSA	Nunavut Settlement Area
NWT	North West Territories
PAG	Potential Acid Generating
PDA	Potential Development Area
PDW	Pre-Development Works
PLA	Production Lease Area
PPR	Personal Property Registry
RA(s)	Responsible Authority(ies)
RMO	Resource Management Officer
RSA	Regional Study Area
TC-NWPP	Transport Canada Navigable Waters Protection Program
the Project	Mary River Project
TK	Traditional Knowledge
VC	Valued Component

Abbreviation	Description
VEC	Valued Ecosystem Component
VSEC	Valued Socio-Economic Component
Federal And Territorial Acts	
AWPPA	Arctic Waters Pollution Prevention Act
BCANU	Business Corporations Act (Nunavut)
CEAA	Canadian Environmental Assessment Act
CEPA	Canadian Environmental Protection Act, 1999
CLA	Commissioner's Land Act
CNPA	Canada National Parks Act
CWA	Canada Wildlife Act
EG&GANU	Engineers, Geologists and Geophysicists Act (Nunavut)
EMAANU	Emergency Medical Aid Act (Nunavut)
EPANU	Environmental Protection Act (Nunavut)
EUANU	Explosives Use Act (Nunavut)
EXA	Explosives Act
FA	Fisheries Act
FPANU	Fire Prevention Act (Nunavut)
LSANU	Labour Standards Act (Nunavut)
MBCA	Migratory Birds Convention Act, 1994
MH&SANU	Mine Health and Safety Act (Nunavut)
NW&NSRTA	Nunavut Waters and Nunavut Surface Rights Tribunal Act
PHANU	Public Health Act (Nunavut)
TDGA	Transportation of Dangerous Goods Act, 1992
TDGANU	Transportation of Dangerous Goods Act (Nunavut)
TLA	Territorial Lands Act
TPANU	Territorial Parks Act (Nunavut)
WANU	Wildlife Act (Nunavut)
WCANU	Workers' Compensation Act (Nunavut)
Federal And Territorial Regulations	
AWPPR	Arctic Waters Pollution Prevention Regulations
CFAEAP&R	Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements
CLR	Commissioner's Land Regulations
CMR	Canada Mining Regulations
CRFR	AECB Cost Recovery Fees Regulations, 1996
CSLR	Comprehensive Study List Regulations
CSLRNU	Comprehensive Study List Regulations (Nunavut)
CSRNU	Camp Sanitation Regulations (Nunavut)
ELR	Exclusion List Regulations
EURNU	Explosives Use Regulations (Nunavut)
EXR	Explosives Regulations
FPRNU	Fire Prevention Regulations (Nunavut)
ILR	Inclusion List Regulations
LLR	Law List Regulations
MBSR	Migratory Bird Sanctuary Regulations
MH&SRNU	Mine Health and Safety Regulations (Nunavut)

Abbreviation	Description
MMER	Metal Mining Effluent Regulations
NA&PSR	Nunavut Archaeological and Palaeontological Sites Regulations
NBRLUP	North Baffin Regional Land Use Plan
NPWR	National Parks Wildlife Regulations
NWTFR	Northwest Territories Fishery Regulations
NWTWR	Northwest Territories Waters Regulations
PCSRNU	Propane Cylinder Storage Regulations (Nunavut)
SCP&RRNU	Spill Contingency Planning and Reporting Regulations (Nunavut)
TDGR	Transportation of Dangerous Goods Regulations
TDGRNU	Transportation of Dangerous Goods Regulations (Nunavut)
TDR	Territorial Dredging Regulations
TLR	Territorial Lands Regulations
TLUR	Territorial Land Use Regulations
TPRNU	Territorial Parks Regulations (Nunavut)
TQR	Territorial Quarrying Regulations
WAR	Wildlife Area Regulations
WCRNU	Workers' Compensation Regulations (Nunavut)
WSRNU	Wildlife Sanctuaries Regulations (Nunavut)
Federal Government Departments And Agencies	
AANDC	Aboriginal Affairs and Northern Development Canada
CTA	Canadian Transportation Agency
DFO	Fisheries and Oceans Canada
DOJ	Department of Justice Canada
EC	Environment Canada
INAC	Indian and Northern Affairs Canada (recently renamed Aboriginal Affairs and Northern Development Canada)
NRCan	Natural Resources Canada
PCH	Parks Canada Agency (Canadian Heritage)
TC	Transport Canada
Territorial Government Departments And Agencies	
CGSNU	Department of Community and Government Services
CLEYNU	Department of Culture, Language, Elders and Youth
DOJNU	Department of Justice
DOENU	Department of Environment
ED&TNU	Economic Development & Transportation
GN	Government of Nunavut
H&SSNU	Department of Health and Social Services
WCBNU	Workers' Compensation Board of the Northwest Territories and Nunavut
Institutions Of Public Government	
CLARC	Community Land and Resource Committee
CLO	Community Liaison Officer
IPGs	Institutions of Public Government
MVLWB	Mackenzie Valley Land and Water Board
NIRB	Nunavut Impact Review Board
NPC	Nunavut Planning Commission

Abbreviation	Description
NSRT	Nunavut Surface Rights Tribunal
NWB	Nunavut Water Board
NWMB	Nunavut Wildlife Management Board
Inuit Organizations	
DIO	Designated Inuit Organizations
MHTO	Mittimatalik Hunters and Trappers Organization
NTI	Nunavut Tunngavik Incorporated
QIA	Qikiqtani Inuit Association
RIA	Regional Inuit Association
RWO	Regional Wildlife Organization

17 REFERENCES

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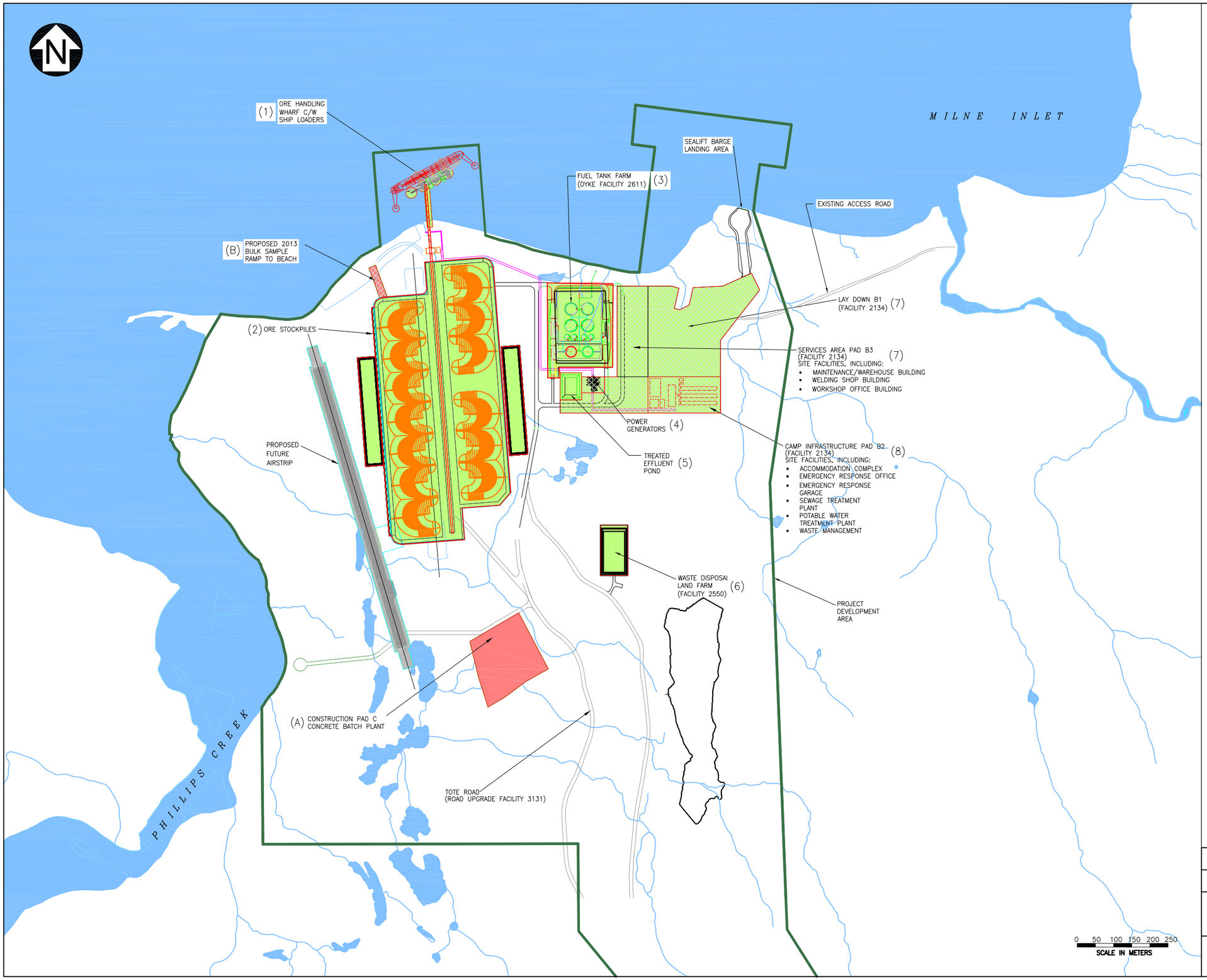
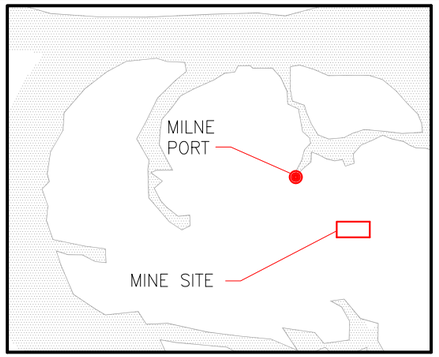
Appendix A -
Preliminary Mine Closure and Reclamation Plan Drawings





RECLAMATION AREA - AFTER CONSTRUCTION

AREA ID	m²
A	31,597
B	1,835
TOTAL	**33,432**

RECLAMATION AREA - AFTER OPERATION

AREA ID	m²
1	4600
2	267,770
3	42,630
4	2,780
5	4,450
6	10,500
7	116,730
8	20,000
TOTAL	**451,460**

LEGEND:

( ) RECLAMATION AREA ID

RECLAMATION AREA - AFTER CONSTRUCTION

RECLAMATION AREA - AFTER OPERATION

BAFFINALND IRON MINES CORPORATION

MARY RIVER PROJECT

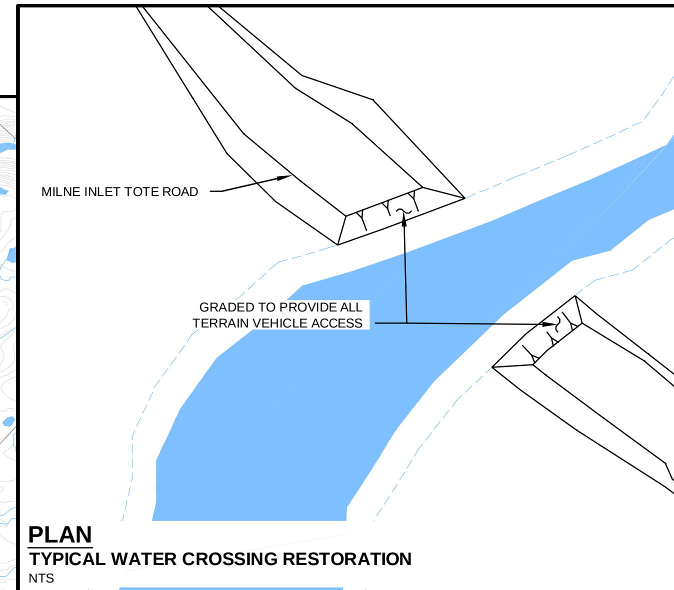
AREAS OF RECLAMATION - MILNE PORT LAYOUT

Baffinland

REF NO. BL_ARP_CAD_001

FIGURE NO. E349000-2000-07-014-0001

REV 0



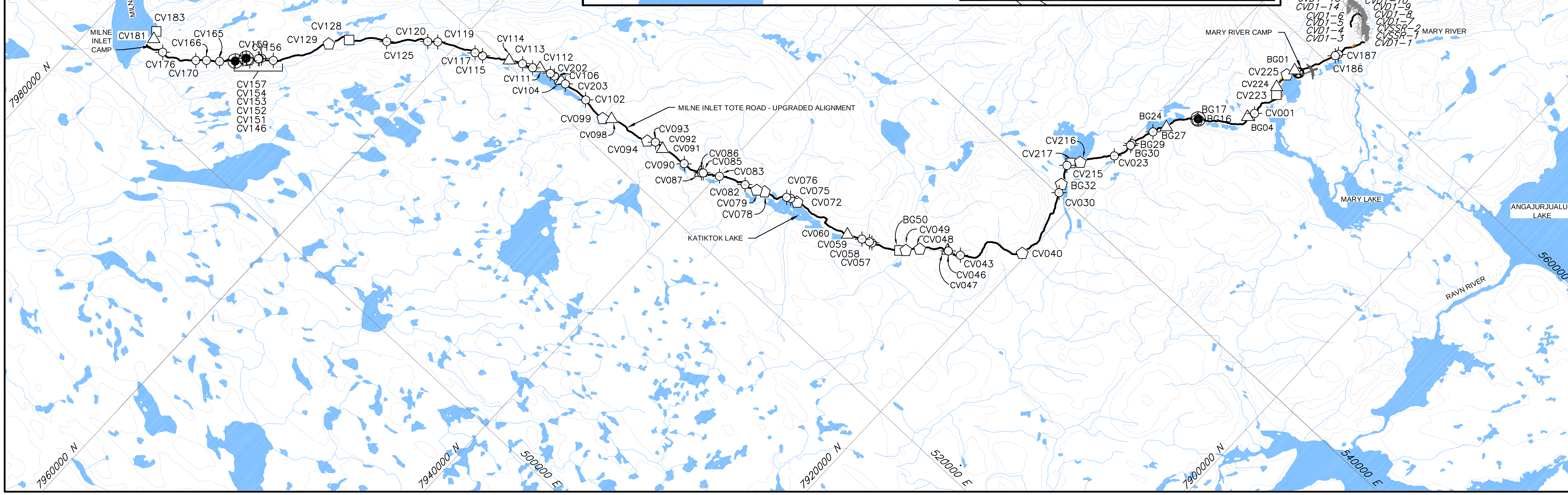
PLAN

TYPICAL WATER CROSSING RESTORATION

NTS

ROAD EMBANKMENT - LOCATED AT WATER CROSSINGS

- REMOVE ROAD EMBANKMENT FILL FROM WITHIN THE HIGH WATER LIMITS OF THE WATER BODY.
- RELOCATE EXCAVATED MATERIAL FROM THE WATER CROSSING LOCATION AND PLACE IN AREAS LOCATED MORE THAN 30 METRES FROM ANY WATER BODY. THIS MATERIAL COULD BE PLACED WITHIN NEARBY BORROW AREAS OR ON NEARBY ROAD EMBANKMENT TO BE USED FOR STABILIZATION. THE SURFACE OF THIS PLACED MATERIAL WILL BE TRACK WALKED TO PROVIDE NOMINAL COMPACTION.
- STREAMBED AND BANKS WILL BE RESTORED AND STABILIZED.
- REMOVED CULVERTS WILL BE FLATTENED AND TRANSPORTED TO MILNE INLET FOR REMOVAL FROM THE SITE FOR DISPOSAL OR RECYCLING IN SOUTHERN CANADA.
- PRIOR TO THE COMMENCEMENT OF THIS WORK A LETTER OF ADVICE WILL BE OBTAINED FROM THE DEPARTMENT OF FISHERIES AND OCEANS. ALL WORK WILL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS LETTER.



LEGEND:

WATER	EXTRA SMALL CROSSING
MILNE INLET TOTE ROAD - UPDATED ALIGNMENT	SMALL CROSSING
AIRSTRIP	MEDIUM CROSSING
EXPLORATION CAMP LOCATION	LARGE CROSSING
CULVERT LOCATION	EXTRA LARGE CROSSING

NOTES:

1. COORDINATE GRID IS UTM (NAD83) ZONE 17.
2. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES, (2004). ALL RIGHTS RESERVED.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL VARIES.
4. MILNE INLET TOTE ROAD ALIGNMENT SURVEY PROVIDED BY GENIVAR (SURVEY COMPLETED IN JULY 2008).
5. NOT FOR CONSTRUCTION.

SCALE A 3 1.5 0 5 10 15 km

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

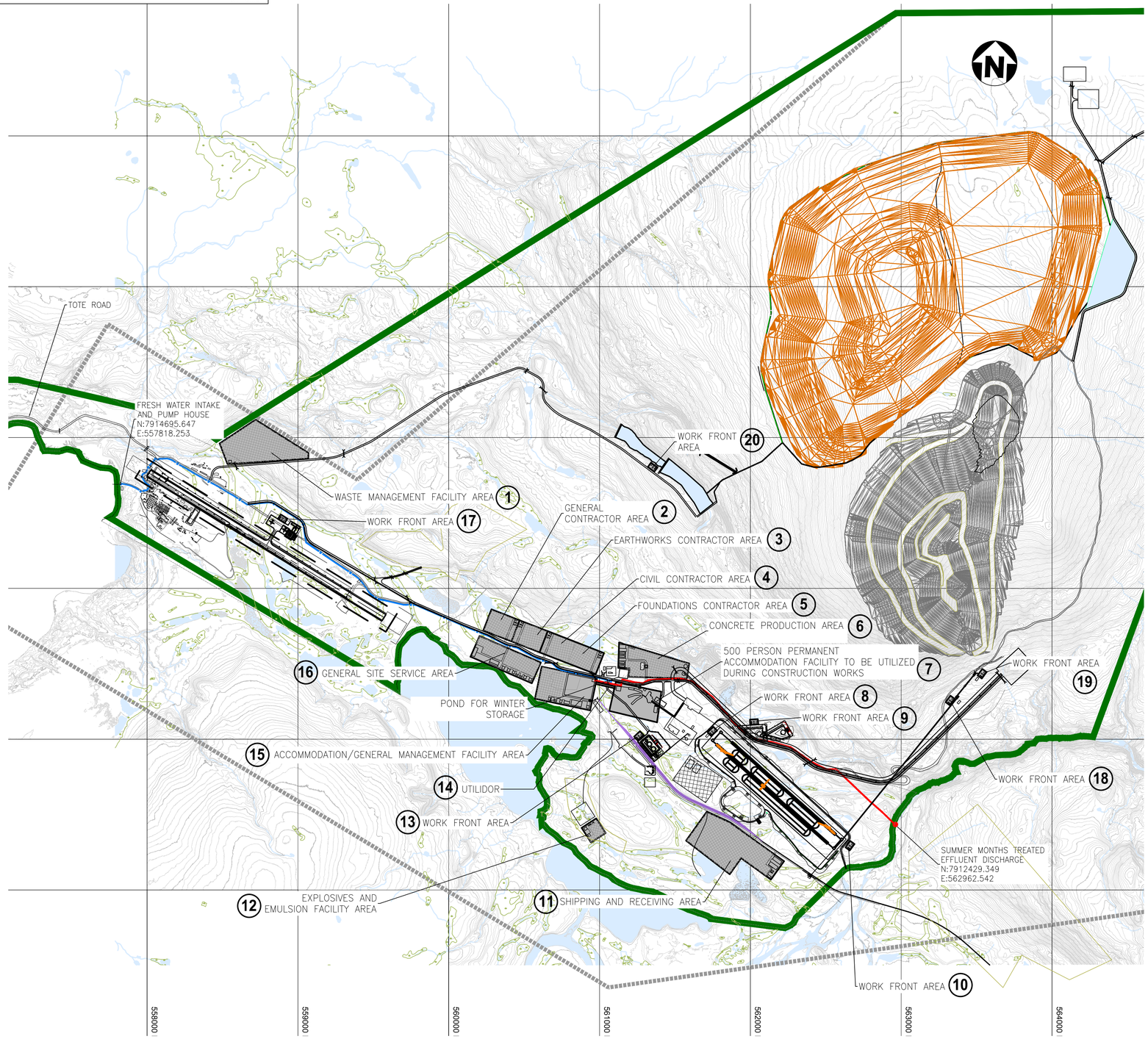
MILNE INLET TOTE ROAD
WATER CROSSING RESTORATION

Knight Piésold CONSULTING

P/A NO.	REF NO.
NB102-181/29	1

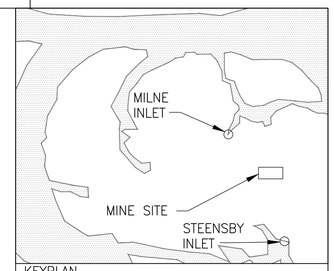
FIGURE 8.10 REV 0

DWG. NO. H337697-4210-07-012-0001



RECLAMATION AREA - AFTER CONSTRUCTION

AREA	m²
1	102,610
2	30,000
3	30,000
4	30,000
5	30,000
6	71,540
7	63,380
8	1,860
9	1,860
10	1,860
11	133,540
12	132,30
13	1,860
14	2,800
15	81,160
16	66,400
17	1,860
18	1,860
19	1,860
20	1,860
TOTAL	**669,540**



KEYPLAN

LEGENDS:

- RECLAMATION AREA AFTER CONSTRUCTION
- WATER
- WETLAND
- CONSTRUCTION WORKS LAYDOWN AREA
- RIVER/STREAM/DRAINAGE
- RAILWAY ALIGNMENT
- TREATED EFFLUENT PIPELINE
- FRESHWATER PIPELINE
- ACCESS ROAD
- POTENTIAL DEVELOPMENT AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND

NOTES:

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 10 METRES.
4. MINE SITE AS-CONSTRUCTED INFORMATION PROVIDED BY GENIVAR.
5. PROPOSED PERMANENT WORKS LAYOUT SHOWN FOR REFERENCE PURPOSES ONLY. DO NOT USE FOR CONSTRUCTION.

SCALE 300 150 0 500 1000 1500 mm

SCALE 1:15,000

DRAWING NO.	DRAWING TITLE
REFERENCE DRAWINGS	

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
A	ISSUED FOR INFORMATION				
REVISIONS					

REV.	ISSUE FOR	AUTH. BY	DATE
A	ENVIRONMENTAL PERMITTING		
ISSUE AUTHORIZATION			

HATCH™

DESIGNED BY A. GRZEGORCZYK DATE	DRAWN BY M. LU DATE
CHECKED BY T. HO DATE	DISCIP. ENGR. J. BINNS DATE
PROJ. DES. COORD. DATE	PROJ. ENGR. DATE
PROJ. MGR. DATE	

Baffinland Iron Mines Corporation

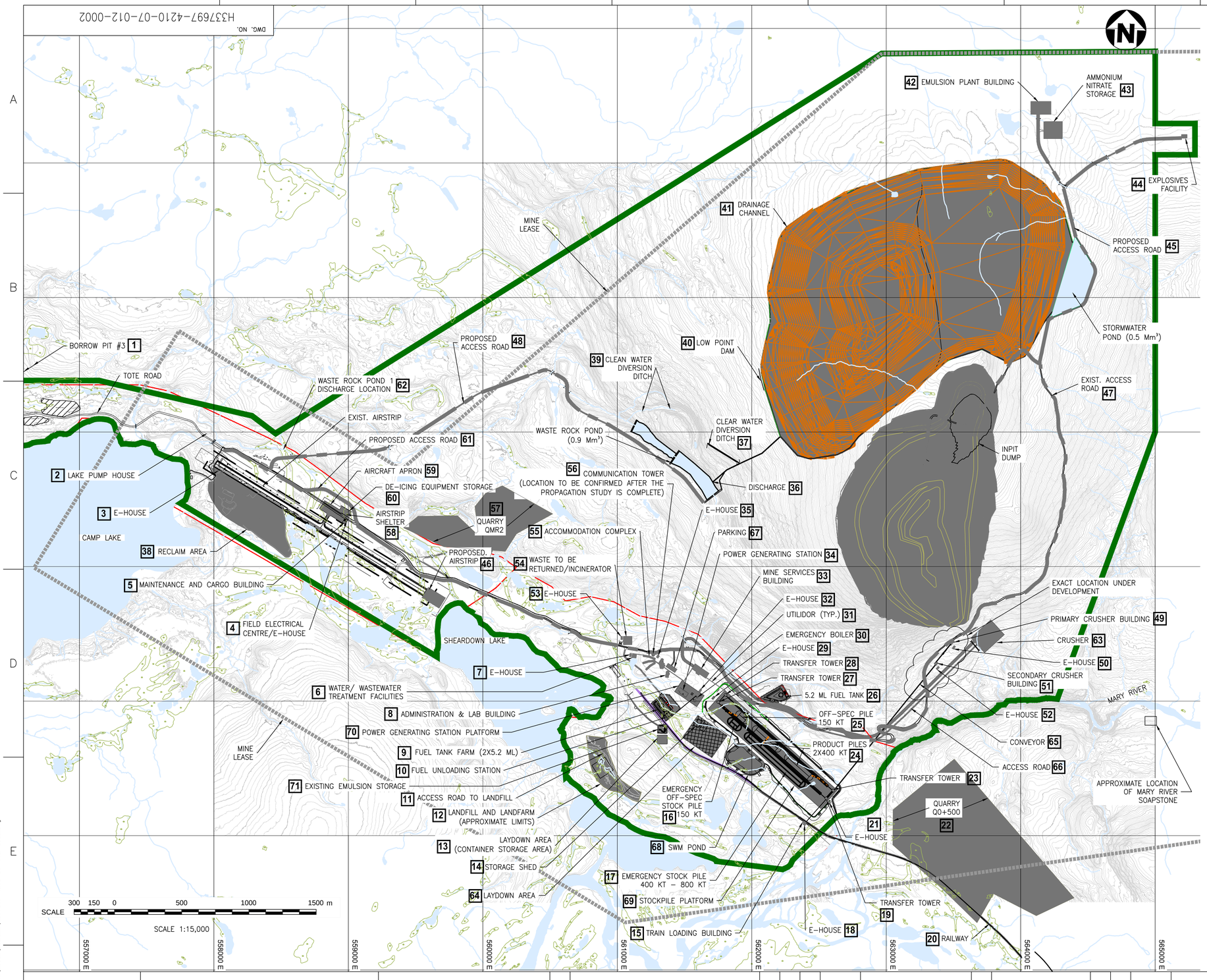
MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
MINE SITE CONSTRUCTION PHASE

SCALE	DWG. NO.	REV.
AS NOTED	H337697-4210-07-012-0001	A

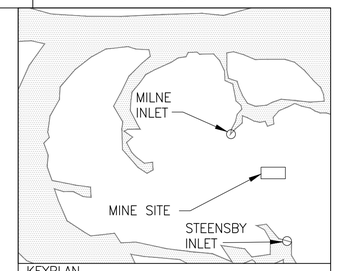
Oct 31, 2011 - 4:03pm Login name: fun51283 Layout: MINE SITE
Drawing Name: P:\289980 - Mary River\CAD\Civil\Roads\Reclaim\H337697-4210-07-012-0001 - Standard\H337697-4210-07-012-0001.dwg

DWG. NO. H337697-4210-07-012-0002



RECLAMATION AREA - AFTER OPERATION

AREA	m²
1	38,850
2	20
3	290
4	40
5	230
6	870
7	290
8	940
9	24,190
10	600
11	4,900
12	76,300
13	4,420
14	4,320
15	370
16	5,760
17	31,450
18	140
19	200
20	26,750
21	140
22	817,690
23	200
24	28,000
25	5,760
26	16,340
27	200
28	200
29	290
30	380
31	2,000
32	290
33	5,750
34	2,550
35	250
36	700
37	800
38	175,780
39	2,400
40	3,300
41	5,080,000
42	14,260
43	17,380
44	1,020
45	27,900
46	13,500
47	56,800
48	34,560
49	500
50	290
51	350
52	290
53	290
54	870
55	5,740
56	220
57	260,310
58	510
59	14,620
60	890
61	41,500
62	500



KEYPLAN

LEGENDS:

- RECLAMATION AREA AFTER OPERATION
- WATER
- EXISTING BORROW AREA
- TEMPORARY LAYDOWN AREA
- ACCESS ROAD
- RIVER/STREAM/DRAINAGE
- POTENTIAL DEVELOPMENT AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- COMMUNICATION TOWER

NOTES:

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL IS 2 METRES.
4. MINE SITE INFRASTRUCTURE IS BASED ON EIS AND AMEC DRAWINGS ADDITIONAL DETAILS PROVIDED IN DRAWINGS : A1-164512-6120-121-0100 A1-165926-6000-121-GAD-0100 A1-159952-6020-121-0200
5. MATERIAL HANDLING AND PROCESSING LAYOUT WAS REVISED BASED ON AKER KVAERNER DRAWING DWG-2000-M-0003, REV C.
6. MINE SITE AS-CONSTRUCTED INFORMATION PROVIDED BY GENIVAR, SURVEYED AS OF JAN. 2009.

AREA	m²
63	30,000
64	48,500
65	3,460
66	58,300
67	3,400
68	43,600
69	133,670
70	16,800
71	6,570
TOTAL	**7,200,570**

DRAWING NO.	DRAWING TITLE

REFERENCE DRAWINGS

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
A	ISSUED FOR INFORMATION				

REVISIONS

REV.	ISSUE FOR	AUTH. BY	DATE
A	ENVIRONMENTAL PERMITTING		

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY A. GREGORCZYK DATE	DRAWN BY M. LU DATE
CHECKED BY T. HO DATE	DISCIP. ENGR. J. BINNS DATE
PROJ. DES. COORD. DATE	PROJ. ENGR. DATE
PROJ. MGR. DATE	

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN MINE SITE FINAL CLOSURE PHASE

SCALE	DWG. NO.	REV.
OR AS NOTED	H337697-4210-07-012-0002	A

Nov 03 , 2011 , 9:03am Login name: fun51283
Drawing Name: P:\289980 - Mary River\CAD\Civil\Roads\Reclaim\H337697-4210-07-012-0002.dwg
Layout: Reclaim

DWG. NO. H337697-2000-07-012-0001

MINE SITE
BR-MN-1 AND BR-MN-2
Q0+500
Q4+100
Q7+500
Q8+500
Q10+250
Q14+500
Q18+100
Q22+500
Q25+500
Q28+400
BR-25-1
AREA 1
END OF AREA 1
START 0F AREA 2
MARY RIVER
MARY LAKE
RAVN RIVER
ANGAJURJUALUK LAKE
RAVN RIVER BRIDGE
BR-37-1
RAVN RIVER AREA 200 PERSON CAMP
Q35+000
Q35+500
Q38+700
Q42+000
Q44+300
Q44+000
Q45+000
Q45+800
45+450.15
Q48+000
Q50+000
IPARQAK FORD
FIGURE 3-2.5
FIGURE 3-2.6
AREA 2
EXISTING MID-RAIL DRILL CAMP
EXPANDED MID-RAIL AREA 200 PERSON CAMP
Q53+700
Q56+750
Q61+400
Q64+400
Q67+200
SHARED OR INTEGRAL ACCESS ROAD (WITH EXCEPTIONS)
PROPOSED RAILWAY ALIGNMENT
Q71+000
Q74+200
Q77+200
Q79+600
Q82+700
Q85+200
Q89+600
QA11
QA12
QA13
Q95+400
Q96+100
Q96+700
BR-95-1
QA1
QA2
QTR6
QA3
QA4
QA14
TUNNEL # 2
QTR7
QA5
Q110+200
QA7
QTR8
QA6
Q114+600
QTR9
Q116+800
QA8
QTR4A
SOUTH COCKBURN CAMP (400 PERSON)
QA9
Q127+800
Q128+000
Q131+100
Q133+500
QA10
BR-138-1
Q139+600
QS2
STEENSBY PORT
PINGIMAJUQ RIDGE
COCKBURN RIVER
NORTH COCKBURN LAKE
COCKBURN LAKE BRIDGE
COCKBURN TUNNELS AREA 100 PERSON CAMP
SOUTH COCKBURN LAKE
CONSTRUCTION ACCESS ROAD
NINA BANG LAKE
STEENSBY INLET
FIGURE 3-2.7
FIGURE 3-2.8
FIGURE 3-2.9

7905000 N
7890000 N
7875000 N
7860000 N
7845000 N
7830000 N
7815000 N
7800000 N
570000 E
585000 E
600000 E
615000 E

TUNNEL CONSTRUCTION

TUNNEL #1	APR YEAR 2 - APR YEAR3
TUNNEL #2	APR-AUG YEAR 2

MAJOR BRIDGE CONSTRUCTION

BR-MN-1	
ABUTMENTS, FOUNDATIONS	SEP-NOV YEAR 1
PIERS, PILES, MISC. STEEL WORKS	APR-JUN YEAR2
BR-MN-2	
ABUTMENTS, FOUNDATIONS	OCT-DEC YEAR 1
PIERS, PILES, MISC. STEEL WORKS	JUN-SEP YEAR2
BR-25-1	
ABUTMENTS, FOUNDATIONS	MAY-JUN YEAR 2
PIERS, PILES, MISC. STEEL WORKS	SEP-NOV YEAR 2
BR-37-1	
ABUTMENTS, FOUNDATIONS	JUN-JUL YEAR 2
PIERS, PILES, MISC. STEEL WORKS	APR-OCT YEAR 3
BR-95-1	
ABUTMENTS, FOUNDATIONS	JUN-JUL YEAR 2
PIERS, PILES, MISC. STEEL WORKS	NOV-SEP YEAR 3
BR-138-1	
ABUTMENTS, FOUNDATIONS	OCT-NOV YEAR 1
PIERS, PILES, MISC. STEEL WORKS	APR-NOV YEAR 2
SIGNALING WORKS (STARTING FROM THE PORT)	JUL-NOV YEAR 4
TRACK LAYING	APR-SEP YEAR 4

YEAR	YEAR 1	YEAR 2	YEAR 3	YEAR 4
CONSTRUCTION ACCESS ROAD				
RAILWAY EMBANKMENT				

LEGEND:

- WATER
- RIVER/STREAM/DRAINAGE
- POTENTIAL QUARRY
- SNOWMOBILE CROSSING LOCATIONS
- PROPOSED RAILWAY CONSTRUCTION CAMP LOCATION
- INUIT OWNED LAND - SURFACE ONLY EXCLUDING MINERALS
- INUIT OWNED LAND - SURFACE AND SUBSURFACE INCLUDING MINERALS

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 VARIES.
4. STREAM CROSSINGS ARE SHOWN ON PLAN AND PROFILE DRAWINGS BY CANARAIL.

SCALE 350 175 0 700 1050 1400 m
SCALE 1:175,000

RECLAMATION AREA - AFTER OPERATION

RAILWAY

AREA	m²
1	260,450
2	1,242,170
TOTAL	1,502,620

ACCESS ROAD

AREA	m²
1	269,440
2	1,247,730
TOTAL	1,517,170

DRAWING NO.	DRAWING TITLE		DESCRIPTION	CHK'D	APP'D	DATE
		A	ISSUED FOR INFORMATION			

REFERENCE DRAWINGS | REVISIONS

REV.	ISSUE FOR	AUTH. BY	DATE

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY / DATE	DRAWN BY M.L. / DATE
CHECKED BY / DATE	DISCIP. ENGR. / DATE
PROJ. DES. COORD. / DATE	PROJ. ENGR. / DATE
PROJ. MGR. / DATE	

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

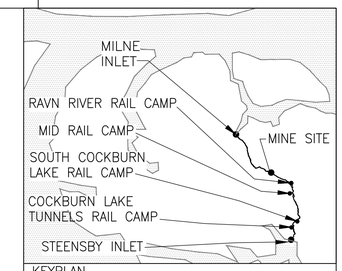
PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
RAILWAY ALIGNMENT

SCALE OR AS NOTED | DWG. NO. H337697-2000-07-012-0001 | REV. A

DWG. NO. H337697-7000-07-012-0002

RECLAMATION AREA - AFTER CONSTRUCTION

AREA	m²
1	80
2	1,300
3	58,160
4	56,240
5	7,740
6	320
7	70
8	250
9	70
10	130
11	12,000
12	100
13	1,300
14	70
15	15,210
TOTAL	**153,040**



KEYPLAN

595500 E

595000 E

7895500 N

7894000 N

1 FRESH WATER INTAKE AND PUMP HOUSE N:7895658.80 E:594610.99

2 FRESHWATER STORAGE TANK AND POTABLE WATER TREATMENT PLANT

3 EXPLOSIVES MAGAZINE

4 AVAILABLE LAYDOWN AREA APPROX. 56200m²

5 CAMP ACCESS ROAD

6 GENERAL COMPLEX/SITE SERVICES MAINTENANCE AND STORAGE

7 ERT OFFICE/DEBRIEF /COMMAND CENTER

8 ERT FACILITY

9 WASH CAR COMPLEX

10 LUNCHROOM FACILITY

11 200 PERSON CONSTRUCTION CAMP

12 INCINERATOR BUILDING

13 WASTE MANAGEMENT FACILITY

14 POWER GENERATOR FACILITY

15 ACCESS ROAD

CULVERT CROSSING

W.L 164.7 ± | W.L 148.7 ± | W.L 146.9 ± | W.L 146.2 ± | W.L 148.0 ± | W.L 149.4 ± | W.L 144.3 ± | W.L 138.2 ± | W.L 135.5 ± | W.L 139.7 ± | W.L 139.4 ± | W.L 133.9 ± | W.L 134.3 ± | W.L 132.6 ± | W.L 133.6 ± | W.L 139.5 ±

LEGENDS:

- RECLAMATION AREA AFTER CONSTRUCTION
- WATER
- WETLAND
- PRE-DEVELOPMENT LAYDOWN AREA
- RIVER/STREAM/DRAINAGE
- FUTURE RAILWAY ALIGNMENT

NOTE(S):

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

SCALE 100 50 0 100 200 300 400 500 m

SCALE 1:5,000

DRAWING NO.	DRAWING TITLE
REFERENCE DRAWINGS	

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
A	ISSUED FOR INFORMATION				
REVISIONS					

REV.	ISSUE FOR	AUTH. BY	DATE
A	ENVIRONMENTAL PERMITTING		
ISSUE AUTHORIZATION			

HATCH

DESIGNED BY A. GRZEGORCZYK DATE	DRAWN BY D. FUNG DATE
CHECKED BY T. HO DATE	DISCIP. ENGR. J. BINNS DATE
PROJ. DES. COORD. DATE	PROJ. ENGR. DATE
PROJ. MGR. DATE	

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
RAVN RIVER RAIL CAMP

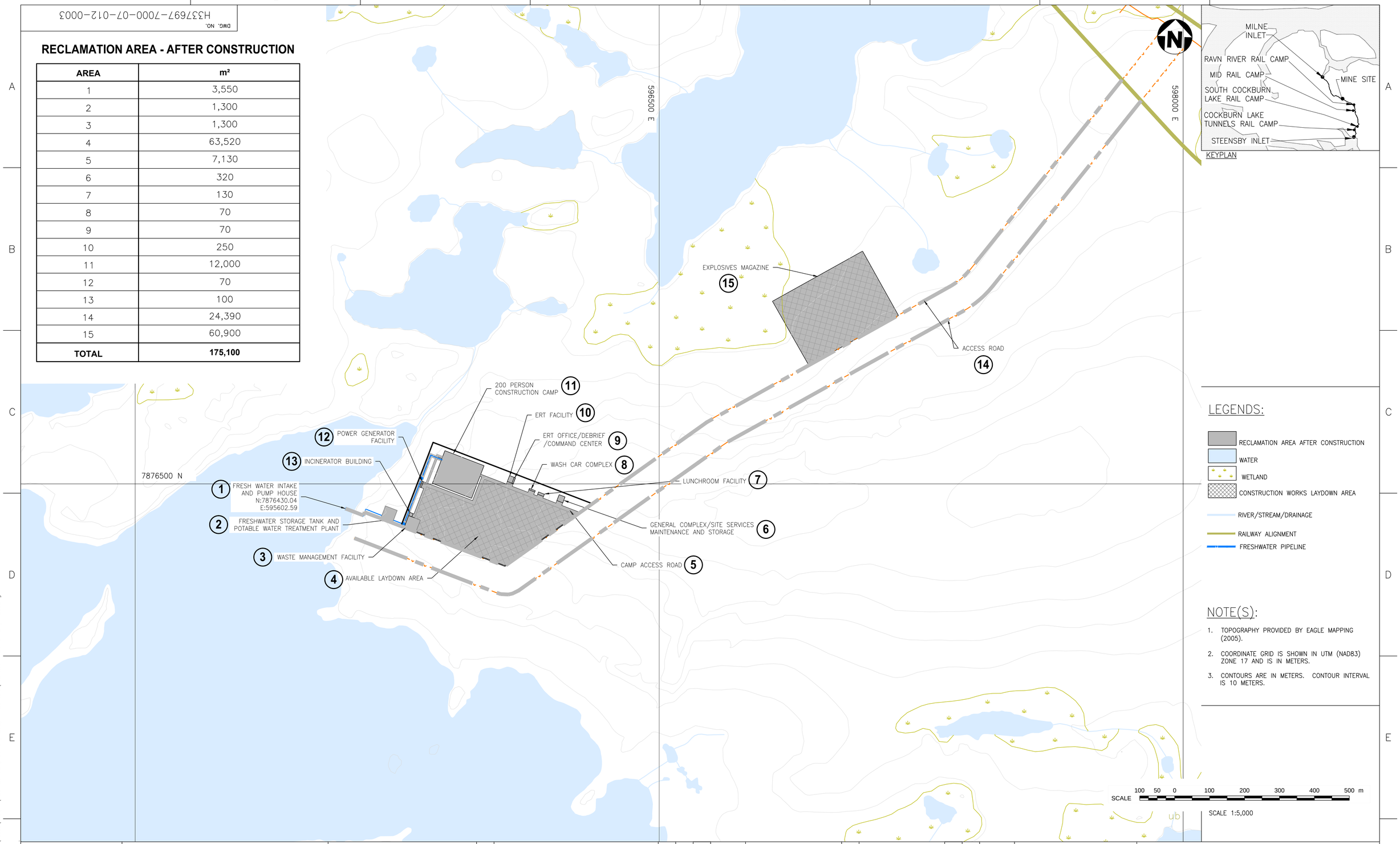
SCALE	DWG. NO.	REV.
OR AS NOTED	H337697-7000-07-012-0002	A

Oct 28, 2011 - 2:44pm
Drawing Name: P:\289980 - Mary River\CAD\Civil\Roads\Reclaim\H337697-7000-07-012-0002 - Standard\H337697-7000-07-012-0002.dwg
Login name: lun51283
Layout: RAVN RIVER CAMP

DWG. NO. H337697-7000-07-012-0003

RECLAMATION AREA - AFTER CONSTRUCTION

AREA	m²
1	3,550
2	1,300
3	1,300
4	63,520
5	7,130
6	320
7	130
8	70
9	70
10	250
11	12,000
12	70
13	100
14	24,390
15	60,900
TOTAL	**175,100**



Oct 28, 2011 - 3:46pm Login name: fun51283 Layout: Mid Roll Camp
Drawing Name: P:\289980 - Mary River\CAD\Civil\Roads\Reclaim\H337697-7000-07-012-0003 - Standard\H337697-7000-07-012-0003.dwg

DRAWING NO.	DRAWING TITLE
REFERENCE DRAWINGS	

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
A	ISSUED FOR INFORMATION				
REVISIONS					

REV.	ISSUE FOR	AUTH. BY	DATE
A	ENVIRONMENTAL PERMITTING		
ISSUE AUTHORIZATION			

HATCH™

Baffinland Iron Mines Corporation

DESIGNED BY A. GRZEGORCZYK DATE	DRAWN BY Y. HUANG DATE
CHECKED BY T. HO DATE	DISCIP. ENGR. J. BINNS DATE
PROJ. DES. COORD. DATE	PROJ. ENGR. DATE
PROJ. MGR. DATE	

MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN MID RAIL CAMP

SCALE	DWG. NO.	REV.
OR AS NOTED	H337697-7000-07-012-0003	A

DWG. NO. H337697-7000-07-012-0004

14 FRESH WATER INTAKE AND PUMP HOUSE
N:7820563.84
E:597661.01

9 FRESHWATER STORAGE TANK AND POTABLE WATER TREATMENT PLANT

8 POWER GENERATOR FACILITY

7 LUNCHROOM FACILITY

6 WASH CAR COMPLEX

5 INCINERATOR BUILDING

4 WASTE MANAGEMENT FACILITY

2 AVAILABLE LAYDOWN AREA

1 EXPLOSIVES MAGAZINE

10 500 PERSON CONSTRUCTION CAMP

11 ERT FACILITY

12 ERT OFFICE/DEBRIEF /COMMAND CENTER

13 GENERAL COMPLEX/SITE SERVICES MAINTENANCE AND STORAGE

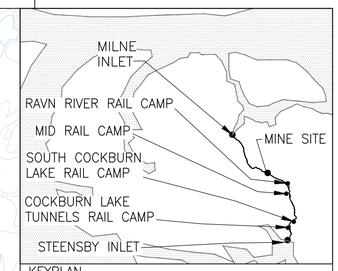
3 CAMP ACCESS ROAD

7820000 N

7819000 N

597000

598000



KEYPLAN

RECLAMATION AREA - AFTER CONSTRUCTION

AREA	m²
1	32,590
2	71,540
3	6,940
4	1,300
5	100
6	70
7	130
8	70
9	1,300
10	25,200
11	250
12	70
13	320
14	6,890
TOTAL	**146,770**

LEGENDS:

- RECLAMATION AREA AFTER CONSTRUCTION
- WATER
- WETLAND
- CONSTRUCTION WORKS LAYDOWN AREA
- RIVER/STREAM/DRAINAGE
- RAILWAY ALIGNMENT
- FRESHWATER PIPELINE

NOTE(S):

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

SCALE 100 50 0 100 200 300 400 500 m

SCALE 1:5,000

DRAWING NO.	DRAWING TITLE
REFERENCE DRAWINGS	

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
A	ISSUED FOR INFORMATION				
REVISIONS					

REV.	ISSUE FOR	AUTH. BY	DATE
A	ENVIRONMENTAL PERMITTING		
ISSUE AUTHORIZATION			

HATCH™

DESIGNED BY A. GRZEGORCZYK DATE	DRAWN BY D. FUNG DATE
CHECKED BY T. HO DATE	DISCIP. ENGR. J. BINNS DATE
PROJ. DES. COORD. DATE	PROJ. ENGR. DATE
PROJ. MGR. DATE	

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
SOUTH COCKBURN LAKE RAIL CAMP

SCALE	DWG. NO.	REV.
OR AS NOTED	H337697-7000-07-012-0004	A

Oct 28, 2011 - 4:04pm Login name: tun51283
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Layout: SOUTH COCKBURN LAKE CAMP

DWG. NO. H337697-4510-07-012-0001

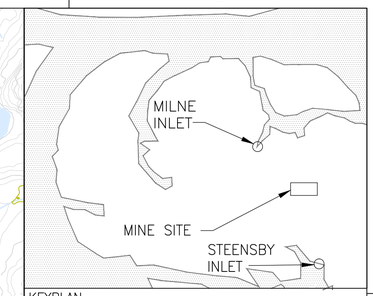
593000 E
594500 E
596000 E
597500 E
599000 E

FRESH WATER INTAKE AND PUMP HOUSE
N:7804826.580
E:596600.563

1 CONCRETE PRODUCTION AREA
2 GENERAL SITE SERVICE AREA
3 ACCOMMODATION/GENERAL MANAGEMENT FACILITY AREA
4 WORK FRONT AREA
5 WASTE MANAGEMENT FACILITY
6 WORK FRONT AREA
7 RAIL CONTRACTOR AREA
8 SHIPPING AND RECEIVING AREA
9 GENERAL CONTRACTOR AREA
10 EARTHWORKS CONTRACTOR AREA
11 FOUNDATIONS CONTRACTOR AREA
12 CIVIL CONTRACTOR AREA
13 WORK FRONT AREA
14 CIVIL AIRSTRIP CONTRACTOR AREA
15 WORK FRONT AREA
16 EXPLOSIVES AND EMULSION FACILITY AREA
17 MARINE CONTRACTOR AREA
18 WORK FRONT AREA
19 WORK FRONT AREA
20 2 x 150 MAN FLOATING CAMP
21 1 FUEL BARGE

TREATED EFFLUENT DISCHARGE
N:7801463.153
E:593427.722

3 Km LAKE



KEYPLAN

RECLAMATION AREA - AFTER CONSTRUCTION

AREA	m²
1	127,420
2	76,330
3	105,030
4	1,860
5	15,540
6	1,860
7	353,740
8	120,640
9	24,000
10	26,000
11	26,000
12	26,000
13	1,860
14	19,980
15	1,860
16	13,230
17	20,000
18	1,860
19	1,860
20	7,140
21	3,570
TOTAL	**975,780**

LEGENDS:

- RECLAMATION AREA AFTER CONSTRUCTION
- WATER
- WETLAND
- CONSTRUCTION WORKS LAYDOWN AREAS
- FORESHORE AREA
- RIVER/STREAM/DRAINAGE
- POTENTIAL DEVELOPMENT AREA
- FUTURE RAILWAY ALIGNMENT
- ACCESS ROAD
- TREATED EFFLUENT PIPELINE
- FRESHWATER PIPELINE

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.
4. AS-CONSTRUCTED INFORMATION PROVIDED BY GENIVAR IN 2008.
5. PROPOSED PERMANENT WORKS LAYOUT SHOWN FOR REFERENCE PURPOSES ONLY. DO NOT USE FOR CONSTRUCTION.

SCALE 300 150 0 500 1000 1500 m

SCALE 1:15,000

Oct 28, 2011 - 4:39pm Login name: fun51283 Layout: STEENSBY INLET
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DRAWING NO.	DRAWING TITLE
REFERENCE DRAWINGS	

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
A	ISSUED FOR INFORMATION				
REVISIONS					

REV.	ISSUE FOR	AUTH. BY	DATE
A	ENVIRONMENTAL PERMITTING		
ISSUE AUTHORIZATION			

HATCH™

DESIGNED BY A. GRZEGORCZYK DATE	DRAWN BY D. FUNG DATE
CHECKED BY T. HO DATE	DISCIP. ENGR. J. BINNS DATE
PROJ. DES. COORD. DATE	PROJ. ENGR. DATE
PROJ. MGR. DATE	

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
STEENSBY PORT CONSTRUCTION PHASE

SCALE	DWG. NO.	REV.
OR AS NOTED	H337697-4510-07-012-0001	A

DWG. NO. H337697-4510-07-012-0002

m

594500 E | 596000 E | 597500 E | 599000 E

7803500 N | 7802000 N | 7800500 N | 7799000 N | 7797500 N

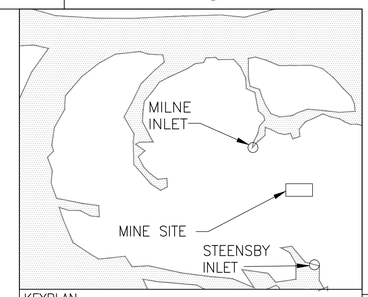
55 LAKE PUMP HOUSE
56 E-HOUSE
54 E-HOUSE
53 ACCOMMODATION BUILDING
52 UTILDORS
51 RAIL & LIGHT VEHICLE MAINTENANCE BUILDING
50 SEWAGE TREATMENT BUILDING
49 CONTAINER STORAGE & VEHICLE PARKING
48 E-HOUSE
47 E-HOUSE
46 INSPECTION SHED
45 ACCESS ROAD
44 SOLID WASTE DISPOSAL & INCINERATOR SYSTEM
43 POWER PLANT BUILDING
42 UNHEATED STORAGE BUILDING
41 STORAGE SHEDS
40 PERMANENT LAYDOWN AREA
39 RAILWAY SPUR TRACKS
81 RAILWAY
38 TWIN ROTARY RAIL CAR DUMPER c/w LCR (6000MTPH)
37 UNIT SUBSTATION
36 RAIL RECLAIM CONVEYOR
35 SCREEN FEED BIN CONVEYOR
34 UNIT SUBSTATION
33 TRANSFER HOUSE
32 BARGE LOCATION
31 PRIMARY SCREENING STATION
30 OVERSIZE LUMP CONVEYOR
29 FINE STOCK PILE
28 FINES YARD CONVEYOR
27 FINES STACKER & TRIPPER
26 LUMP STOCK PILE
25 LUMP PRODUCT RECLAIMER
24 PORT SURGE BIN BUILDING
23 ORE DOCK OPERATIONS FACILITY
22 E-HOUSE
21 ORE LOADING DOCK
20 DRIVE HOUSE
1 FUEL STORAGE
2 STORM WATER MANAGEMENT POND
3 OPTIONAL RAILWAY SPUR
4 WASTE TRANSFER STATION
5 PERMANENT LAYOUT AREA
6 TERTIARY CRUSHER PRODUCT CONVEYOR
7 FINE CONVEYOR
8 LUMP CONVEYOR
9 TRANSFER HOUSE
10 TERTIARY CRUSHING STATION
11 TRANSFER HOUSE
12 LUMP STACKER/RECLAIMER & TRIPPER
13 ORE STOCKPILE STORM WATER POND
14 LUMP PRODUCT YARD CONVEYOR
15 LUMP STOCK PILE
16 UNIT SUBSTATION
17 SHIP LOADER FEED CONVEYOR
18 TRANSFER HOUSE
19 SHIP LOADER FEED CONVEYOR
71 AMMONIUM NITRATE STORAGE
80 EFFLUENT PIPELINE
57 LANDFILL
79 FRESHWATER PIPELINE
58 MOW MATERIAL STORAGE
ON HOLD FOR PROPAGATION STUDY
COMMUNICATION TOWER
59 E-HOUSE
60 FIRE PUMP HOUSE BUILDING
61 ADMINISTRATION, LAB & FIRST AID BUILDING
62 POTABLE WATER TREATMENT BUILDING
63 E-HOUSE
64 EMERGENCY BOILER HOUSE
65 E-HOUSE
66 E-HOUSE
67 AIR STRIP SHELTER
68 FIELD ELECTRICAL CENTRE
69 CARGO STORAGE BLD
70 DEICING EQUIPMENT STORAGE
RUNWAY
AIRSTRIP
78 HELICOPTER PAD
72 RAILWAY TO FREIGHT DOCK
73 UNIT SUBSTATION
ACCESS ROAD
74 PROPOSED FREIGHT DOCK & FUEL UNLOADING
77 ACCESS ROAD
76 DOCK OFFICE BUILDING
75 DOCK OFFICE BUILDING

STEENSBY INLET

RECLAMATION AREA - AFTER OPERATION

AREA	m²
1	100,430
2	25,320
3	8,100
4	26,010
5	130,440
6	430
7	300
8	420
9	490
10	580
11	350
12	360
13	49,330
14	3,150
15	74,220
16	140
17	1,200
18	410
19	1,110
20	750
21	15,440
22	140
23	220
24	220
25	360
26	29,670
27	220
28	1,250
29	52,050
30	460
31	1,800
32	24,000
33	240
34	100
35	22,500
36	830
37	100
38	1,280
39	16,000
40	198,780
41	24,510

AREA	m²
42	1,080
43	3,740
44	2,500
45	89,100
46	3,500
47	130
48	60
49	5,300
50	480
51	8,880
52	2,080
53	5,260
54	140
55	40
56	40
57	10,000
58	2,670
59	140
60	290
61	900
62	290
63	140
64	130
65	140
66	40
67	230
68	360
69	540
70	520
71	15,630
72	29,030
73	220
74	2,200
75	610
76	220
77	7,650
78	1,430
79	6,260
80	24,420
81	114,380
TOTAL	**1,154,480**



KEYPLAN

LEGENDS:

- RECLAIMED AREA AFTER OPERATION
- WATER
- WETLAND
- CONSTRUCTION WORKS LAYDOWN AREAS
- FORESHORE AREA
- RIVER/STREAM/DRAINAGE
- POTENTIAL DEVELOPMENT AREA
- FUTURE RAILWAY ALIGNMENT
- ACCESS ROAD
- TREATED EFFLUENT PIPELINE
- FRESHWATER PIPELINE

NOTE(S):

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SCALE 300 150 0 500 1000 1500 m

SCALE 1:15,000

ISSUED FOR USE

DRAWING NO.	DRAWING TITLE

REFERENCE DRAWINGS

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
B	PDA BOUNDARY UPDATED	DF	SP	TH	07/02/12
A	ISSUEDE FOR INFORMATION	DF	AG	TH	11/09/11

REVISIONS

REV.	ISSUE FOR	AUTH. BY	DATE
B	ENVIRONMENTAL PERMITTING	SP	TH	07/02/12
A	ENVIRONMENTAL PERMITTING	SP	TH	11/09/11

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY	DRAWN BY
A. GRZEGORCZYK	D. FUNG
DATE	DATE
CHECKED BY	DISCIP. ENGR.
T. HO	J. BINNS
DATE	DATE
PROJ. DES. COORD.	PROJ. ENGR.
DATE	DATE
PROJ. MGR.	
DATE	

Baffinland Iron Mines Corporation

MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
STEENSBY PORT FINAL CLOSURE PHASE

SCALE: AS NOTED | DWG. NO. H337697-4510-07-012-0002 | REV. B

Appendix B -
Mine Closure and Reclamation Planning Guidelines, Regulations and Lease Requirements

The following tables provide cross-referencing to where responses to key Mine Closure and Reclamation Planning guidelines, regulations or lease requirements can be found in this document. The referenced section of this ICRP provides an outline, at a conceptual level, of how the proponent plans to address the particular requirement.

TABLE B-1: TERRITORIAL LANDS ACT

Territorial Land Use Regulations (TLUR 2010)		
Key Mine Closure and Reclamation Plan Guidelines	**TLUR Section**	***ICRP* (Section)**
All closure work shall be carried out in accordance with permit requirements as stated in the *Territorial Land Use Regulations.*	s. 8 through 10, 31	2.1.5
"Subject to the terms and conditions of his permit or the express written authority of an inspector, every permittee shall replace all materials removed by him in the course of excavating, other than rock trenching, and shall level and compact the area of excavation."	s. 12	TABLE 6-1
"Restore the channel and bed of the stream to their original alignment and cross-section."	s. 13.(1 b)	TABLE 6-1
"Subject to the terms and conditions of his permit, every permittee shall, after completion of a land use operation, restore the permit area as nearly as possible to the same condition as it was prior to commencement of the land use operation."	s. 18	TABLE 6-1
Remove all buildings equipment, machinery, and storage equipment/containers and materials onsite.	s. 19.(1)	9.3 & 9.5
A final plan will be issued to the "engineer" within 60 days following completion of the land use operation or expiration of the permit.	s. 33	2.1.2.1
All plan drawings shall be: Drawn to scale that clearly illustrates all mine features. Shows the scale on the drawing. and Provide geographic co-ordinates.	s.35	Appendix A
"In order to ensure that a permittee compiles with the terms and conditions of his permit with these Regulations, the engineer may include in the permit a condition that the permittee deposit with the Minister a security deposit not exceeding $100,000."	s. 36	13

TABLE B-2: NUNAVUT IMPACT REVIEW BOARD

Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (2009)	
Key Mine Closure and Reclamation Plan Guidelines	***ICRP* (Section)**
"To ensure that issues associated with the effective closure and reclamation of all Project Components is considered at the earliest possible stage in the mine development process, thereby influencing mine design to take into account environmental issues related to mine closure and reclamation."	All
"To establish major targets for reclamation of lands potentially affected by the Project."	TABLE 6-1
"Description of reclamation methods, time frames and schedules, including proposed notice periods to employees and public."	9

Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (2009)	
Key Mine Closure and Reclamation Plan Guidelines	***ICRP* (Section)**
"Description of temporary closure measures and a discussion of at what point a temporary closure should be considered permanent for the purposes of requiring implementation."	7 & 8
"Discussion of research programs to address challenges to reclamation, given the local conditions."	5.2
"Considerations for the Projection of public health and safety."	7.1, 8.1, & 9.1
"Description of closure and post - closure monitoring of environmental components."	11
"Discussion of the need for long - term monitoring and maintenance by establishing physical and chemical stability."	11
"Discussion on reduction or elimination of environmental effects once the mine ceases operation."	TABLE 6-1 & 11
"Discussion regarding re-establish conditions that permit the land to return to similar pre-mining land use."	TABLE 6-1 & 12
"Consideration for ARD/ML potential of rocks, in association with related waste rock management strategies."	9.11
"Any considerations for the restoration of the natural aesthetics of the Project."	TABLE 6-1

TABLE B-3: AANDC (INAC) GUIDELINES

Mine Site Reclamation Guidelines for the Northwest Territories (2007)	
Key Mine Closure and Reclamation Plan Guidelines	***ICRP* Report Section**
Develop and implement preventive and control strategies to effectively minimize the potential for ARD and ML to occur.	9.11
Where ARD and ML are occurring as a result of mine activities, mitigate and minimize impacts to the environment.	9.11
Re-establish the pre-mining ground cover, which may involve encouraging self-sustainable indigenous vegetation growth.	5.2.3 & 9.14
Remediate any sources of contamination that may have been created during the development and operation of the mine site in order to protect humans, wildlife, and environmental health.	TABLE 6-1
Ensure physical stability of residual earth structures for environmental, human, and wildlife safety.	TABLE 6-1
Open Pit: Minimize access to protect human and wildlife safety. Implement water management strategies to minimize and control migration and discharge of contaminated drainage, and if required, collect and treat contaminated water. and Stabilize slopes to minimize erosion and slumping.	9.2
Waste Rock: Minimize erosion, thaw settlement, slope failure, collapse or the release of contaminants or sediments.	9.11
Buildings and infrastructure, equipment: Return area to its original state or to a condition compatible with the end land-use targets.	9.3 & 9.5

Mine Site Reclamation Guidelines for the Northwest Territories (2007)	
Key Mine Closure and Reclamation Plan Guidelines	***ICRP* Report Section**
Restore natural drainage patterns where surface infrastructure has been removed.	TABLE 6-1
Landfills: • Control erosion and effects to the ground thermal regime.	9.9
Water Management Systems: Dismantle and remove/dispose of as much of the system as possible and restore natural or established new drainage patterns. Stabilize and protect from erosion and failure for the long term.	TABLE 6-1 & 9.5

TABLE B-4: AANDC (INAC) POLICIES

Mine Site Reclamation Policy for Nunavut (2002) and Mine Site Reclamation Policy for the Northwest Territories (2002)	
Key Mine Closure and Reclamation Plan Guidelines	***ICRP* Report Section**
Areas should be returned to viable and self sustaining areas where practical.	TABLE 6-1
Use best management principles such as progressive reclamation and reduce the environmental risk.	5
Communication and consultation shall be undertaken with all applicable parties.	2.1.2.1 & 2.3
Closure impacts for all mine components.	TABLE 6-1 & 9
Closure costs estimates should be undertaken by a third party using a recognized methodology such as RECLAIM. Closure cost estimates should include contingency factors.	13
Inclusion of a progressive reclamation plan.	5
Removal/stabilization of all structures.	9.3
Reclaim and stabilize waste rock stockpiles remaining on site.	9.11
Reclaim the disturbed surface areas to acceptable standards.	TABLE 6-1
Water quality at closure shall meet or exceed the accepted standards.	11.3.1.1
Temporary Closure measures shall be included in the Preliminary Closure Plan and cost estimate.	7, 8 & 13
Inclusion of a post - closure monitoring program.	11

Mine Site Reclamation Policy for Nunavut (2002) and Mine Site Reclamation Policy for the Northwest Territories (2002)	
Key Mine Closure and Reclamation Plan Guidelines	***ICRP* Report Section**
Detailed closure and decommissioning of the following: Buildings and other structures. Roads. Airstrips. Waste rock stockpiles. Ore stockpiles Quarries. Open pit. Petroleum and chemical storage areas and facilities. Pipelines. Power corridors. Sewage and waste disposal areas and Mine drainage.	9
Re-vegetation of the site where practical.	9.14
Meet or exceed applicable water standards.	TABLE 6-1
Recycle materials where practical.	9
Closure cost estimate to be calculated for the total financial security for final closure.	13
Utilization of a recognized methodology for calculating the closure costs (i.e. RECLAIM model).	13
Establish financial security to be provided to the Minister of Aboriginal Affairs and Northern Development Canada (previously Indian Affairs and Northern Development).	**Error! Reference source not found.**

TABLE B-5: AANDC (INAC) GUIDELINE

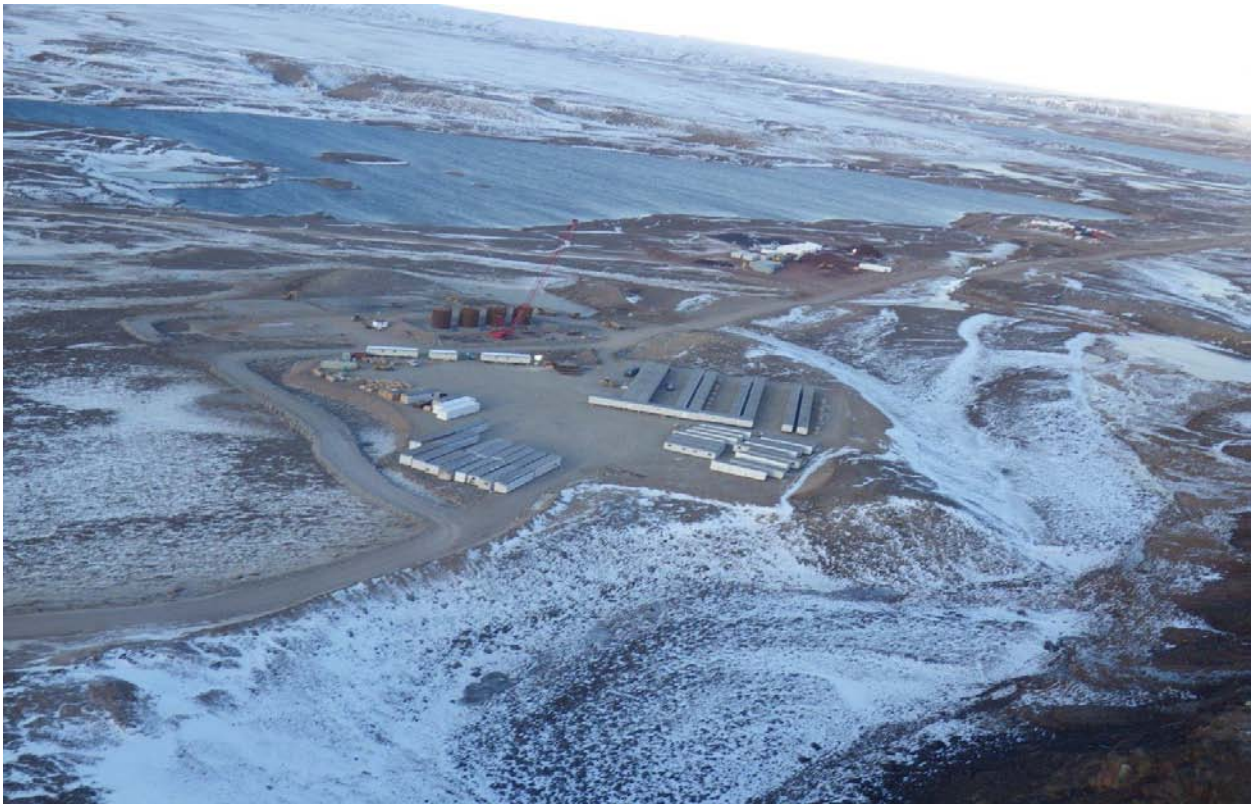
Mine Reclamation in the Northwest Territories and Yukon (1992)	
Key Mine Closure and Reclamation Plan Guidelines	***ICRP* Report Section**
Preliminary Closure Plan objectives are to: Protect the public health and safety. Prevent and/or reduce the environmental deterioration. and Return all disturbed areas to the original state or an accepted level of reclamation.	9
Ensure post-closure physical and chemical stability.	11
Development of a monitoring program to assess the effectiveness of the restoration to be undertaken between the Proponent and Indian and Northern Affairs Canada.	11
Reclaimed areas should be returned to previous land use and aesthetics, to the extent possible.	TABLE 6-1
Include temporary closure and indefinite (long term) Preliminary Closure Plans.	7 & 8
Mine features should be closed in accordance with the guidelines provided in Tables 5.2 through Table 5.8 (Robertson and Kirsten 1992).	9
Inclusion of a fully developed closure cost estimate.	13
Re-vegetation where practical. Local arctic species and distributions should be considered.	9.14

TABLE B-6: NORTHWEST TERRITORIES WATER BOARD GUIDELINES

Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (1990)	
Key Mine Closure and Reclamation Plan Guidelines	***ICRP* Plan Report Section**
Evaluation of ARD/ML potential for open pit, waste rock stockpiles and disturbed areas.	9.2 & 9.11(on-going process)
Cover design for waste rock stockpiles, if required. Stockpiles should be designed and contoured to ensure stability.	9.11
Re-vegetation of disturbed areas, where practical.	9.14
Open pit closure preferably backfilling or flooding.	9.2
Stability of open pit should be investigated.	9.2
Quarries should be backfilled and contoured to match the surrounding topography.	9.12
Removal of fuel and chemical storage tanks and associated piping and plumbing if applicable.	9.5, 9.8, & 9.9
Fuel contaminated soils should be remediated.	9.10
Chemical storage facilities should be removed from site.	9.8
Soils surrounding chemical facilities should be tested for contamination and where present be removed from site.	9.10
Culverts should be removed from site.	9.13
Airstrips should be left intact, unless deemed unsafe.	9.7
Natural drainage should be restored to the site. Roads that do not impede the natural drainage may remain intact.	9.6 & 9.13
Solid wastes should be dealt with in responsible manner.	9.9
Hazardous wastes are to be disposed at an approved facility.	9.8 and 9.9
Buildings and structures should be removed from the site.	9.3
Concrete foundations may be left in a safe condition.	**Error! Reference source not found.**
The Preliminary Closure Plan should include a planned shutdown/temporary closure scenario.	7
The Preliminary Closure Plan should include a long term shutdown/Long-term Closure scenario.	8
The Preliminary Closure Plan should include a final abandonment/final closure scenario.	9
It is encouraged that site closure include phased plan development (progressive closure).	5
A monitoring program should be devised to measure the effectiveness of the site closure.	11
Financial security is required for the closure phase.	13

Appendix C-
Site Photos of Current Site Condition

MARY RIVER MINE SITE




FORKLANDS-GRAINGER


ARCTIC DIES
ARCTIC DIES

MILNE PORT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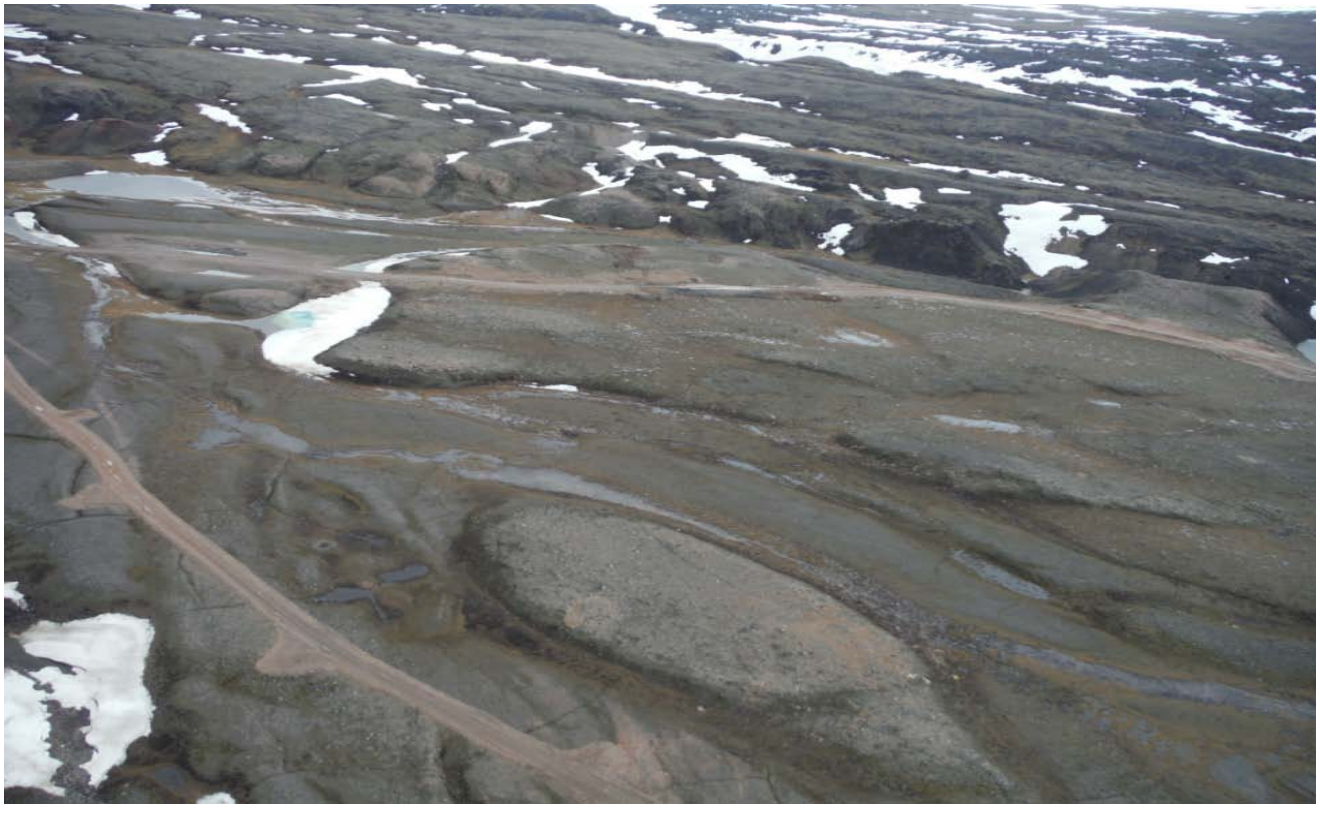
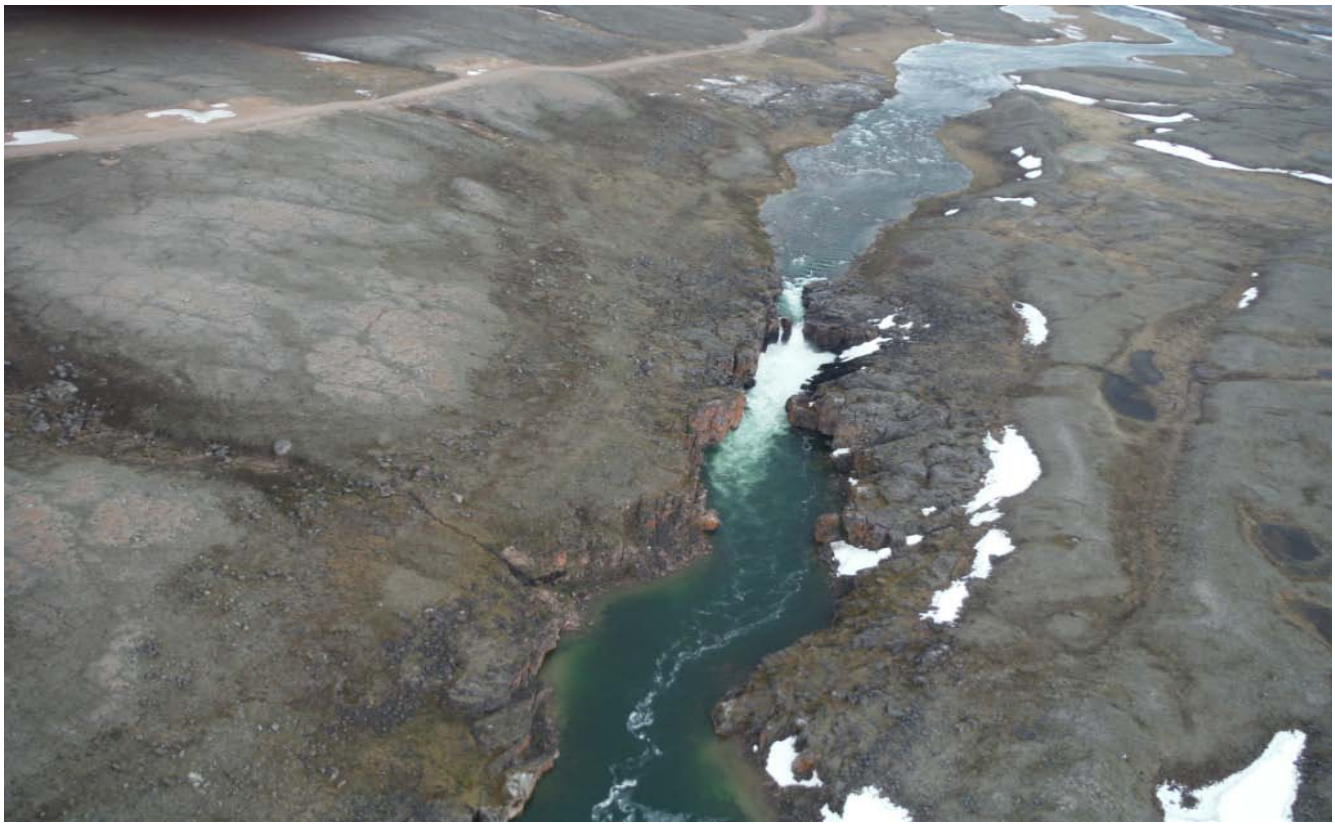
TOTE ROAD





STEENSBY CAMP

MID-RAIL CAMP