Baffinland Iron Mines Corporation

INTERIM MINE CLOSURE AND RECLAMATION PLAN

BAF-PH1-830-P16-0012

Rev. 2

Prepared By: Jim Millard
Department: Environment
Title: Environmental Manager
Date:
Signature:

Approved By: Erik Madsen
Department: Sustainable Development, Health, Safety & Environment
Title: Vice President, Sustainable Development, Health, Safety & Environment
Date:
Signature:

The information contained herein is proprietary to Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

DOCUMENT REVISION RECORD

Issue Date MM/DD/YY	Revision	Prepared By	Approved By	Issue Purpose
06/07/2013	0	AG	EM	Approved for Use (H349000-1000-07-126-0012)
03/10/2014	1	JM	EM	Approved for Use (BAF-PH1-830-P16-0012)
06/27/2014	2	JM	EM	Approved for Use (BAF-PH1-830-P16-0012) *Note Change in Title from Interim Abandonment and Reclamation Plan*

The information contained herein is proprietary to Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Index of Major Changes/Modifications in Revision 2

Item No.	Description of Change	Relevant Section
1	Updated to include reference to all relevant authorization received since previous revision.	Section 1.0
2	Updated to include conditions of Type 'A' Water Licence Part J, Item 2.	Section 2.3
3	Updated to reflect current allocation of Project components and status.	Table 3-1
4	Reference made to relevant FEIS volumes.	Section 4
5	Description of QA/QC program plan for managing the demolition land and other waste disposal areas.	Section 8.9, 8.9.1
6	Reflects current plan for the assessment of materials suitability (chemical and physical) for reclamation needs.	Section 8.10.1
7	Updated to reflect results from 6th annual geotechnical inspection report for physical and chemical stability of project components.	Section 9.1
8	Updated to include any results indicating implications of water balance or water quality model predictors, as well as, any adaptive management measures.	Section 9.2
9	Updated to reflect goals for closure criteria.	Section 11
10	Addition of contingency measures for all reclamation components including action thresholds that are linked to monitoring programs are currently under development.	Section 11
11	Section 2.4 moved to Section 13.1	Section 13.1
12	Removal of Appendix E to reincorporate Steensby and Rail Camp information back into main document.	Appendix E

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY 10

2 INTRODUCTION 12

2.1 Conceptual Mine Closure and Reclamation Plan for the Project 12

2.2 Preliminary Mine Closure and Reclamation Plan 13

2.3 Interim Mine Closure and Reclamation Plan 13

2.3.1 Regulatory Context 14

2.4 Interim MCRP Goals and Objectives 16

2.5 Technical Certificates 17

2.5.1 Certification 18

3 PROJECT INFORMATION 19

3.1 Proponent Name and Address 19

3.2 Project Description and Site Plans 19

3.2.1 Project Description 19

3.2.2 Site Plans 25

3.3 Inuit Owned Lands 26

4 PRE-DEVELOPMENT SITE CONDITIONS 27

5 PROGRESSIVE REHABILITATION 28

5.1 Proposed Progressive Rehabilitation 29

5.1.1 Progressive Reclamation of the Mine Site 29

5.1.2 Progressive Reclamation of Milne Port 30

5.1.3 Progressive Reclamation of Steensby Port 30

5.1.4 Progressive Reclamation Associated with the Railway 31

6 TEMPORARY MINE CLOSURE SUSPENSION OF ACTIVITIES 33

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

6.1 Health and Safety of Workers and the Public During Temporary Closure 33
6.2 Restriction of Access and Site Security 33
6.3 Security of Mine Openings 34
6.4 Security of Mechanical, Hydraulic Systems and Electrical Systems 34
6.5 Waste Management Sites 34
6.6 Security of Chemicals 35
6.7 Docks and Airstrip 35
6.8 Control of Effluents 35
6.9 Stabilization of Stockpiles 36
6.10 Site Inspection Program 36
6.11 Notification of Temporary Closure 36
7 LONG-TERM TEMPORARY MINE CLOSURE CARE AND MAINTENANCE 37
7.1 Health and Safety Of Workers and the Public During Long-Term Temporary Closure ... 37
7.2 Restriction of Access and Site Security 37
7.3 Security of Open Pit 38
7.4 Security of Mechanical, Hydraulic, and Electrical Systems 38
7.5 Waste Management Sites 38
7.6 Security of Chemicals 39
7.7 Stabilization of Stockpiles 39
7.8 Docks and Airstrip 39
7.9 Control of Effluents 39
7.10 Site Inspection Program 40
7.11 Schedule of Rehabilitation Measures – Long-Term Temporary Closure 40
8 FINAL MINE CLOSURE AND RECLAMATION MEASURES 42
8.1 Health and Safety Of Workers and the Public 42
8.2 Open Pit 43
8.2.1 Accelerated Pit Filling 44

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

8.3 Removal of Buildings and Infrastructure 46

8.4 Removal of Machinery, Equipment, and Storage Tanks 47

8.5 Transportation Corridors 47

8.6 Docks and Airstrip 48

8.7 Concrete Structures 49

8.8 Removal of Chemicals 49

8.9 Waste Management Sites 49

8.9.1 Quality Assurance and Quality Control Program for Waste Management sites 50

8.10 Soils Testing 51

8.10.1 Materials Suitability for Closure Needs 51

8.11 Waste rock Stockpile 51

8.11.1 Waste Rock Characterization Program 52

8.11.2 Closure of the Waste Rock Stockpile 52

8.11.3 Runoff from the Waste Rock Stockpile 53

8.12 Quarries and Ore/Aggregate Stockpiles 53

8.13 Watercourses and Drainage Ways 53

8.14 Re-Vegetation 53

8.15 Schedule of Rehabilitation Measures – Final Closure 54

8.15.1 Proposed Order Of Rehabilitation Measures – Final Closure 54

9 POST MINE CLOSURE MONITORING 58

9.1 Physical Stability 59

9.1.1 On-Going Physical Stability Monitoring 59

9.2 Chemical Stability 60

9.2.1 Milne Port 60

9.2.2 Mine Site 60

9.2.3 STEENSBY PORT 61

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

9.3 Biological Monitoring 61

10 EXPECTED SITE CONDITIONS FOLLOWING FINAL CLOSURE 63

10.1 Land Use 63

10.2 Site Topography 63

10.2.1 Mine Site 63

10.2.2 Milne Port and Milne Inlet Tote Road 63

10.3 Local Surface Water 64

11 CLOSURE CRITERIA 65

12 ESTIMATED CLOSURE AND RECLAMATION COSTS 67

12.1 Final Mine Closure Cost 68

12.2 Interim Mine Closure Cost 68

13 CONCORDANCE TABLES 69

14 GLOSSARY OF TERMS, ACRONYMS, OR ABBREVIATIONS 72

14.1 Glossary of Terms 72

14.2 Acronyms and Abbreviations 78

15 REFERENCES 83

List of Table

TABLE 2-1: APPLICABLE MINE CLOSURE PLANNING POLICIES, GUIDELINES, AND LEASE REQUIREMENTS 15
TABLE 3-1: MAJOR PROJECT COMPONENTS 22
TABLE 3-2: DRAWINGS FOR MINE CLOSURE AND RECLAMATION 26
TABLE 5-1: SUMMARY OF THE CURRENT AND PROPOSED PROGRESSIVE REHABILITATION SCHEDULE ... 28
TABLE 8-1: POTENTIAL WATER SOURCE PIT FILL DATA 45
TABLE 9-1: PROPOSED POST-CLOSURE MONITORING PARAMETERS 62
TABLE 12-1: TOTAL COST AND BREAKDOWN FOR MARY RIVER PROJECT CLOSURE AND RECLAMATION. 68
TABLE 13-1: QIA ABANDONMENT AND RECLAMATION POLICY FOR INUIT OWNED LANDS CONCORDANCE TABLE 69
TABLE 13-2: NIRB PROJECT CERTIFICATE CONDITIONS – APPENDIX A 70
TABLE 13-3: TYPE 'A' WATER LICENCE 2AM-MRY1325, PART J, ITEM 2 70

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

List of Figure

FIGURE 3-1: LOCATION MAP 21

List of Appendix

Appendix A - Preliminary Mine Closure and Reclamation Plan Drawings

Appendix B - Mining RECLAIM Assumptions and Spreadsheet Extracts as present in FEIS

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

Appendix D - Site Photos of Current Site Condition

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

FORWORD

This Interim Mine Closure and Reclamation Plan (Interim MCRP) outlines the closure objectives, activities and criteria associated with the final closure and reclamation of the Mary River 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 Interim MCRP builds on the Preliminary Mine Closure and Reclamation Plan (Preliminary MCRP) 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 Interim MCRP reflects the requirements of Part J, Item 2 of the Type 'A' Water Licence, 2AM-MRY1325 which required the Preliminary MCRP to be updated to an Interim MCRP 60 days prior to the commencement of the mining operations.

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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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 Type A Water Licence 2AM-MRY1325.

This Interim Mine Closure and Reclamation Plan (Interim MCRP) 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-MRY1314, Type "A" Water Licence 2AM-MRY1325;
- Conditions applying to closure and reclamation set forth in Commercial Lease No.QI0C3001;
- 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);
- 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 MCRP: short-term temporary mine closure, 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.

In Short-Term Temporary Mine Closure, 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. Hazardous waste and explosives would be removed from the site. Personnel necessary, including environmental personnel, to meet closure criteria 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. Site personnel will conduct general inspections periodically. They will maintain a record of these inspections. Although protective measures

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

will be in place the Project will no longer be monitored by on site personnel maintaining a full time presence on the Project.

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 remain in place and left in good working order unless otherwise directed by regulatory agencies or the Land Owner 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 long-term physical, chemical and biological stability.

The final closure and reclamation activities are expected to last a period of three (3) years. Post closure monitoring will continue until closure objectives have been achieved as shown by monitoring results. These activities are periodic. Monitoring and follow-up inspections will be conducted to assess the post-closure physical, chemical and biological stability of various components after closure and reclamation of the facilities. Environmental monitoring and follow-up inspections will assess the ongoing effectiveness of the reclamation.

The Mining RECLAIM spreadsheet provided by Aboriginal Affairs and Northern Development Canada (AANDC) (formerly Department of Indian Affairs and Northern Development) has been used as the basis for the interim 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 Mary River Project proposed in the FEIS including mobilization and post-closure monitoring. This estimate is 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. 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 on an annual basis in Annual Security Review (ASR) process to account for such cases Baffinland would 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 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 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

2 INTRODUCTION

This Interim Mine Closure and Reclamation Plan (Interim MCRP) outlines the closure objectives, activities and criteria associated with the final closure and reclamation of the Mary River 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 Mary River Project will be regulated under Baffinland's Type 'A' Water Licence 2AM-MRY1325 (Type 'A' Water Licence) and Commercial Lease No. Q13C301. 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 Interim MCRP considers the complete development of the Mary River Project and describes expected closure activities at the end of the Project Life (21 year mine life). The Interim MCRP is thus a benchmark for the intended reclamation and closure activities associated with all components of the Mary River project approved under Project Certificate No. 005. The Interim MCRP will be updated as required throughout the life of the Project.

2.1 CONCEPTUAL MINE CLOSURE AND RECLAMATION PLAN FOR THE PROJECT

The Mary River Project Interim MCRP contains and describes the studies and plans related to closure and reclamation of the Mary River Project mine site and its related mine facilities (the Project). The MCRP Plan addresses the physical, chemical, and biological stability of the Project components as well as future land use of each component of the mine. Participation of local communities and other stakeholders in the consideration of alternative reclamation activities to safeguard community values is encouraged.

Baffinland has committed to establish an advisory group focused on reclamation of the Project that will allow for local community input and involvement. At time of publication, the establishment of this advisory group is still in progress however its establishment is expected in the near term with the goal to facilitate on-going discussion, input and involvement regarding Project reclamation. This level of involvement will help ensure reclamation will be consistent with locally valued ecosystem components and regional planning objectives. All closure work will be carried out in accordance with permit requirements as stated in the Territorial Land Use Regulations.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

The most recent AANDC guidelines envisage three primary stages in the development of a Mine Closure and Reclamation Plan (or A&R Plan):

- A Preliminary MCRP
- An Interim MCRP
- A Final MCRP.

After submission of the Final MCRP, the subsequent post-closure documents report the reclamation activities undertaken and compare the planned objectives performance against that which has actually been achieved.

2.2 Preliminary Mine Closure and Reclamation Plan

A Preliminary MCRP (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 design level. This document assumes that the reader has access to and is familiar with the FEIS content.

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

2.3 Interim Mine Closure and Reclamation Plan

The Interim MCRP builds on the Preliminary Mine Closure and Reclamation Plan (Preliminary MCRP) 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 Interim MCRP reflects the requirements of Part J, Item 2 of the Type A Water Licence, 2AM-MRY1325 which required the Preliminary MCRP to be updated to an Interim MCRP 60 days prior to the commencement of the mining operations.

The Mary River Interim MCRP was developed to increase the detail of the closure criteria and planning presented in the Preliminary MCRP. It addresses any progressive rehabilitation undertaken to date and addresses temporary 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 Interim MCRP does not constitute a Final Mine Closure and Reclamation Plan. The Interim MCRP reflects the level of advancement of development on site and what is expect in future development. It is anticipated the MCRP will be updated several times throughout the life of the Project, as per the terms and conditions of the Type 'A' Water License and Commercial Lease No. Q13C301. Updates will refine and elaborate on all specific targets and commitments.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

2.3.1 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 regulatory agencies and implicated communities.

This current revision of the Interim MCRP has been developed as per the Type 'A' Water License Part J, Item 2, in accordance with the *Mine Site Reclamation Guidelines for the Northwest Territories* (2007, INAC) and consistent with the *Mine Site Reclamation Policy for Nunavut* (2002, INAC) and the *Abandonment and Reclamation Policy for Inuit Owned Lands* (the Qikiqtani Inuit Association-Version 3.0).

The interim MCRP covers mine related components and addresses the following requirements of Type 'A' Water Licence Part J, Item 2:

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;
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;
c) Implications of any updated water balance and water quality model prediction results and any adaptive management measures that may be required;
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;
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;
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;
g) Contingency measures for all reclamation components including action thresholds that are linked to the monitoring programs;
h) Monitoring programs to assess reclamation performance and environmental conditions including monitoring locations for surface water and Ground Water, parameters;
i) Monitoring schedules and overall timeframes;
j) QA/QC procedures for managing the demolition landfill and other waste disposal areas;
k) A list of non-salvageable materials and disposal locations;

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

l) Rock storage facility closure design plans and sections including the types of material placed and volumes;
m) Protocol for the disposal of any contaminated soil;
n) An assessment of the long-term physical stability of all remaining project components;
o) A revised closure and reclamation cost estimate; and
p) A detailed implementation schedule for completion of reclamation work

For reference where the noted requirements are addressed in the MCRP, please refer to TABLE 13-3

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

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

Title	Source
Type A Water Licence 2AM-MRY1325	(NWB 2013)
Commercial Lease No.: Q13C301	(QIA 2013)
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)
Mine Site Reclamation Guidelines for the Northwest Territories	(AANDC 2007)
Mine Site Reclamation Policy for Nunavut	(AANDC 2002)
Mine Site Reclamation Policy for the Northwest Territories	(AANDC 2002a)
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 14.

2.3.1.1 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 to account for such cases Baffinland would 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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

and the QIA and includes consultation with Land-owners and other key stakeholders. Baffinland proposes should the need arise, this ASR process, with all administrative instruments and requirements, shall be used as an avenue to facilitate any additional discussion of closure & reclamation strategy or liability changes related to the Project on an as needed basis to reflect current Project understanding from stakeholders. For example, it is recognized that other parties such as the Department of Fisheries and Oceans (DFO) and AANDC have security requirements related to the ore dock installation that will be addressed in the ASR Process.

2.4 INTERIM MCRP GOALS AND OBJECTIVES

Over the life of the Project it is expected that techniques and methodology 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 the mine site reclamation will be risk based and remain dynamic in order to take into account results of on-going studies and identified best practices for the site specific conditions as this knowledge base is expanded over time.

The Project is being designed with closure and reclamation considerations in mind in compliance with the Baffinland Sustainable Development Policy. [1] General closure and reclamation objectives of this Interim MCRP Plan, 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.
- 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" [2] (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).

[1] Baffinland Iron Mines Corporation, Sustainable Development Policy (September 2011).
[2] Natural Resources Canada. *The Whitehorse Mining Initiative Leadership Council Accord Final Report* (October 1994).

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- 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 exists, monetary allowances should be included in the cost estimate to account for additional engineering and planning

In accordance with the above objectives the main objectives of the Interim MCRP are to:

- Establish a working group to consider reclamation options drawing from Inuit knowledge and arctic experiences of similar mining and use of decommissioned facilities for alternative uses.
- Provide for the long term physical and chemical stability of the Project areas so as to protect the public health and safety and ecosystem integrity.
- Promote and enhance natural re-vegetation and recovery of disturbed areas that is compatible with the surrounding natural environment and to allow for the future use by people and wildlife.
- 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 to limit the need for long term maintenance and monitoring.
- Reduce residual environmental effects once operations have ceased through final closure measures that are technically and economically feasible.

The list of major Project components in the MCRP will be updated with current planning.

Specific criteria are listed for reclamation scenarios in section 11 of this document. They are consistent with the AADNC 2007 Guidelines and will be revised and improved as the Project develops.

2.5 TECHNICAL CERTIFICATES

This update the MCRP was prepared by professionals of Hatch Ltd and other members of the Baffinland Mary River Project team.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

2.5.1 CERTIFICATION

John Binns, M.Sc., P.Eng. – Environment Manager

Mr. Binns is a senior environmental engineer in Hatch's mining practice. He started his long career originally as an underground Mining Engineer with experience in gold and copper mines. He has broad experience in mineral exploration including mining geophysics, as well as extensive international experience in environmental management including mine closure, mine water management, Acid Rock Drainage, Environmental Management Systems (EMS), and EMS auditing.

Adam Grzegorczyk, B.Sc (Env.) - Mine Closure and Reclamation Planning

Mr. Grzegorczyk is an environmental analyst in Hatch's mining practice. He has broad experience in Environmental Management Systems (EMS), Lifecycle Assessment, project planning and due diligence. He has worked closely with clients throughout his career to identify environmental impacts and mitigation strategies during the project planning and implementation phases for large scale mining, metal, infrastructure, and energy projects with a particular emphasis on project closure and reclamation.

Catalina González, M.Env.Sc. – Junior Engineer

Miss González is an environmental engineer in Hatch's Environmental Service Group with experience in environmental management, abandonment and reclamation planning and security costs estimates.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

3 PROJECT INFORMATION

3.1 PROPONENT NAME AND ADDRESS

The proponent of this MCRP 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 Mary River 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. Milne Port is connected to the Mine Site by a 115 km Tote Road while a railway, 149 km in length, will eventually be constructed to connect Steensby Port to the Mine Site. The Mine Site is located approximately 160 km south of Pond Inlet (Mittimatalik) and approximately 1,000 km northwest of Iqaluit.

The Project Description for the project has been presented in the Final Environmental Impact Statement (FEIS 212 and FEIS Addendum 2013). The Project plan calls for a phased development approach. Initially, Milne Port be developed and the Tote Road will be upgraded to enable the Company to mine and ship 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 south-western 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.

It is expected that the Steensby Port facilities and the Railway will take four 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 information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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 end Q1 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 Mary River 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

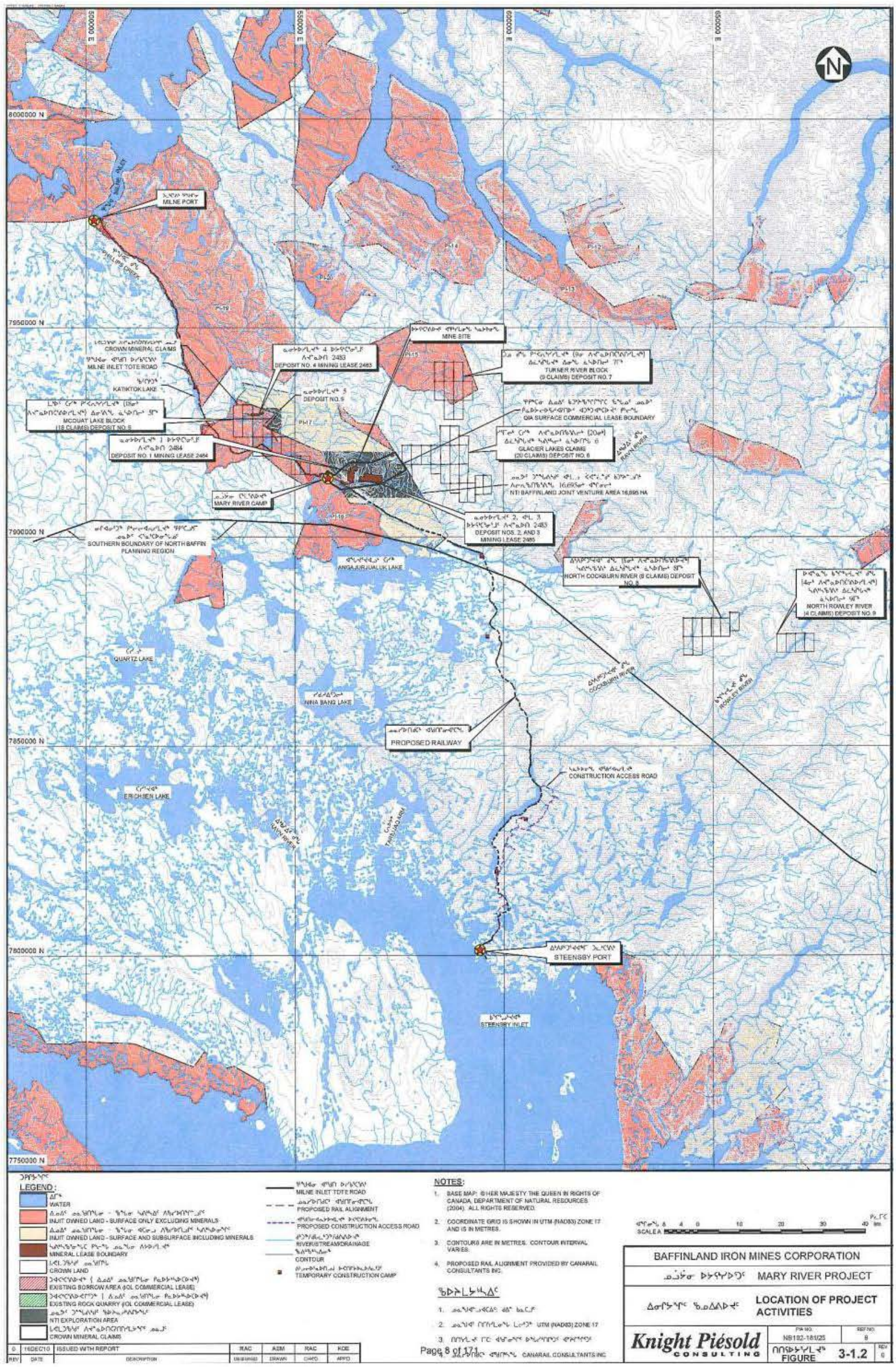


FIGURE 3-1: LOCATION MAP

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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, 2014
Milne Port Site			
Ultimate development area	x	-	In progress
Site development, grading, roads, laydown, drainage	x	x	In progress
Water supply (intake, transport, storage and distribution)	x	-	In progress
Quarries and borrow pits	x	-	In progress
Camp	x	-	Completed
Sewage treatment plant and discharge	x	-	In progress
Polishing Waste Stabilization Pont (PWSP)	x	-	Completed
Incinerator	x	-	Completed
Service buildings (filed offices, maintenance shops, vehicle wash stations, ERT, warehouses, concrete batch plant)	x	-	In progress
Waste management facilities including temporary storage areas	x	-	In progress
Landfarm	x	-	In progress
Power generation and distribution	x	-	Differed
Transitional power generation and distribution	x	-	Completed
Hazardous material storage areas	x	-	In progress
Fuel tank farm and fuel dispensing facilities (Arctic Diesel, Jet-A Fuel)	x	-	In progress
Fuel tank farm and fuel dispensing facilities (Marine Diesel)	-	x	Not started
Ore stockpile	-	x	Not started
Ore handling facilities (unloading, transfer and stockpiling, reclaiming, ship loading) and associated surface runoff ponds	-	x	Not started
Ore dock	-	x	Not started
Freight dock	-	x	Not started
Relocated air strip	-	x	Not started
Explosives storage	x	-	Completed
Tote Road			
Realignment and grade improvement	x	-	In progress
Water crossings improvement/replacement	x	-	In progress
Bridge construction	x	-	In progress
Borrow Pits and Quarries	x	-	In progress
Water withdrawal for dust control	x	x	On going

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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, 2014
Mine Site			
Mine Site development, grading, service roads, ore haul roads, laydown, drainage and diversions	x	-	In progress
Camp Lake water supply (intake, transport, storage and distribution)	x	-	In progress
Water crossings and surface water diversions	x	-	In progress
Quarries and borrow pits	x	-	In progress
Transitional Camps (early development)	x	-	Completed
Sewage treatment plants, PWSPs and discharge	x	-	In progress
Incinerator	x	-	Completed
Permanent camp and construction camp	x	-	Deferred
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
Mining fleet maintenance facilities	x	-	In progress
Mining activities	x	-	Not started
Waste rock storage with associated runoff control structure	x	-	Not started
Waste management facilities including temporary storage areas	x	-	In progress
Landfill	x	-	Completed
Landfarm	x	-	Deferred
Transitional power generation and distribution	x	-	Completed
Power generation and distribution	x	-	Deferred
Hazardous material storage areas	x	-	In progress
Permanent fuel tank farms and fuel dispensing facilities (arctic diesel, jet A fuel – 15.5 ML)	x		Deferred
Transitional fuel storage facilities (multiple fuel storage tanks for construction phase)	x	-	In Progress
Temporary crushing facility (crusher trains)	x	-	Not started
Permanent crushing facilities	x	-	Deferred
Transitional ore stockpile and runoff control		x	Not started
Ore stockpiling (run of mine, crushed ore) and associated runoff control ponds	x	-	Deferred
Ore handling facilities (unloading, transfer, tertiary crushing and screening, stockpiling, reclaiming, railway loading) and associated surface runoff ponds	x	-	Deferred
Air strip extension	x	-	Not started
Explosives storage	x	-	Completed
Emulsion plant	x	-	Deferred

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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, 2014
Railway			
Service road	x	-	Deferred
Railway embankment	x	-	Deferred
Winter road	x	-	Deferred
Railway construction and operation	x	-	Deferred
Railway construction camps, sewage treatment facilities, emergency ponds and incinerator	x	-	Deferred
Railway camps associated services facilities	x	-	Deferred
Water crossings (bridges and culverts)	x	-	Deferred
Multiple construction fuel storage units	x	-	Deferred
Mobile explosive units	x	-	Deferred
Tunnel construction and disposal of waste rock	x	-	Deferred
Borrow pits and quarries	x	-	Deferred
Steensby Port Site			
Site development, grading, roads, laydown, drainage	x	-	Deferred
Water supply (intake, transport, storage and distribution)	x	-	Deferred
Water crossings and diversions	x	-	Deferred
Quarries and borrow pits	x	-	Deferred
Camp	x	-	Deferred
Sewage treatment plant, PWSPs and discharge	x	-	Deferred
Incinerator	x	-	Deferred
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
Waste management facilities including temporary storage areas	x	-	Deferred
Landfill	x	-	Deferred
Landfarm	x	-	Deferred
Power generation and distribution	x	-	Deferred
Hazardous material storage areas	x	-	Deferred
Fuel tank farms and fuel dispensing facilities (Arctic Diesel, Jet A-Fuel and Marine Diesel)	x	-	Deferred
Railway switch yard	x	-	Deferred
Railway terminal maintenance shop	x	-	Deferred
Ore stockpile	x	-	Deferred

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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, 2014
Ore handling facilities (unloading, transfer, tertiary crushing and screening, stockpiling, reclaiming, ship loading) and associated surface runoff ponds	x	-	Deferred
Ore dock	x	-	Deferred
Freight dock	x		Deferred
Air strip	x	-	Deferred
Explosives storage	x	-	Deferred
Explosives plant	x	-	Deferred
Overwintering of fuel barge	x	-	Deferred
Dredged sediment disposal area	x	-	Deferred

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 2BE-MRY142

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 as described in TABLE 3-2. These figures represent the intended site layouts at completion of Operation of the Mary River Project including the Railway Execution Phase. Project components that are planned to be reclaimed following the construction phase are quantified separately as are components that are contained 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).

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE 3-2: DRAWINGS FOR MINE CLOSURE AND RECLAMATION

Drawing Number	Drawing Title
E349000-2000-07-014-00001	Areas of Reclamation – Milne Port Layout
H337697-4210-07-012-0001	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
H337697-0000-07-126-0014	Preliminary Mine Closure and Reclamation Plan – Tote Road
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 MCRP 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 MCRP are summarized in Appendix C. 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. The remaining sections are located on Crown land.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

4 PRE-DEVELOPMENT SITE CONDITIONS

For a detailed description of the pre-construction social, physical, biological and chemical conditions at the Mary River Project site location and impact area please refer to the following volumes of the FEIS:

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

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 D provides site photographs of current conditions onsite.

All works and activities proposed to be conducted as part of the Mary River Project have been screened by the NIRB and have been 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.

The general scope for the 2014 Work Plan included:

- The development and construction of infrastructure required for site capture at Milne Port, consisting of the construction of the ore dock and associated facilities related to the ERP, and the Mine Site for the launching of the Mary River Project.
- Ongoing environmental baseline data collection and geotechnical drilling in order to support the development of the Project. These activities will resume at the Milne Port site, along the Tote Road, at the Mine Site, at numerous quarry sites and at other Project development areas.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

5 PROGRESSIVE REHABILITATION

TABLE 5-1: SUMMARY OF THE CURRENT AND PROPOSED PROGRESSIVE REHABILITATION SCHEDULE

Phase:	Construction – ERP		Operation – ERP						Operation - Rail Phase			
Year:	**1**	**2**	**1**	**2**	**3***	**4***	**5***	**6***	**1**	**2**	**3**	**4**
Milne Port												
Stockpile												
Camp Pad												
PWSP (current)												
Bladder Farm												
Quarry (Q1)												
Mary River												
Bladder Farm												
Quarry (QMR2)												
Laydown Areas												
Borrow Pits												
Rail												
Rail access road												

*Rail Phase construction begins

In accordance with the objectives and guidelines presented in Section 2.5, progressive rehabilitation will be implemented to reduce the risk to the environment. In addition to progressive closure activities, observations during operations to identify best practices for promoting natural re-vegetation of disturbed areas will occur and may be incorporated into updates of the Interim MCRP. The experience from closure of the Nanisivik and Polaris mine sites, which are in a similar climate zone, will be used as references.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

5.1 PROPOSED PROGRESSIVE REHABILITATION

This section describes the proposed rehabilitation measures that will be progressively completed during the construction and/or operation phases of the mine.

The overall intent of the Interim MCRP, is to achieve Baffinland's desire of restoring the existing conditions of the Mine Site and Milne Port during operation as practicable and on closure, so that areas affected by the proposed Project activities and to a lesser extent the historic exploration, bulk sampling programs, are returned to a state that is compatible with the original undisturbed areas upon completion of mining activities. The progressive rehabilitation measures proposed as part of the Interim MCRP are technically and economically feasible and reflect the objectives of this Plan, found in section 2.5.

Most of the Project areas will be actively used during the construction and operation phases. Where practical, the inactive areas will be progressively reclaimed during construction and operations.

5.1.1 PROGRESSIVE RECLAMATION OF THE MINE SITE

Studies will be undertaken, as needed, to identify if a best practice for promoting natural re-vegetation of disturbed areas can potentially be used for reclamation. This will likely include an examination of colonizing species to previously disturbed areas. It must be noted that in much of the Project Area, vegetation is naturally sparse or nonexistent (e.g., waste rock pile footprint). Therefore, natural growth of vegetation for those areas is expected to be minimal and the reclamation goal for those areas will be long term landform stability.

It should also be noted participation of local communities via QIA representatives and other applicable regulatory agencies in the consideration of alternative reclamation activities to safeguard community values is encouraged. To that end, Baffinland has committed to establish an advisory group focused on reclamation of the Project that will allow for local community input and involvement in future revisions to this document.

The following areas will be progressively reclaimed during the construction and/or operation phases at the Mine Site:

- Laydown areas – un-used areas or areas no longer needed during operations will be re-graded and scarified.
- Quarries and Borrow Pits – once exhausted or no longer required, sites will be graded to maintain safe side slopes and re-establish the natural drainage of the area. 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.
- Landfill – the landfill will be progressively covered with cover consisting of overburden to allow the contents of the landfill to remain permanently frozen.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- Camps – following the construction phase, construction camps will be removed and/or downsized to accommodate the reduced personnel onsite during operations. Associated structures and infrastructure not required for on-going operation will be removed. The affected area will be re-graded, and selectively scarified and contoured to facilitate natural drainage.
- 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.
- Landfarms – hydrocarbon-contaminated soils will be excavated and treated in the landfarms throughout the life of the Project.
- Facilities not in use during the Operations phase 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.
- Roads – roads no longer required during operations, will be decommissioned. Stream crossings will be removed, and drainage channels that are stable in the long-term will be re-established.

5.1.2 Progressive Reclamation of Milne Port

Following the Construction phase the camp facilities will be downsized to accommodate the reduced personnel remaining onsite during the proposed ERP operations and temporarily de-commissioned once the Railway Phase has been commissioned. Once the Railway Phase is commissioned and operational, Milne Port will continue to be used to ship ore..

The following additional activities have or will be undertaken to progressively reclaim Milne Port:

- Removal of fuel bladders (undertaken in Fall 2013).
- Bioremediation of contaminated soils in an engineered land farm (to be undertaken summer/fall 2014).
- Laydown areas which are no longer required will be re-graded and scarified.
- Quarries and borrow areas not used for disposal during final reclamation, will be re-contoured to maintain safe side slopes and re-establish natural drainage.

5.1.3 Progressive Reclamation of Steensby Port

Following the construction phase, the construction docks will be decommissioned. The ballast and caissons will be removed and either reused at either the Mine Site or Milne Port or disposed of at an approved facility. The following additional activities will be undertaken to progressively reclaim Steensby Port:

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- The future Steensby Port landfill will be progressively reclaimed using a cover to allow the waste materials to remain permanently frozen and isolated.
- Quarries and borrow areas not used for disposal during final reclamation, will be re-contoured to maintain safe side slopes and re-establish natural drainage.

The construction camp will be downsized to accommodate the reduced personnel remaining onsite during operations.

5.1.4 Progressive Reclamation Associated with the Railway

Following completion of the railway, the following progressive reclamation activities will be undertaken:

- The railway construction camps will be decommissioned and include the following reclamation activities:
  - Dismantling of the water treatment and sewage treatment systems as per the manufacturer's specifications. All remaining infrastructure will either be sea lifted to an approved facility for disposal or disposed of at the Mine Site landfill, Steensby Port landfill, or other approved repositories.
  - Where practical, buildings, equipment and machinery will be reused. Alternatively, buildings, equipment and machinery will be demolished and sent for sealift to an approved facility for salvage/disposal or disposed of at the Mine Site landfill, Steensby Port landfill, or other approved repositories.
  - All fuel storage containers will be drained and removed from the camp sites for disposal at an approved facility. Secondary containment structures such as liners, will also be removed, tested for hydrocarbon content and sent to an approved facility at the Mine Site or Steensby Port for disposal.
  - Soils suspected of hydrocarbon contamination will be tested. It is expected contaminated soils will be bioremediated within landfarms located at either the Mine Site or Steensby Port or alternatively, sent via sealift to an approved facility for disposal.
  - All non recyclable, inert materials (i.e. material having insignificant leachability and pollution content) will be disposed of at the Mine Site landfill, Steensby Port landfill, or other approved repositories. At closure, the onsite landfills located at the Mine Site and Steensby Port will be reclaimed by capping the landfill with overburden or equivalent material. The landfill sites will be allowed to naturally re-vegetate.
  - All disturbed areas will be re-graded to restore the natural drainage of the area and will be scarified.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- The construction access road along the rail alignment with arteries to the camps and quarries will be decommissioned. All water crossings will be removed and the natural drainage of the area will be restored.
- All quarries and borrow areas will be graded to maintain safe side slopes and natural drainage will be restored unless they are an approved disposal location to be used during reclamation.
- All disturbed areas will be will be scarified to encourage natural re-vegetation.
- Areas experiencing thermal disruptions (ponding, settlement and/or subsidence) will be drained of excess water, re-graded and/or insulated with a layer of overburden to restore the natural drainage of the area and maintain an active layer above the permafrost of 1 to 2 m (pers. Comm. Wiseman). The affected areas will be scarified to encourage natural re-vegetation.
- Phase I Environmental Site Assessments (ESA) will be carried out on the rail embankment. Further assessment will follow the ESA protocols.
- Progressive reclamation associated with the railroad will 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

6 TEMPORARY MINE CLOSURE SUSPENSION OF ACTIVITIES

The Mine Site Reclamation Policy for Nunavut (2002) and the Mine Site Reclamation Policy for the Northwest Territories (2002) require that contingency measures be established in the MCRP for Temporary Closure of a mine site. Under the Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (NWTWB, 1990) temporary closure is defined as the planned shutdown of a mine site for a period of less than one year. This section of the report presents the conceptual plans for suspension of activities of less than one year. Section 7 below covers Long-Term Temporary Closure beyond one year.

In the event of temporary closure, care and maintenance of the Project sites will be implemented and executed by operational maintenance staff and other support personnel on site. 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.

6.1 HEALTH AND SAFETY OF WORKERS AND THE PUBLIC DURING TEMPORARY CLOSURE

Health and Safety of workers and the Public will be ensured during 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 6.2).

Employees on site will have been trained for site-specific health and safety. Baffinland commits to abide by all applicable 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.

6.2 RESTRICTION OF ACCESS AND SITE SECURITY

During Temporary Closure, the Mine Site and Milne Port will be maintained in a secure condition through the provision of continuous 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 and structures will be restricted to authorized persons, as during operations. Buildings where potential hazards exist will be locked or otherwise secured.

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 information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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

During Temporary Closure, reclamation activities such as re-grading and re-vegetation 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 rupture.

6.3 Security of Mine Openings

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 (21.5 Mtpa). 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.

6.4 Security of Mechanical, Hydraulic Systems and Electrical Systems

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

Buildings will be locked or otherwise secured to prevent inadvertent access once the Mine Site 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 mechanical and hydraulic 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.

6.5 Waste Management Sites

During or prior to 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 stored in a secure and environmentally sound manner.

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.

During Temporary Closure 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 over burden.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

6.6 Security of Chemicals

All hazardous materials and wastes may be removed from Project sites via sealift and disposed of at a licensed hazardous waste disposal facility in Southern Canada via sealift if available. Any remaining hazardous materials and wastes will be stored in a secured area and be subject to appropriate inspection programs to ensure environmental sound storage. Any remaining explosives (e.g. ammonium nitrate) will be removed from the site or detonated in a controlled and safe fashion by qualified and licensed personnel at appropriate locations away from sensitive receptors.

During Temporary Closure activities, remaining chemicals and petroleum products will be identified and their quantities will be recorded.

6.7 Docks and Airstrip

During Temporary Closure activities, airstrip and dock infrastructure and equipment will be left in place. All non-essential mechanical and hydraulic 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.

6.8 Control of Effluents

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

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

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

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 a treatment plant such as a High Density Sludge (HDS) treatment plant may be required.

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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

6.9 Stabilization of Stockpiles

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

6.10 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 waste rock stockpiles and pit walls. Chemical analyses of surface water will be conducted monthly by site personnel at the Mine Site, Milne Port and Tote Road. If seepage or drainage locations are identified during the visual site inspections of the open pit, waste rock stockpile and ore stockpiles sampling will be conducted by site personnel.

6.11 Notification of Temporary Closure

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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

7 LONG-TERM TEMPORARY MINE CLOSURE CARE AND MAINTENANCE

The Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (NWTWB, 1990) define Long-Term Closure as the state of inactivity resulting from economic considerations or a reduction in ore reserves for a period greater than one year. During Long-Term Closure the Project sites will be maintained in a secure condition. 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 Aboriginal Affairs and Northern Development Canada (AANDC) and QIA for their information and to facilitate their access to the site if and when necessary. The Project could reopen when the circumstances requiring the closure change (e.g., when economic or other conditions that caused the temporary cessation of operations is no longer of concern).

Baffinland commits to mobilizing qualified environmental support personnel to complete tasks related to environmental management and monitoring.

7.1 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 7.2). Safety will be reinforced by an inspection program (see Section 7.9).

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.

7.2 RESTRICTION OF ACCESS AND SITE SECURITY

During Long-Term Closure, the Mine Site and Milne Port will be maintained in a secure condition. Access to the buildings and structures 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 information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

The explosives contractor will manage explosives in accordance with applicable regulatory requirements by NRCan and the Mines Safety Act. On commencement of Long-Term 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 Closure, reclamation activities such as re-grading and re-vegetation 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.

7.3 Security of Open Pit

Following notice of Long-Term Closure the pit walls of the open pit will be inspected by a qualified professional 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 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 Closure and drainage from the open pit is not considered to be an issue.

Other Long-Term 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.

7.4 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 mechanical and hydraulic 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.

7.5 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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.

7.6 Security of Chemicals

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. Any remaining explosives (e.g. ammonium nitrate) will be removed from the site or detonated in a controlled and safe fashion by qualified and licensed personnel.

During Long-Term Closure activities, remaining chemicals and petroleum products will be identified and their quantities will be recorded. Offsite disposal locations will be identified for the products remaining onsite and they will be disposed at approved facilities once no longer required.

7.7 Stabilization of Stockpiles

At the onset of Long-Term 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 closure, aspects related to erosion, runoff control, slopes, benches, and discharges will be addressed.

All ore stockpiles will be depleted and removed prior to Long-Term Closure. In the event the ore stockpiles remain during Long-Term Closure, they will be monitored.

7.8 Docks and Airstrip

During Long-Term Closure activities, airstrip and dock infrastructure and equipment will be left in place. All non-essential mechanical and hydraulic 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.

7.9 Control of Effluents

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

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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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 a treatment plant such as a High Density Sludge (HDS) treatment plant may be required.

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.

7.10 Site Inspection Program

The general site areas at the Mine Site, Milne Port and Tote Road will be periodically inspected by onsite security personnel. An update on the existing environmental conditions and progressive reclamation activities are also contained in these reports. These reports will continue to be produced based on any ongoing site inspection and monitoring however scope and frequency will be established based on consultation with the QIA and NIRB at such time long-term Temporary Closure commences.

Visual inspections of the Mine Site, Milne Port and Tote Road will be carried out to verify physical stability of the site, waste rock stockpiles and pit walls. Chemical analyses of surface water will be conducted monthly by site personnel at the Mine Site, Milne Port and Steensby Port. If seepage or drainage locations are identified during the visual site inspections of the open pit, waste rock stockpile and ore stockpiles, sampling will be conducted by site personnel.

7.11 Schedule of Rehabilitation Measures – Long-Term Temporary Closure

The following activities will be carried out within approximately six (6) months of the initiation of Long-Term Closure:

- All employees, local communities, and the public will be notified in advance of any scheduled long-term closure activities.
- All buildings and storage compounds will be secured, fenced and gated to prevent inadvertent access.
- All unnecessary machinery and equipment will be removed or placed in a no load condition.
- All unused pipelines will be drained.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- All unnecessary equipment will be removed from the Mine Site and Milne Port or secured in a no load condition onsite.
- A contact person will be designated for authorized site access.
- A schedule will be established for monitoring purposes.
- Fences and/or barriers with signs will be constructed to restrict access as required.
- All explosives, fuel tanks, chemicals and hazardous wastes will be inventoried and secured in a protective environment and/or removed from the site to an approved facility.
- Within one (1) year of the decision to place the Project in Long-Term Closure the following additional activities will be completed, if not already done:
  - All remaining fuels, chemicals, oil, grease and any used oil will be removed for reuse or disposal at an approved facility.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

8 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. Within twelve (12) months prior to the expected end of mining, a Final Mine Closure and Reclamation Plan will be issued to 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, 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 (with the exception of the public Milne Inlet Tote Road), 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. The closure phase is expected to be three (3) years, followed by a minimum of five (5) years of post-closure safety and environmental monitoring and treatment, as and if required.

This section describes the measures that will be undertaken for final closure of the Project, based on the current design. 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 Mary River Project Baffinland will consult with the QIA 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.

8.1 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 8.2). 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 to ensure they will be applicable during final closure.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

8.2 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 (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 8.2.1. These will be further assessed prior to final closure.

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 Interim MCRP 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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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).
- Placing of boulder fencing or equivalent and hazard signage as necessary.
- At closure inert wastes may be disposed of in the open pit.

8.2.1 Accelerated Pit Filling

The mining plan and the ongoing 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 8-1

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE 8-1: POTENTIAL WATER SOURCE PIT FILL DATA

Water Source	Pumping Distance	Total Volume/ Annual Flow (m3)	Permissible Annual Water Take (m3)	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 m3 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 8-1). 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

8.2.1.1 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.

8.2.1.2 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 feability 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.

8.3 REMOVAL OF BUILDINGS AND INFRASTRUCTURE

Specific criteria for the buildings and infrastructure include:

- Decommissioning and decontaminating before removal, as appropriate to contamination type.
- Ensure buildings do not become a source of contamination or a safety hazard to wildlife and humans.
- Ensure infrastructure does not become a source of contamination.
- Return area to its natural state or to a state compatible with the desired end use.
- Restore natural drainage patterns where surface infrastructure has been removed.
- Restore the natural use by wildlife.
- Buildings and infrastructure located at the Mine Site 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- 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 or salvage.
- 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.

8.4 Removal of Machinery, Equipment, and Storage Tanks

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.

8.5 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 intact with the road crossings removed. Final decision on the water crossings will remain with the Land Owner, but the removal cost has been included for closure planning.

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 information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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 will 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.
- Bioremediation of diesel contaminated soils in the Arctic.
- 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.

8.6 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 information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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 left in place 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.

8.7 Concrete Structures

Concrete foundations will be demolished and exposed rebar will be cut to ground level 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.

8.8 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.

8.9 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 8.4. Sewage treatment facilities disposal is also addressed in Section 8.4.

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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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 8.10.1.

8.9.1 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 11. 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

8.10 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 Government of Nunavut Environmental Guideline for Site Remediation, 2010) 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.

8.10.1 MATERIALS SUITABILITY FOR CLOSURE NEEDS

Reclamation activities shall restore the physical, chemical and biological 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 regrading, 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.

8.11 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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.

8.11.1 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 is in progress and 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.

8.11.2 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

8.11.3 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 9. 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 Mary River Waste Rock Management for further discussion on potential treatment methods.

8.12 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 ore stockpiles will be sent for testing and treatment, if required, as discussed in Section 8.10. 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.

8.13 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.

8.14 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:

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- Re-grading and scarifying disturbed and compacted areas.
- Allowing vegetation to re-establish through natural processes.
- As noted in Section 5.1.1, studies will be undertaken to determine which plant species, if any, are better suited to colonizing disturbed and graded areas. Results of this studies will inform any potential efforts for re-vegetation.

8.15 Schedule of Rehabilitation Measures – Final Closure

All employees, local communities, and the public will be notified in advance of any scheduled final closure activities.

Once the decision has been made to permanently close the mine, it is anticipated that the major closure activities, as described in the above sections, will be completed within a period three (3) years. Closure works will be carried out between July and October every year for three (3) years, if not already completed progressively.

The ongoing monitoring and management of ARD/ML (if any) is expected to be required until such time as it can be demonstrated that site drainage no longer poses a negative impact to downstream receiving waters.

Monitoring of various site aspects such as water quality, natural re-vegetation and landform stability are expected to continue over an extended period of time until such time that monitoring is no longer required. It is estimated that this period will last five (5) years.

8.15.1 Proposed Order Of Rehabilitation Measures – Final Closure

The following summary provides a general description of the tasks to be completed in each year of the MCRP implementation process. The schedule 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 and in accordance with the MCRP and the regulatory framework established by the Inuit, Federal and Territorial governments.

Year 0

- During the first year, activities will be limited to pre-closure shutdown tasks and post-closure inspection by QIA and any other relevant stakeholders.

Year 1

- Year 1 freshet management field activities;
- Monitoring of road and borrow areas;

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- Organizing decommissioned on site contractor equipment and material for shipment through Milne Port;
- Excess fuel return from Mary River Mine Site to Milne Port;
- Phase 1, 2 and 3 Environmental Assessments for hydrocarbon contaminated soils;
- Activities to begin the decommissioning of the Milne Port Fuel Storage Facility;
- Activities to begin the decommissioning of sewage storage areas at Mary River Camp;
- Site contractor decommissioning and demobilization of Mary River and Milne Port (as required);
- Decommissioning and demobilization of Baffinland owned equipment identified for salvage;
- Mobilization sealift of third party contractor to Milne Port and demobilization sealift of current site contractors and Baffinland equipment and material to the Port of Valleyfield;
- Environmental monitoring.

Year 2

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

- Freshet management field activities;
- Decommissioning of the open pit, mineral exploration areas, remote sites, and stockpiles;
- Regrading and contouring of borrow sites and quarry areas;
- Mary River Mine Site 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;
- Fuel storage facilities will be fully decommissioned at Mary River and Milne Port;
- Waste management including:
  - Closure of the Mary River landfill;
  - Packaging of hazardous waste for future shipment to disposal facilities in the south;
  - Appropriate disposal and closure of sewage and sewage lagoons at Mary River and Milne Inlet.
- Initiate removal of all culverts from the Milne Inlet Tote Road if the complete decommissioning and reclamation of Mary River is completed in time. 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;
- Environmental monitoring.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Year 3

- Complete the removal of Milne Inlet Tote Road culverts and stabilization of the road for final closure;
- Final site cleanup of Milne Port and Mary River Mine Site; including grading and contouring of the site;
- Treatment of contaminated soil;
- Application of soil cover to any permanent disposal areas;
- Support for landfarm operations;
- Freshet management;
- Environmental monitoring;
- Demobilization sealift from Milne Port to Valleyfield of third party equipment and residual reclamation equipment, material and supplies;
- Bulk fuel demobilization sealift.

Year 4

- Treatment of contaminated soil;
- Support for landfarm operations;
- Environmental monitoring.

Year 5

- Treatment of contaminated soil;
- Support for landfarm operations;
- Environmental monitoring.

Year 6

- Treatment of contaminated soil;
- Support for landfarm operations;
- Environmental monitoring.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Year 7

- Treatment of contaminated soil;
- Support for landfarm operations;
- Environmental monitoring.

Year 8

- Treatment of contaminated soil;
- Support for landfarm operations;
- Environmental monitoring;
- Final demobilization sealift of third party contractor equipment, remaining small capacity camp that was present for t monitoring, material and supply from Milne Inlet to Valleyfield (if required).

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

9 POST MINE CLOSURE MONITORING

The Post Mine Closure Monitoring Plan will be developed and submitted as part of the Final MCRP twelve (12) months prior to final closure. The monitoring section of the Final MCRP will be based upon the knowledge gained through studies during the design, construction and operational phases of the Project. Achieved performance will be assessed against the detailed specific objectives and criteria for major Project components that will be established.

A post-closure monitoring program compliant with the applicable guidelines and regulations will be implemented to ensure the reclamation measures remain effective and continue to provide a high level of protection for the public and the environment. This monitoring program will assess the effectiveness of the restoration and will be undertaken between Baffinland, AANDC, QIA and any other applicable regulators or government agencies.

The monitoring presented in the subsequent sections is conceptual and focuses on the post-closure monitoring objectives. The program will be revisited following the completion of the detailed design phase of the Project at which time a more specific monitoring program will be developed.

Monitoring and follow-up inspections will be conducted to assess the physical and chemical stability of various components after closure and reclamation of the facilities.

Biological monitoring and follow-up inspections will assess the effectiveness of the reclamation.

Ongoing monitoring and management of ARD and ML (if necessary) is required until such time as it can be demonstrated that site drainage does not pose a threat to downstream receiving waters. This includes an assessment of long-term water quality of the pit lake.

Monitoring of site aspects such as water quality is expected to continue until such time that the monitoring is no longer required.

Further updates will redefine what mitigation measures will be implemented, how these measures will be monitored to confirm their performance, the data gaps and uncertainties identified in the FEIS and how these will be addressed through monitoring or mitigation.

Post closure monitoring is expected to last five (5) years, which will be revised if necessary as the Project progresses.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

9.1 PHYSICAL STABILITY

The post-closure physical stability monitoring objective will be to demonstrate the physical safety of the Mine Site, Milne Port and Tote Road and to ensure that all lands and structures remaining on the Mine Site, Milne Port and Tote Road are left in a long term stable condition. The physical stability monitoring will also be utilized to identify any physical instability issues and to take appropriate corrective measures. The physical stability of the following items will be monitored on annual bases for the first five years following final closure:

- Exposed pit slopes.
- Waste rock stockpiles.
- Remaining road easements.
- Remaining rail alignment.

The stability of the pit walls with regard to the presence of the pit lake and its impact on stability will also be investigated during post-closure.

9.1.1 ON-GOING PHYSICAL STABILITY MONITORING

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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

9.2 CHEMICAL STABILITY

Once mining operations have been completed chemical monitoring programs will be initiated to monitor the surface and groundwater quality (in the active layer). Groundwater in the Project area is shallow seepage through the active layer and maybe monitored as surface water. The chemical stability programs will be utilized to monitor the effectiveness of the reclamation undertaken at the Mine Site, and Milne Port. The programs will be updated to consider any results indicating implications of water balance or water quality model predictors, as well as, any adaptive management measure that may be required. Sample stations recommended at this time will be re-evaluated as the Project continues to develop and are therefore, subject to change in location, quantity and/or frequency of monitoring. In addition, any seeps which develop downstream of the open pit or waste rock stockpile will be monitored.

Monitoring programs will continue until it has been shown that the objectives of the Final MCRP have been achieved and a monitoring program is no longer required. The proposed parameters to be monitored are summarized in TABLE 9-1. The parameters represented in TABLE 9-1 may change as the Project develops through detailed design, construction and operations. Discharges from the Mine Site and Milne Port stockpiles, open pit and waste rock stockpile are expected to be consistent with the Mining Metal Effluent Regulations (MMER).

9.2.1 MILNE PORT

The following sample stations present the approximate post-closure monitoring to be conducted at Milne Port. As the Project continues to develop the post-closure sample locations will be re-evaluated and a more detailed monitoring program will be developed. The post-closure monitoring will include the following sample stations:

- One marine sample located by the ore dock.
- One background marine sample location.
- One to two surface water or seepage locations within the Milne Port area (one monitoring location is to be located down gradient from the former ore stockpiles) and one background surface water sample location.

9.2.2 MINE SITE

Surface water monitoring at the Mine Site will include a minimum of the following samples:

- One surface water background sample location.
- One to two surface water samples located in the upstream of Sheardown Lake, the primary receiver for the Mine Site.
- One to two surface water samples located in the secondary receiver (Camp Lake tributaries) for the Mine Site

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- One surface water location to monitor the waste rock stockpile and open pit.
- One seepage location from the toe of the waste rock stockpile to monitor.
- One to two samples to monitor seepage in the active layer down gradient from the waste rock stockpile.

9.2.3 STEENSBY PORT

The following sample stations present the approximate post-closure monitoring to be conducted at Steensby Port. As the Project continues to develop the post-closure sample locations will be re-evaluated and a more detailed monitoring program will be developed. The post-closure monitoring at will include the following sample stations:

- One marine sample located by the freight dock.
- One marine sample located by the ore dock.
- One background marine sample location.
- One to two surface water or seepage locations within the Steensby Port area (one monitoring location is to be located down gradient from the ore stockpiles) and one background surface water sample location.

9.3 BIOLOGICAL MONITORING

A biological monitoring program was conducted as part of environmental baseline studies. Biological monitoring will be conducted during the operation and closure phase at the Mine Site and Milne Port to assess the effectiveness of the reclamation and potential impact to the biological environment, in accordance with the MMER Technical Guidance Document on Aquatic Environmental Effects Monitoring and as otherwise required.

The monitoring section of the Final MCRP will be based upon the knowledge gained through studies during the design, construction and operational phases of the Project. Achieved performance will be assessed against an agreed set of specific biological objectives and criteria for areas to be returned for wildlife use.

The list of parameters to be monitored will be revisited as construction and operation activities continue, based on what is used and disposed of on site. Petroleum hydrocarbons, diesel range organics, additional metals and nitrates are examples of parameters that will be considered for future monitoring. Similarly, after investigation of the materials that have been disposed in the landfills, a list of parameters will be established and monitoring activities will be planned accordingly.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE 9-1: PROPOSED POST-CLOSURE MONITORING PARAMETERS

General Parameters	Metals
pH	Arsenic
Total Suspended Solids	Aluminum
Total Ammonia	Cadmium
Total Dissolved Solids	Calcium
Sulphate	Molybdenum
Conductivity	Copper
Alkalinity	Iron
Acidity	Lead
Hardness	Nickel
Ammonium	Zinc

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

10 EXPECTED SITE CONDITIONS FOLLOWING FINAL CLOSURE

10.1 LAND USE

The overall intent of the final closure is to restore the Project to a productive land use, that is self-sustaining and to mitigate impacts from mining activities. In such a condition, the site areas will provide wildlife and aquatic habitat.

Creeks and rivers will be returned to natural drainage by removing bridges and culverts located on the railway alignment and its access roads, and by removing culverts from Tote Road. A new lake will be created from the water inflow into the open pit.

10.2 SITE TOPOGRAPHY

10.2.1 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.
- The airstrip at the Mine Site will remain, but not otherwise scarified or actively reclaimed unless otherwise directed by regulatory agencies or Land Owner, because abandoned airstrips can provide emergency landing locations for regional aircraft, when no other options are available. The airstrips will also be required to conduct ongoing Long-Term monitoring.

10.2.2 MILNE PORT AND MILNE INLET TOTE ROAD

Relative to predevelopment 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. The airstrip at Milne Port will remain but otherwise left intact to provide an emergency landing spot for aircraft. 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. Otherwise the Milne Inlet Tote Road will remain intact.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

10.2.2.1 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. The future airstrip at Steensby Port will be abandoned but otherwise left intact to provide an emergency landing location for aircraft. 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.

10.3 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

11 CLOSURE CRITERIA

The Project shall plan and execute reclamation activities in accordance with applicable guidelines and regulations. The overall goal for the closure and reclamation of the Mary River Project is to leave the Project site in way the results in zero harm to people or the environment.

This MCRP is written with a view to address all project-related activity areas and infrastructure. Specific contingency measures for all reclamation components, including action thresholds that are in linked to the closure monitoring programs outlined in Section 9, will be defined to meet the closure goals, objectives and criteria.

Specific criteria for the Final Closure of Project components were selected based on evaluation of method ability to meet closure goals, objectives and criteria. Closure criteria for Project components include:

Project Component	Closure Criteria
Open Pit	• Minimize access to protect human and wildlife safety. • Allow emergency access and escape routes from flooded pits. • Implement water management strategies to minimize and control migration and discharge of contaminated drainage, and if required, collect and treat contaminated water. • Meet water quality objectives for any discharge from pit. • Stabilize slopes to minimize erosion and slumping. • Meet end land use target for resulting surface expression. • Establish original or desired new surface drainage patterns. • Ensure physical stability of residual earth structures for environmental, human, and wildlife safety. • Physical stability of remaining earth structures is compatible with, and will not be compromised by, the post-closure land use.
Removal of Buildings and Infrastructure	• Ensure buildings do not become a source of contamination or a safety hazard to wildlife and humans. • Ensure other infrastructure does not become a source of contamination. • Return area to a state compatible with the desired end use. • Restore natural drainage patterns where surface infrastructure has been removed. • Restore the natural use by wildlife.
Removal of Machinery, Equipment and Storage Tanks	• Ensure equipment do not become a source of contamination or a safety hazard to wildlife and humans.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Project Component	Closure Criteria
Transportation Corridors	• Return area to a state compatible with the desired end use. • Restore natural drainage patterns where surface infrastructure has been removed. • Restore the natural use by wildlife. • 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.
Waste Management Sites	• Dismantle and remove/dispose of as much of the system as possible. • Stabilize and protect from erosion and failure for the long term. • Achieve approved water quality limits, and in the case of existing mines, implement long term treatment (if required).
Stabilization of Stockpiles	• Minimize erosion, thaw settlement, slope failure, collapse or the release of contaminants or sediments. • Build to blend in with current topography, be compatible with wildlife use, and/or meet future land use targets. • Develop and implement preventive and control strategies to effectively minimize the potential for ARD and ML to occur. • Where ARD and ML are occurring as a result of mine activities, mitigate and minimize impacts to the environment. • Assist with providing physical stability of mine components. • Ensure physical stability of residual earth structures for environmental, human, and wildlife safety. • Physical stability of remaining earth structures is compatible with, and will not be compromised by, the post-closure land use.
Watercourses and Drainage Ways	• Dismantle and remove/dispose of as much of the system as possible and restore natural drainage patterns. • Stabilize and protect from erosion and failure for the long term. • Achieve approved water quality limits.
Re-vegetation	• Re-establish the pre-mining ground cover, which may involve encouraging self-sustainable indigenous vegetation growth (natural re-vegetation). • Provide wildlife habitat where appropriate and feasible. • Assist with providing physical stability of mine components.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

12 ESTIMATED CLOSURE AND RECLAMATION COSTS

The financial cost of the Mary River Project closure and reclamation has been estimated using The Mining RECLAIM spreadsheet provided by Aboriginal Affairs and Northern Development Canada (AANDC) (formerly Department of Indian Affairs and Northern Development). This 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") are listed for each component, and broken down into lists of actions that can be priced separately. A unit cost spreadsheet provides a range of prices for most actions it has been completed where possible with the most accurate available or Project-specific costs. To best estimate the total reclamation cost, some actions were modified or adapted to the strategies defined in the MCRP.

The financial cost obtained is based on the information available at the time of publishing. Several assumptions and estimations have been made and are described in Appendix D. 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 are for the fully developed Project as described in the original FEIS. It addresses Project-related activity areas and infrastructure related to the original Mary River Project proposed in the FEIS including mobilization and post-closure monitoring. This estimate is 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. 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 on an annual basis in Annual Security Review (ASR) process to account for such cases Baffinland would 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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 asses Project closure and reclamation liability until such time planned closure commences.

12.1 Final Mine Closure Cost

MINING RECLAIM calculates the grand total capital costs required for the Project closure and reclamation. The cost is split into land and water liability. Additionally, the cost associated to Inuit Owned Land (IOL) and Federal Owned (FOL) has been differentiated from North to South, Milne Port, Tote Road, Mine Site, and the first 25 km of the railway are located on Inuit land. The remaining section of the railway and Steensby Port are located on federally owned 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 FOL. This was based on two of the main sites (Milne Port, Mine Site) being in IOL and one site (Steensby Port) located in FOL.

The Ultimate Project closure and reclamation is estimated to cost $518,711,208. The break down between land and water liability and IOL/FOL is summed up in TABLE 12-1.

TABLE 12-1: 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

12.2 Interim Mine Closure Cost

Under the Annual Security Review process conducted in accordance with Schedule C of Type “A” Water Licence 2AM-MRY1325 and Commercial Lease No. Q13C301 an interim mine closure cost (or ‘Security Estimate’) is developed annually prior to work being commenced. This estimate reflects the current project understanding and strategy and is developed in concert with relevant stakeholders.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

13 CONCORDANCE TABLES

TABLE 13-1 has been prepared to characterize the content of the MCRP and updated with reference to this Interim MCRP. 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 (2010).

TABLE 13-1: QIA ABANDONMENT AND RECLAMATION POLICY FOR INUIT OWNED LANDS CONCORDANCE TABLE

Item	QIA Abandonment and Reclamation Policy for Inuit Owned Lands (2010)	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 Inuit Qaujimajatuqangit and consultation with Community Land and Resources Committee(s) been applied?	Not at this stage, commitment to do so in the future but closure was discussed at hearings related to the Project Certifcate.
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
9	Have Tables 1, 2, 3 and 4 of the Security Policy (Appendix C) been used in completing the financial security estimate?	Yes
10	Has evidence been provided to support the Policy assumptions for all reports and plans?	Yes

TABLE 13-2 has been prepared to show all the Project Certificate No. 0005 commitments outlined in that apply to this MCRP. Where the Project Certificate 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE 13-2: NIRB PROJECT CERTIFICATE CONDITIONS – APPENDIX A

Commitment Number	NIRB Project Certificate - Appendix A	MCRP 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.	8.13
40	Baffinland is committed to undertaking environmental effects monitoring during the mine life mine as well as after closure.	9
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 and 2.5

Table 13-3 has been prepared to show concordance with Part J, Number 2 of the Type A Water Licence, 2AM-MRY1325.

TABLE 13-3: TYPE 'A' WATER LICENCE 2AM-MRY1325, PART J, ITEM 2

TYPE 'A' WATER LICENCE 2AM-MRY1325, Schedule J	MCRP 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;	Sections 4, 10
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;	Section 5
c. Implications of any updated water balance and water quality model prediction results and any adaptive management measures that may be required;	Section 9.2
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;	Section 11
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;	Section 8.10.1

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TYPE 'A' WATER LICENCE 2AM-MRY1325, Schedule J	MCRP Section
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;	Section 8.2
g. Contingency measures for all reclamation components including action thresholds that are linked to the monitoring programs;	Section 11
h. Monitoring programs to assess reclamation performance and environmental conditions including monitoring locations for surface water and Ground Water, parameters;	Sections 9, 9.2
i. Monitoring schedules and overall timeframes;	Sections 9.2
j. QA/QC procedures for managing the demolition landfill and other waste disposal areas;	Section 8.9.1
k. A list of non-salvageable materials and disposal locations;	Section 8.9
l. Rock storage facility closure design plans and sections including the types of material placed and volumes;	Section 8.11.1
m. Protocol for the disposal of any contaminated soil;	Section 8.10
n. An assessment of the long-term physical stability of all remaining project components;	Section 9.1
o. A revised closure and reclamation cost estimate; and	Section 12.2
p. A detailed implementation schedule for completion of reclamation work	Sections 8.14, 8.14.1

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

14 GLOSSARY OF TERMS, ACRONYMS, OR ABBREVIATIONS

14.1 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 orebody. 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 orebody 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Term	Meaning
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.
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.
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.
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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Term	Meaning
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.
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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Term	Meaning
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 75 ypersthenes and covering with overburden as required and allowing the surrounding natural vegetation to encroach and be re-established on the disturbed area.
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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Term	Meaning
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 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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Term	Meaning
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.
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.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Term	Meaning
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 78 ypersthenes, 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.

14.2 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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Abbreviation	Description
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
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
MC&RP	Mine Closure and Reclamation Plan
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
VEC	Valued Ecosystem Component
VSEC	Valued Socio-Economic Component

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Abbreviation	Description
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)

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Abbreviation	Description
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)
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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Abbreviation	Description
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
NIRB	Nunavut Impact Review Board
NPC	Nunavut Planning Commission
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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

15 REFERENCES

AANDC, 2007. Mine Site Reclamation Guidelines for the Northwest Territories, prepared by Indian and Northern Affairs Canada, dated January 2007.

AMEC, 2010. Interim Report on ML/ARD Characterization Mary River Project, Deposit No. 1, dated December 2010, prepared by AMEC Earth & Environmental.

Baffinland, 2011. 2011 Abandonment and Reclamation Plan, prepared by Baffinland Iron Mines Corporation, dated March, 2011.

Burt, 2010. Vegetation Baseline Studies: Mary River Project, prepared by Page Burt, dated July 2010.

DFO, 2010. Protocol for Winter Water Withdrawal from Ice-covered Waterbodies in the Northwest Territories and Nunavut.

INAC, 1992. Mine Reclamation in Northwest Territories and Yukon, prepared by Steffen Robertson and Kirsten (B.C.) Inc. for Indian and Northern Affairs Canada, dated April 1992.

INAC, 2002. Mine Site Reclamation Policy for Nunavut, prepared by Indian and Northern Affairs Canada, dated 2002.

INAC, 2002a. Mine Site Reclamation Policy for the Northwest Territories, prepared by Indian and Northern Affairs Canada, dated 2002.

Knight Piésold, 2008. Mary River Project - Estimated Time for Open Pit to Fill with Water, September 2008, prepared by Knight Piésold.

NIRB, 2009. Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project, prepared by Nunavut Impact Review Board, dated November 2009.

NWTWB, 1990. Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories, prepared by Northwest Territories Water Board, dated September 1990.

QIA, 2009. Abandonment and Reclamation Policy for Inuit Owned Lands (Draft), May 2009. Prepared by Qikiqtani Inuit Association.

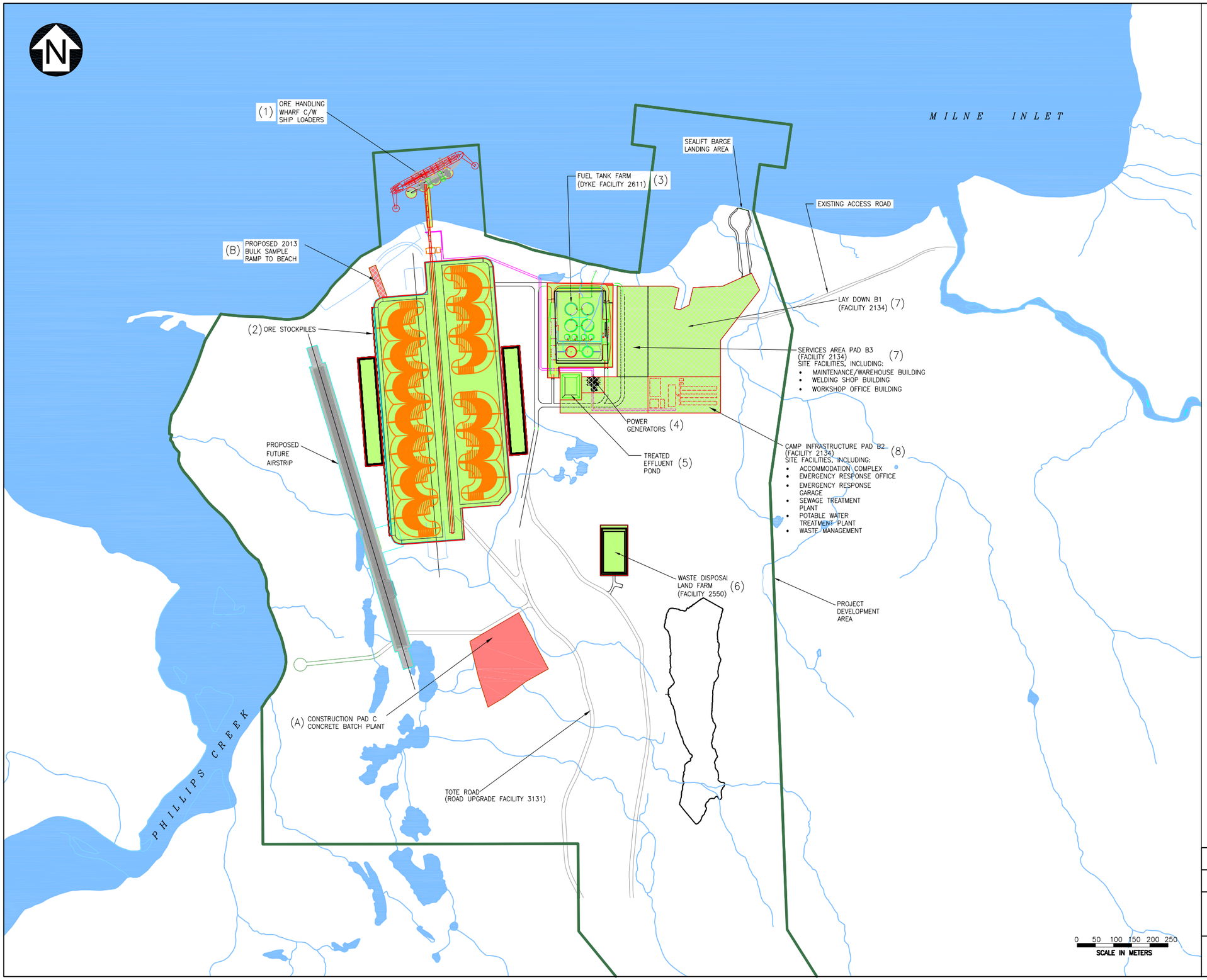
The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

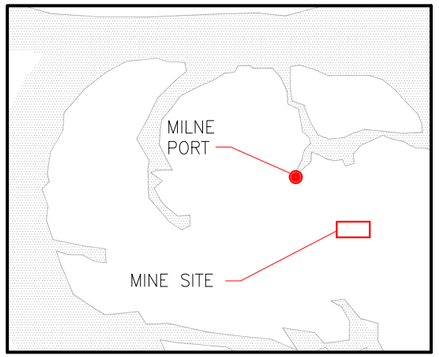
Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Appendix A -
Preliminary Mine Closure and Reclamation Plan Drawings

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used





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

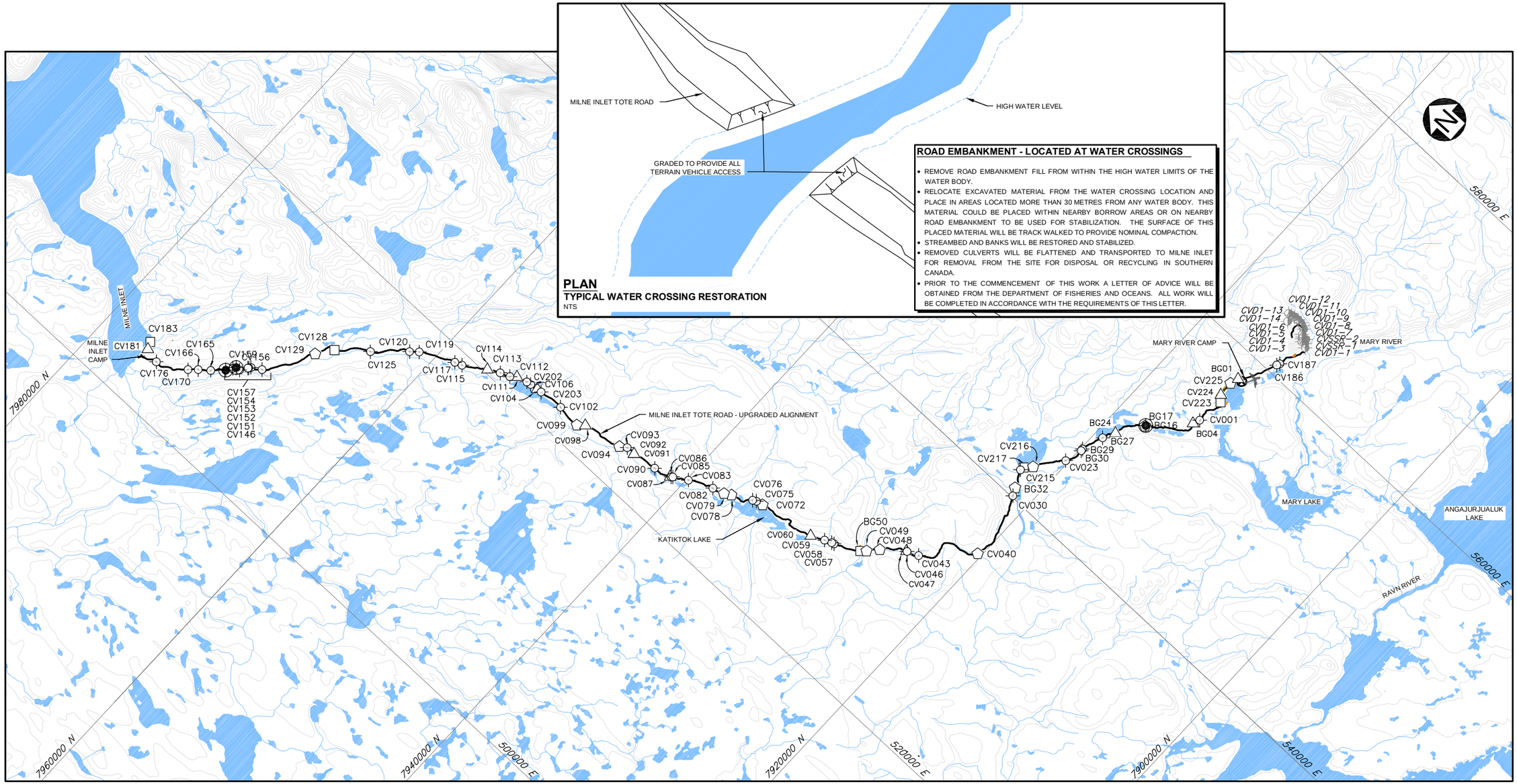
AREAS OF RECLAMATION - MILNE PORT LAYOUT

Baffinland

REF NO. BL_ARP_CAD_001

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

REV 0



LEGEND:

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

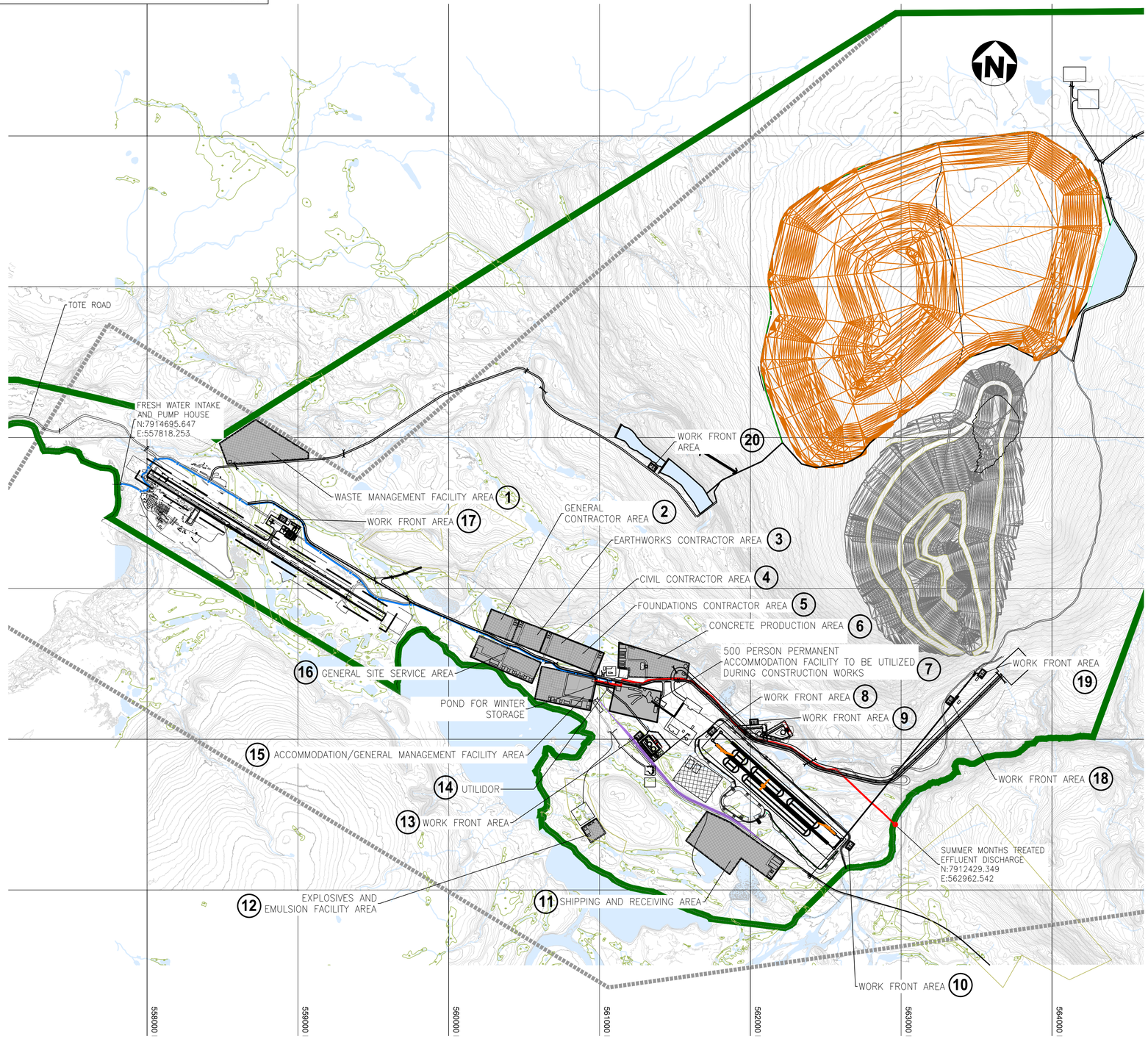
Knight Piésold CONSULTING

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

FIGURE 8.10 REV 0

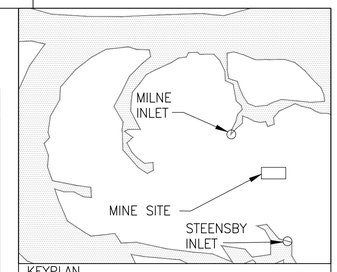
SAVED: I:\1\01\00018\12\A\Mxd\FIGS\B01_0_2\24\2011 3:50:12 PM, AMOORE PRINTED: 2/24/2011 3:51:04 PM, Layout1, AMOORE
XREF FILES: Base Map, Milne Inlet, borrow sources Genivar Dec 2008 Extra Small Extra Large Crossings IMAGE FILES

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

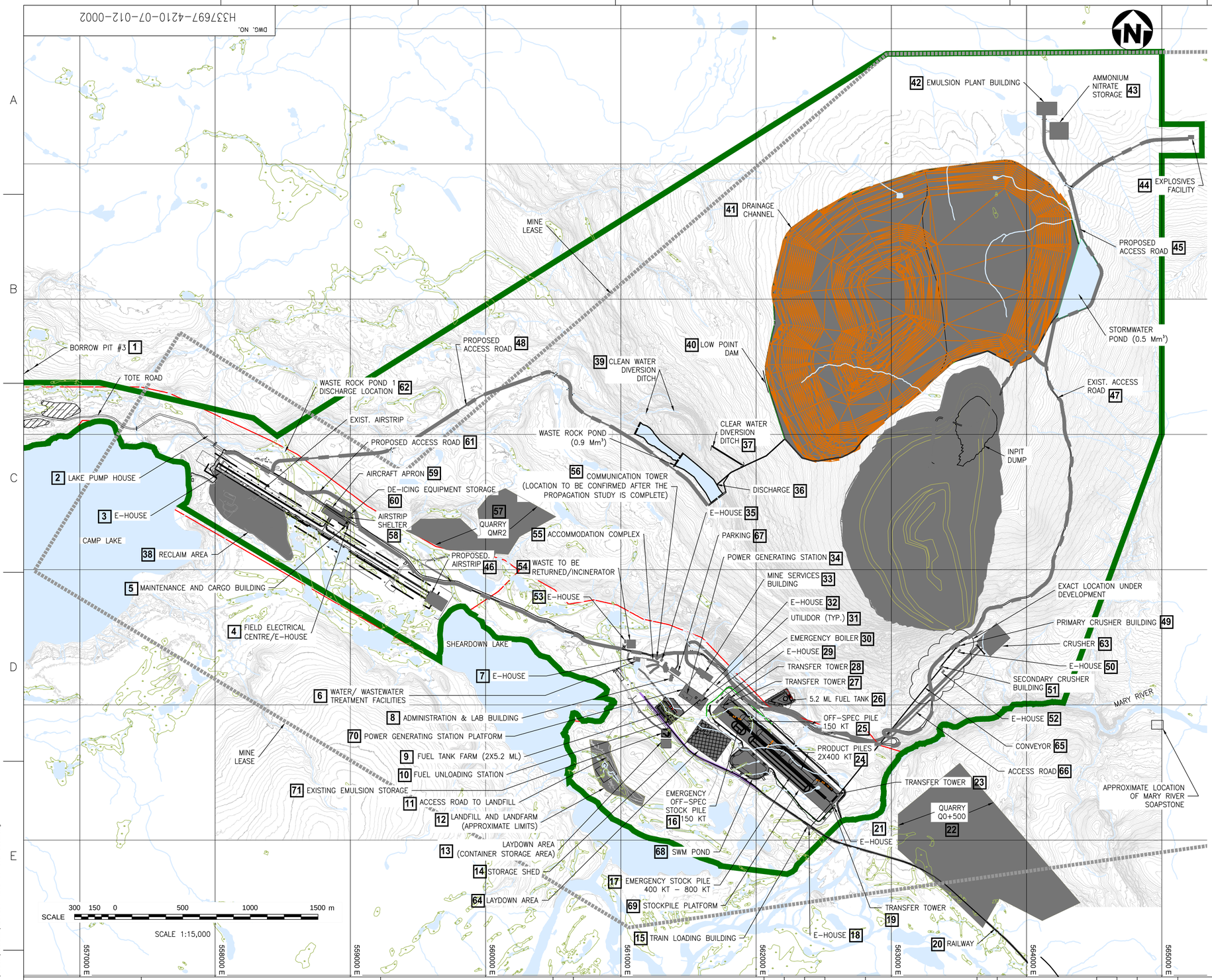
MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
MINE SITE CONSTRUCTION PHASE

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

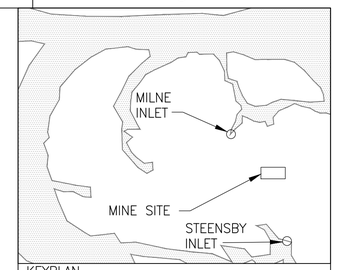
Oct 31, 2011 - 4:03pm Login name: fun51283 Layout: MINE SITE
Drawing Name: P:\289980 - Mary River\CAD\Civil\Roads\Reclaim\H337697-4210-07-012-0001 - Standard\H337697-4210-07-012-0001.dwg

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**

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

DESIGNED BY A. GREGORCZYK	DRAWN BY M. LU
DATE	DATE
CHECKED BY T. HO	DISCIP. ENGR. 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
MINE SITE FINAL CLOSURE PHASE

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

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

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

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
Q35+000
Q35+500
RAVN RIVER BRIDGE
BR-37-1
Q38+700
Q42+000
Q44+300
Q44+000
Q45+000
Q45+800
45+450.15
Q48+000
Q50+000
Q53+700
Q56+750
Q61+400
Q64+400
Q67+200
Q71+000
Q74+200
Q77+200
79+206.18
Q79+600
Q82+700
Q85+200
Q89+600
QA11
90+350.00
Q92+000
QA12
QA13
Q95+400
Q96+100
Q96+700
BR-95-1
QA1
QA2
QTR6
QA3
QA4
QA14
TUNNEL # 2
QTR7
Q110+200
QA5
QA7
QA6
QTR8
Q114+600
QTR9
Q116+800
QA8
QTR4A
QA9
Q127+800
Q128+000
Q131+100
Q133+500
QA10
BR-138-1
Q139+600
QS2

AREA 1
AREA 2
END OF AREA 1
START 0F AREA 2

RAVN RIVER
MARY RIVER
MARY LAKE
ANGAJURJUALUK LAKE
RAVN RIVER AREA 200 PERSON CAMP
IPARQAK FORD
PINGIMAJUQ RIDGE
COCKBURN RIVER
NINA BANG LAKE
EXISTING MID-RAIL DRILL CAMP
EXPANDED MID-RAIL AREA 200 PERSON CAMP
SHARED OR INTEGRAL ACCESS ROAD (WITH EXCEPTIONS)
PROPOSED RAILWAY ALIGNMENT
CONSTRUCTION ACCESS ROAD
NORTH COCKBURN LAKE
COCKBURN LAKE BRIDGE
COCKBURN LAKE
COCKBURN TUNNELS AREA 100 PERSON CAMP
SOUTH COCKBURN LAKE
SOUTH COCKBURN CAMP (400 PERSON)
STEENSBY INLET
STEENSBY PORT

ᑎᑎᕗᒃᑐᑦ 3-2.5
FIGURE 3-2.5
ᑎᑎᕗᒃᑐᑦ 3-2.6
FIGURE 3-2.6
ᑎᑎᕗᒃᑐᑦ 3-2.7
FIGURE 3-2.7
ᑎᑎᕗᒃᑐᑦ 3-2.8
FIGURE 3-2.8
ᑎᑎᕗᒃᑐᑦ 3-2.9
FIGURE 3-2.9

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

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL VARIES.
4. STREAM CROSSINGS ARE SHOWN ON PLAN AND PROFILE DRAWINGS BY CANARAIL.

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

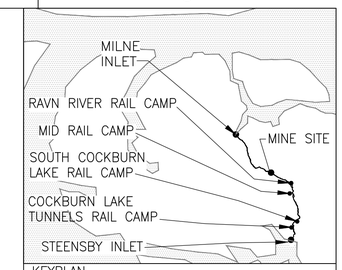
PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
RAILWAY ALIGNMENT

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. 144.3 ±
W.L. 149.4 ±
W.L. 139.4 ±
W.L. 139.7 ±
W.L. 133.9 ±
W.L. 134.3 ±
W.L. 134.3 ±
W.L. 132.6 ±
W.L. 133.6 ±
W.L. 139.5 ±
W.L. 138.2 ±
W.L. 135.5 ±

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

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

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

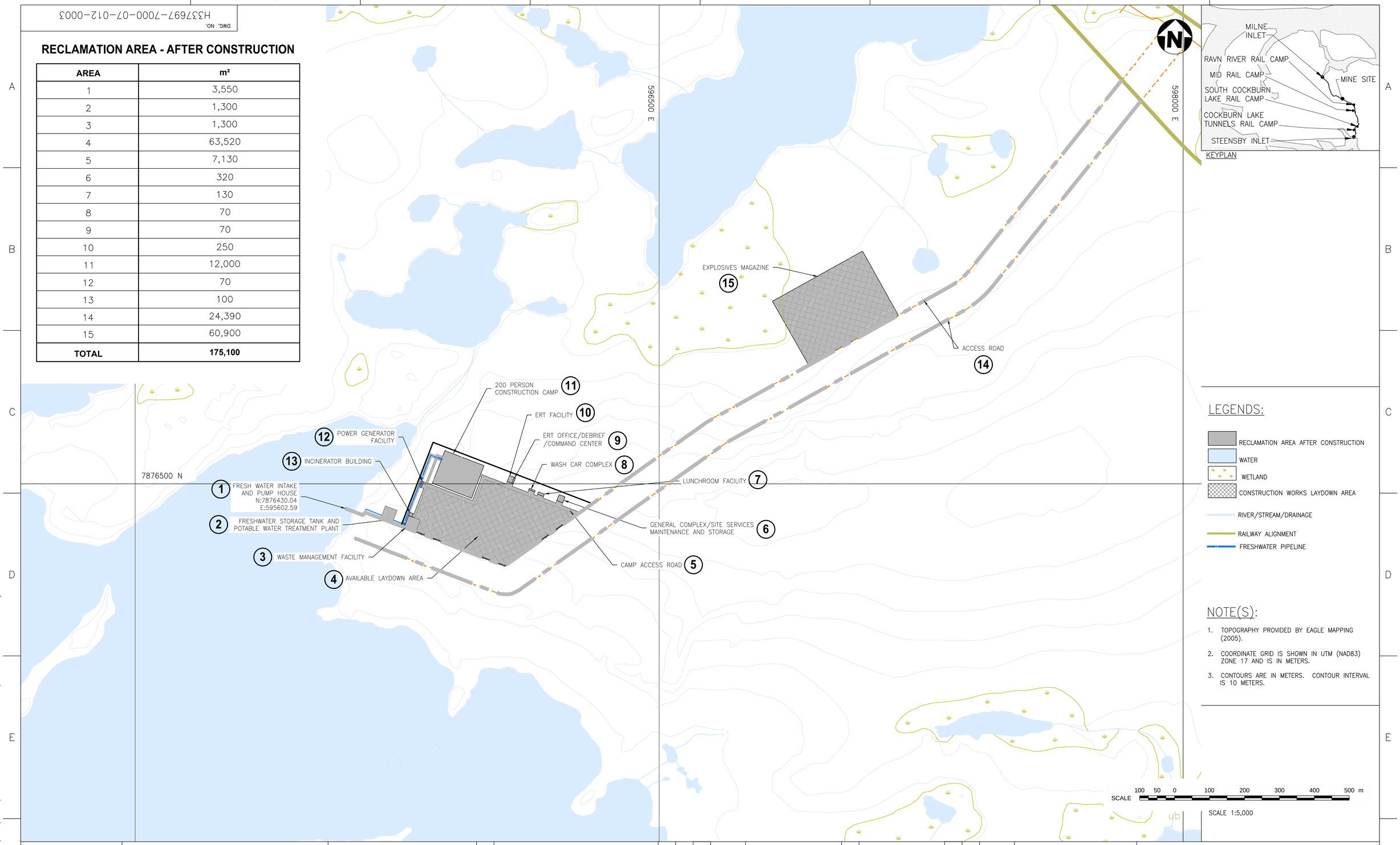
PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN
RAVN RIVER RAIL CAMP

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

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**



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™

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	

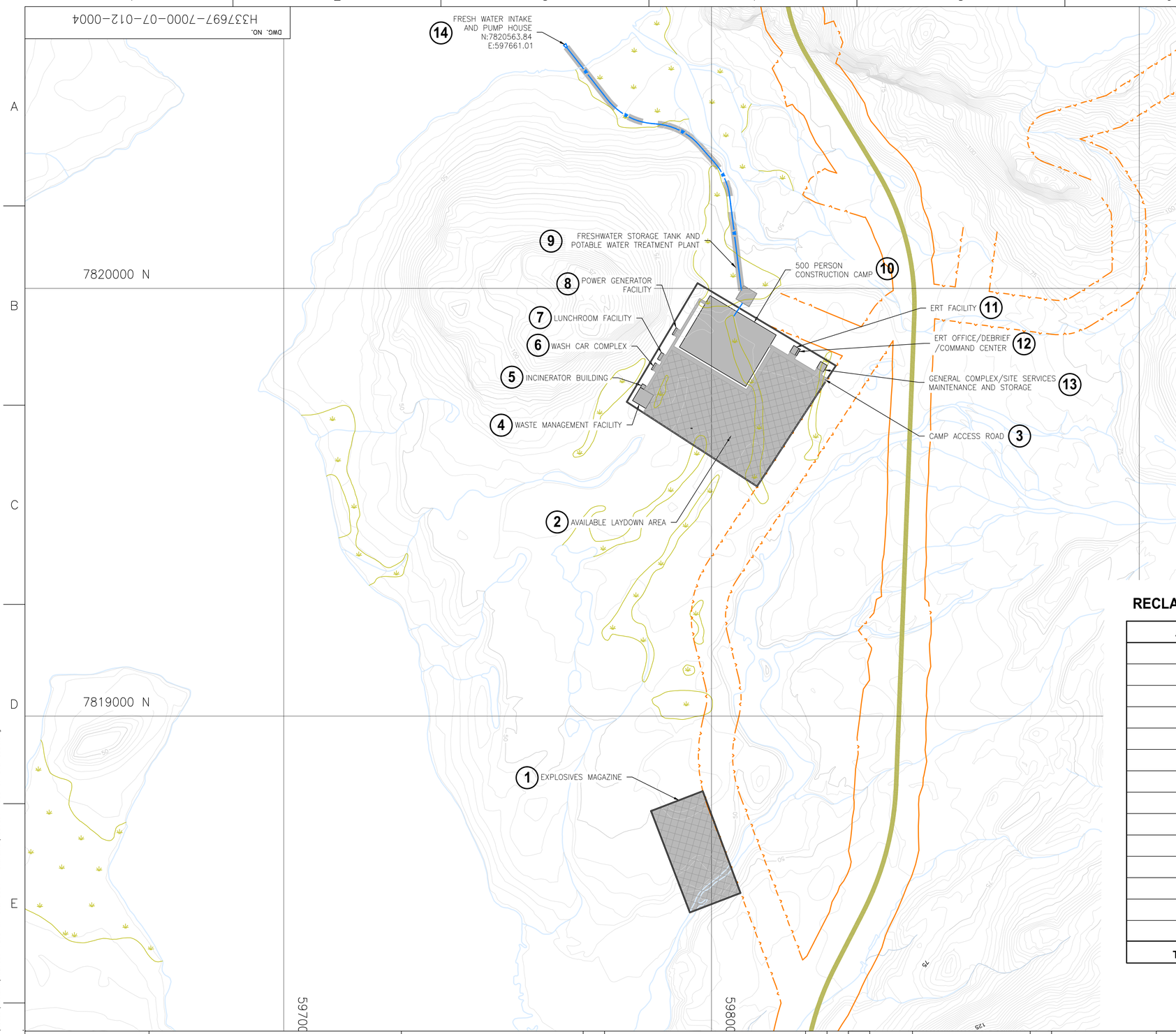
MARY RIVER PROJECT

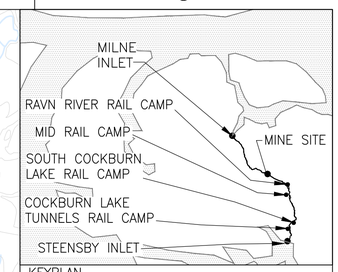
PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN MID RAIL CAMP

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

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

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





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 Layout: SOUTH COCKBURN LAKE CAMP
Drawing Name: P:\289980 - Mary River\CAD\Civil\Roads\Reclaim\H337697-7000-07-012-0004 - Standard\H337697-7000-07-012-0004.dwg

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

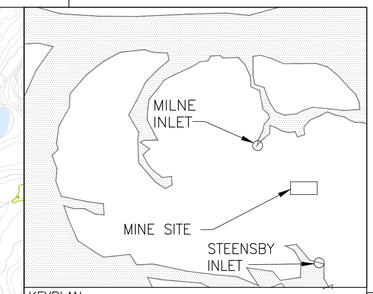
593000 E
594500 E
596000 E
597500 E
599000 E

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
Drawing Name: P:\289980 - Mary River\CAD\Civil\Roads\Reclaim\H337697-4510-07-012-0001 - Standard\H337697-4510-07-012-0001.dwg Layout: STEENSBY INLET

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

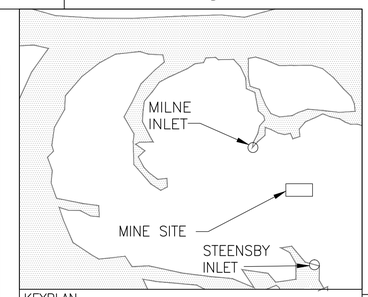
7803500 N | 7802000 N | 7800500 N | 7799000 N | 7797500 N

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
66 E-HOUSE
67 AIR STRIP SHELTER
68 FIELD ELECTRICAL CENTRE
CARGO STORAGE BLD 69
DEICING EQUIPMENT STORAGE 70
RUNWAY
AIRSTRIP
HELICOPTER PAD 78
72 RAILWAY TO FREIGHT DOCK
73 UNIT SUBSTATION
74 PROPOSED FREIGHT DOCK & FUEL UNLOADING
ACCESS ROAD
ACCESS ROAD 77
DOCK OFFICE BUILDING 76
DOCK OFFICE BUILDING 75
LANDFILL 57
FRESHWATER PIPELINE 79
MOW MATERIAL STORAGE 58
ON HOLD FOR PROPAGATION STUDY
COMMUNICATION TOWER
E-HOUSE 59
FIRE PUMP HOUSE BUILDING 60
ADMINISTRATION, LAB & FIRST AID BUILDING 61
POTABLE WATER TREATMENT BUILDING 62
E-HOUSE 63
EMERGENCY BOILER HOUSE 64
E-HOUSE 65
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):

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

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 -
Mining RECLAIM Assumptions and Spreadsheet Extracts as present in FEIS

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

B.1 Open Pit

B.1.1 Objective: Control Access

The access of the Mary River open pit will be controlled by a berm at the crest and signage. The pit will have an estimated final perimeter of 4300 m, along which a berm will be installed. Signage will be installed every 500 m at a minimum.

B.1.2 Objective: Cover/Contour Slopes (chosen for the price of placing inert materials in the pit)

Scrap materials will be produced by the demolition of buildings. Although these materials may or may not be dumped in the open pit, the price of loading and dumping has been included in the open pit spreadsheet. The price will be similar to that of loading and dumping at the alternate locations, the onsite landfills. It is assumed that 90% of the materials from the building will be disposed of at approved repositories on-site and 10% will be shipped from Milne Port or Steensby Port off-site for disposal. A yield of 50 m3 per 1000 m2 of building footprint has been assumed. Additionally, the cost of placing 1.5 m of overburden over that material was taken into account. The total surface of Project buildings is: 82,763.5 m2.

B.1.3 Objective: Spillway

The pit will be allowed to flood naturally, a process that may take 85 to 150 years to complete. Once the open pit fills to the point of overflow, pit drainage will enter the natural environment from the southeast corner of the open pit. A channel is thus necessary to guide the overflow to Mary River. It is assumed the channel will be 0.5 km long, 1 m wide and 0.75 m deep.

B.1.4 Objective: Reclaim Quarries

A majority of the quarries will be reclaimed after construction. It is assumed that four of the 63 quarries will be reclaimed at closure. Excess rock will be placed back in the quarries. An estimated 5% of the total surface of the quarries will be covered by excess rock, at a minimum of 1 m. The borrow pit slopes will be contoured. It has been assumed that 20% of the total area of the borrow pit will undergo re-contouring.

At this point, no treatment for ARG/ML is anticipated (AMEC, 2010). If future investigations prove to the contrary, batch treatments will be added to the open pit cost.

B.2 Rock Pile

Objective: Cover Dump (chosen for the price of scarification)

In order to stimulate re-vegetation, the flat areas of the rock pile will be scarified. The area has been calculated from the final drawing of the pile and is assumed to be: 1,762,884.5 m2 or 176.2 ha.

It is assumed all ore piles will be shipped off site prior to reclamation due to their monetary value.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

B.3 Buildings and Equipment

Three objectives correspond to each building:"removal of contaminated buildings", "removal of non contaminated buildings" and "break basement slab".

As a general assumption, the buildings have been sorted into the following categories in the RECLAIM spreadsheet:

- Buildings that may require decontamination (maintenance shop, power plant, bulk fuel storage and ANFO plant): 200$/m2.
- Buildings that may not require decontamination (crushing plant, water treatment plant offices, warehouse and accommodations and miscellaneous): 100 $/m2.

These prices were extracted from former mine reclamation estimates and doubled to account for the additional costs inherent to arctic conditions.

As well as:

- Buildings with concrete foundations (crushing plants): 53.46 $/m2.
- Buildings with pile foundations: 26.73 $/m2.

In the Table B- 2, Table B- 5, and Table B- 7, P stands for Piles and S for Shallow Foundations.

The list of buildings was extracted from document H337697-0000-00-144-0001: Mary River Project Master Building Matrix.

An update of this section will be necessary as this document is revised.

B.3.1 Objective: Dispose Mobile Equipment

It has been assumed that all the mobile equipment will be disposed of offsite. The total cost of sealift is included in the mobilization estimate. The return on salvaged scrap material from the demolition of buildings and equipment was not taken into account in this estimate.

PLEASE NOTE: Options for any remaining infrastructure at final closure to be donated to local communities will be examined and encouraged, however the cost of demolition and disposal of all buildings was the cost captured in this estimate.

B.3.2 Milne Port

B.3.2.1 Objective: Remove Buildings

Table B- 1 summarizes the buildings at Milne Port.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 1: BUILDINGS AT MILNE PORT

Buildings/Areas	Area (m^2)
Exist. Polishing/waste stabilization pond	
Exist. Fuel storage drums	
Temporary empty fuel drums on ground	
Exist. Bladder fuel farm	
Lined storage area	
Exist. Fuel storage area	
Total	42,270 m^2

Existing camps account for 1,250 m2.

It is assumed that strictly the footprints of the aboveground fuel tanks would be reclaimed and not the entire fuel storage site. Therefore it is estimated that this is 75% of the fuel storage site area will need to be reclaimed.

Additionally, the airstrip lightning will be removed at the cost estimated in the 2011 Exploration Phase A&R Plan.

B.3.3 Tote Road

B.3.3.1 Objective: Reclaim Roads

Tote road is left as a public road. As per the 2011 A&R plan, all culverts on Tote Road will be removed, including ten major culverts (box and round culverts). Water breaks will be installed. This will allow for the natural restoration of drainage patterns.

B.3.4 Mary River Mine Site

B.3.4.1 Objective: Reclaim Airstrip

The airstrip lightning will be removed at the cost estimated in the 2011 Exploration Phase A&R Plan.

B.3.4.2 Objective: Landfill for Demolition Waste

It is assumed a 1.5 m cover will be placed over the Mary River mine landfill of area 76,300 m2.

B.3.4.3 Objective: Reclaim Roads

It is assumed that the deposit #1 road ditches will be filled with cobble over 600 m. It has been assumed that 20% of the access roads (totalling 1,000,000 m2 according to the Mary River Iron Ore Trucking Feasibility Study – Technical Decision Record, Appendix A will be graded and contoured.

The buildings, vehicles and airstrip equipment at Mary River Mine Site are listed in tables Table B- 2 Table B- 3 and Table B- 4 respectively.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 2: BUILDINGS AT MARY RIVER

		Footprint m2	Foundation
Pit Office & Lunch Room (MR)	Offices/warehouse/accom	532.8	
Emulsion Plant Building (MR)	ANFO plant	372.10	
MMU Building (MR)	ANFO plant	558.2	
Primary Crusher Building (MR)	Crushing plant	720.0	P
Secondary Crusher Building (MR)	Crushing plant	630.0	S
Conveyor Tunnel Exit Building (MR)	Crushing plant	240.0	
Maintenance of Way Building (MR)	Maintenance shop	1600	P
Accommodation Building (MR)	Offices/warehouse/accom	4207.0	P
Services Building (MR)	Offices/warehouse/accom	6739.0	P
Unheated Storage Building (MR)	Offices/warehouse/accom	2550.0	P
Truck Warming Building (MR)	Offices/warehouse/accom		
Administration Building (MR)	Offices/warehouse/accom	1483.0	P
Airstrip Shelter (MR)	Other	300.0	S
De-Icing Equipment Storage (MR)	Other	300.00	P
Maintenance & Cargo Building (MR)	Other	300.0	P
Field Electrical Centre (MR)	Other	40.0	S
Lake Pump House (MR)	Water treatment plant	72.0	S
Potable water Treatment Building (MR)	Water treatment plant	178.2	P
Fire Pump House (MR)	Other	450	P
Sewage Treatment Building (MR)	Water treatment plant	1680.0	P
Emergency Boiler Building (MR)	Other	180.0	P
Solid waste disposal & incinerator system building (MR)	Consolidate & dump boneyard debris	1200.00	P
Telecommunications & Signalling Shelter & Tower (MR)	Other		
Power plant Building (MR)	Power plant	3600.0	P
E-house for 1000-BLD-1210.100 (MR)	Power plant	216.0	P
E-house for 1000-BLD-1230.100 (MR)	Power plant	540.0	S
E-House for 4000-BLD-4220-101 (MR)	Power plant	216.0	P
E-House for 4000-BLD-4290.102 (MR)	Power plant	72.0	P
E-House for 4000-BLD-4310.100 (MR)	Power plant	144.0	P
E-House for 4000-BLD-4320.100 (MR)	Power plant	144.0	P
E-House for 4000-BLD-4330.101 (MR)	Power plant	72.0	P
E-House or Fuel Unloading Station (MR)	Power plant	144.0	P
E-House for 4000-BLD-4330.102 (MR)	Power plant	144.0	P
E-House for 4000-BLD-4340.100 (MR)	Power plant	144.0	P
E-House for 4000-BLD-4350.100 (MR)	Power plant	72.0	P
E-House for 5000-BLD-5130-103 (MR)	Power plant	540.0	P
E-House for 5000-BLD-5180.100 (MR)	Power plant	216.0	P
Utilidors (MR)	Other	2761.7	P
Transfer Tower 5130-TT-001 (MR)	Conveyors & transfer towers	297.0	P
Transfer Tower 5130-TT-002 (MR)	Conveyors & transfer towers	252.0	P
Transfer Tower 5130-TT-003 (MR)	Conveyors & transfer towers	140.0	P
Transfer Tower 5130-TT-004 (MR)	Conveyors & transfer towers	180.0	P
Rail Car Loading Station Building (MR)	Other	408.3	P

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

NOTE: FUEL STORAGE AREAS WERE NOT INCLUDED IN THE BUILDING LIST. THIS AREA REPRESENTS 13,130 M2. IT IS ASSUMED 75% OF THIS AREA WILL NEED TO BE RECLAIMED AND THIS COST WAS CAPTURED IN THIS ESTIMATE.

TABLE B- 3: VEHICLES AT MARY RIVER MINE SITE

Vehicles			
Haul Trucks			
CAT D300 (Haul Truck 30 ton)	2	**Material Handling & Lifts**	
CAT 777 Tow Haul	1	12000lb Tele-Handler Zoom Boom	2
		85ft Man Lift	1
Loaders			
CAT 966 Loader	1	**Pick-Ups, Trucks & Trailers**	
CAT 988 Loader	2	Pick-ups	13
CAT IT62 Loader	2	20 ton Picker Truck	4
Skid Steer Loader	4	Pintle Trailer for the above	2
Backhoe	2	Roll-off Trucks	3
		4000 Gal Fuel Truck	1
Dozers		B Train Fuel Truck	1
CAT D6 Dozer	1	Sewage collection truck	2
		4000 Gal Water Truck	1
Graders		Busses	2
CAT 16H Grader	1	Tractor Trailer & Low Boy	2
		Winch Tractor	1
Crushers		Winch Tractor	3
Nordberg NW7150 Crusher	1	Winch Tractor	1
Nordberg NWSeries Jaw Crusher to suit above	1	Tow Haul Trailer	1
Nordberg NW Series Screen Plant (3 decks)	1	Crew Bus	2
Nordberg CM Series Mobile Conveyor	4		
		Safety Equipment	
Pit / Blast Hole Drill		Fire Truck	1
Polaris Ranger 80C Utility Vehicle	1	Ambulance	1
		Tracked Recovery Vehicle	1
Packers		Emergency Response Vehicle	1
10 ton Drive On Packer	1		
		Miscellaneous	
Cranes		320000BTU Frost Fighter	10
Grove 40 ton Rough Terrain	1	8kW Ingersol Rand Light Towers	10
Grove RT89E, Rough Terrain	1	Tyre handler	3
		20kW Whisper Watt Gen Set	5
Container Handling		Fork Lift	1
100000lb Sea Can Handler	1	Fork Lift	3
100000lb Hyster Fork Lift	1	Pallet Truck	10
		Rock Breaker	1
		Total	118

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 4: AIRCRAFT EQUIPMENT AT MARY RIVER

Maintenance and Cargo Building Electric Baggage Tow Tractor	1
Maintenance and Cargo Building Bobcat	1
Maintenance and Cargo Building Potable Water Truck	1
Maintenance and Cargo Building Aircraft Passenger Stairs	1
Maintenance and Cargo Building Aircraft Tow Tug	1
Maintenance and Cargo Building Aircraft Tow Bars - Set	1
Maintenance and Cargo Building E-Sprayer	1
Maintenance and Cargo Building Lavatory Service Truck	1
Maintenance and Cargo Building Baggage Belt Loader Vehicle	1
Maintenance and Cargo Building Pallet Dolley	2
Maintenance and Cargo Building Wheeled Fire Extinguisher (125 lbs)	1
Maintenance and Cargo Building Combi Back-Hoe with Front Blade Attachment	1
Maintenance and Cargo Building Service Pick Up Truck	2
Maintenance and Cargo Building Fork Lift	2
Maintenance and Cargo Building Maintenance Service Ladder and Platform	1
Maintenance and Cargo Building Mobile Air Compressor	
Deicing Equipment and Fire Rescue Building De-Icing Truck	2
Deicing Equipment and Fire Rescue Building Fire Rescue Truck	1
Total	21

Objective: Specialized Items

At Mary River, the train load-out, stackers and conveyors will all be broken down prior to disposal. This specific equipment will require particular care during reclamation. The price of reclamation is estimated to be 25% the cost of installation, except for the conveyor. This is assumed based on the concept that the specialized items will simply be broken down into transportable pieces and then disposed of. Estimated cost of installation is as follows:

- Stacker: $9,669,727.
- Train load-out: $3,226,600.
- Conveyor: $48,146,024.

For the conveyor, a ratio of 0.125 has been applied, since the pile foundations will require much less work for reclamation than for installation.

Please Note: This price includes the conveyors located in Steensby Port as well.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

B.3.5 Railway and Access Roads

B.3.5.1 Objective: Reclaim railway

200 culverts and 31 bridges will be removed. It has been assumed that the cost of removing each bridge is $50,000. The rails will be dismantled and disposed of. Tunnels will be plugged by rock and sealed with concrete. An estimated 20 cm of concrete will be poured on the surface area of tunnel opening. It is assumed all tunnel openings will be a standard 4.8 * 8 m2, the approximate cross section of each tunnel. In addition, an estimated three meters of rock will be placed at each entrance.

Buildings and equipment along the railway are listed in table Table B- 5 and Table B- 6

TABLE B- 5: BUILDINGS ALONG THE RAILWAY

	Footprint m2	Foundation
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 1	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 2	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 3	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 4	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 5	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 6	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 7	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 8	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 9	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 10	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 11	29	
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER NO. 12	29	

TABLE B- 6: EQUIPMENT ALONG THE RAILWAY

Equipment	Total Units
Locomotives	11
Cars	433
Total	444

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

The price of removing tracks and ties from the railway has been estimated based on contractor's installation cost. Estimated cost of installation is as follows:

- Material transportation to Steensby Port: $1,953,724.
- Tracks removal: $17,534,764.
- Yards and sidings removal: $4,019,321.
- Turnout's removal: $1,324,116.
- Remove miscellaneous appurtenances: $540,410.

The price of reclamation of the rail and ties is estimated to be 50% the cost of installation. This is assumed based on the concept that the rail and ties items will simply be broken down into transportable sections and disposed of.

The access road along the railway will have been reclaimed after construction and is indeed not included in the final reclaim cost estimate.

The grand total cost for tracks and ties removal amounts to: $25,372,335.

B.3.6 Steensby Port

Buildings, vehicles and airstrip equipment at Steensby Port are respectively listed in tables Table B- 7 Table B- 8, and Table B- 9.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 7: BUILDINGS AT STEENSBY PORT

		Footprint m2	Foundation
SCREENING BUILDING (SP)	other	1728.0	S
TERTIARY CRUSHER BUILDING (SP)	crushing plant	1728.0	S
RAIL INSPECTION BUILDING (SP)	other	3500.0	
ORE DOCK OPERATIONS FACILITY (SP)	other	216	S
FREIGHT DOCK OPERATIONS FACILITY (SP)	other	216	S
ACCOMMODATION BUILDING (SP)	offices/warehouse/accom	4976.0	P, S
ADMINISTRATION BUILDING (SP)	offices/warehouse/accom	1598.4	P
RAIL & LIGHT VEHICLE MAINTENANCE BUILDING (SP)	maintenance shop	9091.3	S
UNHEATED STORAGE BUILDING (SP)	maintenance shop	2550.0	
AIRSTRIP SHELTER (SP)	other	300.0	S
DE-ICING EQUIPMENT STORAGE (SP)	other	300.0	P
MAINTENANCE & CARGO BUILDING (SP)	other	300.0	P
FIELD ELECTRICAL CENTRE (SP)	other	40.0	S
LAKE WATER PUMPHOUSE (SP)	water treatment plant	72.0	S
POTABLE WATER TREATMENT BUILDING (SP)	water treatment plant	165.0	P
FIRE WATER PUMP HOUSE (SP)	other	450.0	P
OILY WATER TREATMENT BUILDING (SP)	water treatment plant	126.0	
SEWAGE TREATMENT BUILDING (SP)	water treatment plant	1152.0	S
FUEL DISTRIBUTION PUMPHOUSE (SP)	bulk fuel storage	600.0	
EMERGENCY BOILER BUILDING (SP)	other	180.0	S
SOLID WASTE DISPOSAL & INCINERATOR SYSTEM BUILDING (SP)	consolidate & dump boneyard debris	1200.0	S
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER (SP)	offices/warehouse/accom	29	
POWER PLANT BUILDING (SP)	power plant	3600.0	S
E-HOUSE FOR 4000-BLD-1260.100 (SP)	power plant	216.0	S

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

E-HOUSE FOR 4000-BLD-1270.100 (SP)	power plant	540.0	S
E-HOUSE FOR 4000-BLD-4520.101 (SP)	power plant	216.0	S
E-HOUSE FOR 4000-BLD-4590.102 (SP)	power plant	72.0	S
E-HOUSE FOR 4000-BLD-4610.100 (SP)	power plant	144.0	P
E-HOUSE FOR 4000-BLD-4620.100 (SP)	power plant	144.0	S
E-HOUSE FOR 4000-BLD-4630.101 (SP)	power plant	72.0	S
E-HOUSE FOR 4000-BLD-4630.102 (SP)	power plant	144.0	S
E-HOUSE FOR 4000-BLD-4640.100 (SP)	power plant	144.0	S
E-HOUSE FOR 4000-BLD-4650.100 (SP)	power plant	144.0	S
E-HOUSE FOR 4000-BLD-4660.100 (SP)	power plant	72.0	S
E-HOUSE FOR 5000-BLD-5210.100 (SP)	power plant	216.0	S
E-HOUSE FOR 5000-BLD-5210.101 (SP)	power plant	540.0	P
E-HOUSE FOR 5000-BLD-5370.100 (SP)	power plant	540.0	S
E-HOUSE FOR 5000-BLD-5370.101 (SP)	power plant	540.0	S
E-HOUSE FOR 3000-BLD-3280.102 (SP)	power plant	144.0	S
E-HOUSE FOR 4000-BLD-4560.101 (SP)	power plant	216.0	S
UTILIDORS (SP)	other	2833	S
RAIL CAR UNLOADING STATION BUILDING (SP)	other	1650.0	S
TRANSFER TOWER 5210-TT-001 (SP)	other	240.0	P
CONVEYOR TUNNEL EXIT BUILDING (SP)	other	240.0	
TRANSFER TOWER 5350-TT-001 (SP)	conveyors & transfer towers	360.0	S
DRIVE HOUSE (SP)	conveyors & transfer towers	0.0	S
DRIVE HOUSE (SP)	conveyors & transfer towers	0.0	S
PORT SURGE BIN BUILDING (SP)	conveyors & transfer towers	486.0	S
TRANSFER TOWER 5370-TT-001 (SP)	conveyors & transfer towers	627.0	S
DRIVE HOUSE (SP)	conveyors & transfer towers	0.0	

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 8: VEHICLES AT STEENSBY PORT

Vehicles			
Haul Trucks			
CAT D300 (Haul Truck 30 ton)	2	**Material Handling & Lifts**	
		12000lb Tele-Handler Zoom Boom	3
Loaders		85ft Man Lift	1
CAT 966 Loader	1		
CAT 988 Loader	2	**Pick-Ups, Trucks & Trailers**	
CAT IT62 Loader	2	Pick-ups	14
Skid Steer Loader	3	20 ton Picker Truck	3
Backhoe	1	Pintle Trailer for the above	2
		Roll-off Trucks	3
Dozers		4000 Gal Fuel Truck	1
CAT D6 Dozer	1	Sewage collection truck	2
		4000 Gal Water Truck	1
Graders		Potable Water Truck	1
CAT 16H Grader	1	Lavatory Service Truck	1
		Busses	2
Crushers		Tractor Trailer & Low Boy	2
Nordberg NW7150 Crusher	1	Winch Tractor	1
Nordberg NWSeries Jaw Crusher to suit above	1	Winch Tractor	3
Nordberg NW Series Screen Plant (3 decks)	1	Winch Tractor	1
Nordberg CM Series Mobile Conveyor	4	Crew Bus	2
Pit / Blast Hole Drill		**Safety Equipment**	
Polaris Ranger 80C Utility Vehicle	1	Rescue boat	1
		Fire Truck	1
Packers		Ambulance	1
10 ton Drive On Packer	1	Tracked Recovery Vehicle	1
		Emergency Response Vehicle	1
Cranes			
Grove 40 ton Rough Terrain	1	**Miscellaneous**	
Grove RT9130E, Rough Terrain	1	320000BTU Frost Fighter	10
Grove RT89E, Rough Terrain	1	8kW Ingersol Rand Light Towers	18
		Tyre handler	2
Container Handling		20kW Whisper Watt Gen Set	5
100000lb Sea Can Handler	2	Fork Lift	1
100000lb Hyster Fork Lift	2	Fork Lift	3
		Pallet Truck	10
		Rock Breaker	1
Total			127

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 9: AIRCRAFT EQUIPMENT AT STEENSBY PORT

Maintenance and Cargo Building Electric Baggage Tow Tractor	1
Maintenance and Cargo Building Bobcat	1
Maintenance and Cargo Building Potable Water Truck	1
Maintenance and Cargo Building Aircraft Passenger Stairs	1
Maintenance and Cargo Building Aircraft Tow Tug	1
Maintenance and Cargo Building Aircraft Tow Bars - Set	1
Maintenance and Cargo Building E-Sprayer	1
Maintenance and Cargo Building Lavatory Service Truck	1
Maintenance and Cargo Building Baggage Belt Loader Vehicle	1
Maintenance and Cargo Building Wheeled Fire Extinguisher (125 lbs)	1
Maintenance and Cargo Building Combi Back-Hoe with Front Blade Attachment	1
Maintenance and Cargo Building Service Pick Up Truck	2
Maintenance and Cargo Building Fork Lift	1
Maintenance and Cargo Building Maintenance Service Ladder and Platform	1
Maintenance and Cargo Building Mobile Air Compressor	1
Deicing Equipment and Fire Rescue Building De-Icing Truck	2
Deicing Equipment and Fire Rescue Building Fire Rescue Truck	1
Total	19

B.3.7 Objective: Specialized items

At Steensby Port, the stacker, ship loaders and car dumpers will all be dismantled before being disposed. This specific equipment will require particular care during reclamation. The price of reclamation is estimated to be 25% of the estimated installation cost. This is assumed based on the concept that the specialized items will simply be broken down into transportable pieces and disposed. Estimated cost of installation is as follows:

- Stacker: $9,669,727.
- Ship loaders: $3,888,010.
- Car dumper: $720,175.

The price of reclaiming the conveyors at Steensby port is included in the Mary River Mine site section.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

B.4 Chemicals

B.4.1 Objective: Hazardous materials audit

A Phase I Environmental Site Assessment will first be carried out. A daily cost of $1,200 has been assumed. The assessment is estimated to require a month at Mary River and the railway, 12 days at Steensby Port as well as 20 days for Milne Port and Tote Road (combined). The need for a Phase II ESA will be assessed during Phase I. A global cost estimate of $100,000 has been added shall a Phase II be required.

B.4.2 Objective: Hazardous Materials to be Consolidated for Removal

The cost of reclamation of hazardous materials is captured in the annual operating budget as hazardous materials are shipped offsite annually. The cost of personnel needed for this activity is included in the mobilization costs.

In addition, an estimated 20% of the total fuel storage will be left in the containers at closure. These containers will be drained and shipped back. The total storage of fuel (249,080,000 L) has been estimated from drawing H337697-0000-60-013-0001.

B.4.3 Objective: Contaminated Soil Removal

A technical as well as a drilling and sampling investigation for contaminated soils will be carried out. The cost is based on the site overview cost from the 2011 Exploration Phase A&R Plan.

B.4.4 Objective: Contaminated Soil Removal

The removal takes into account the soils and the water/ice/snow contaminated with hydrocarbons, with an assumed total volume of 33,600 m3.

B.4.5 Objective: Other

Similarly to the fuel, an estimated 20% of the explosives will need to be reclaimed at closure. The total storage on site is assumed to be 15,013,250 kg.

B.5 Water

B.5.1 Objective: Remove Pipelines

All pipes will be removed. The total length of pipes is 44,402.3 m according to MRP estimating scope review R9.

Sewage and sludge will be incinerated whenever possible. If incineration is not available it will be sent to the waste storage pond for decantation. Solids will be left to dry and sent to the landfills.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

B.6 Mobilization

B.6.1 Objective: Mobilize Heavy Equipment

At the end of reclamation, all heavy equipments at Mary River mine will be transported to Milne Port for shipment. It is thus estimated that each piece of equipment will travel once the length of Tote Road.

B.6.2 Objective: Mobilize Camps

Existing camps will be used and dismantled at the end of reclamation. The price associated with camp operations is taken into account in the objective: Worker Accommodation.

B.6.3 Objective: Mobilize Workers

Labour cost is included in the unit cost for each action required. For reference, the labour rates for the Mary River Project are listed in Table B- 10

TABLE B- 10: LABOUR RATES FOR MARY RIVER PROJECT

Description	Total	Trade Rate
Labour Rate Rate Site Development	100%	$ 112.39
Labour Rate Rate Concrete	100%	$ 99.64
Labour Rate Rate Earthworks	100%	$ 106.00
Labour Rate Rate Architectural	100%	$ 104.45
Labour Rate for Port and Marine Works	100%	$ 104.80
Labour Rate Rate Instrumentation	100%	$ 107.93
Labour Rate Rate Electrical	100%	$ 109.16
Labour Rate Rate Linemen	100%	$ 107.34
Labour Rate Rate Mechanical	100%	$ 114.03
Labour Rate Rate Mechanical Platework	100%	$ 109.72
Labour Rate Rate Piping	100%	$ 109.07
Labour Rate Rate Structures	100%	$ 112.13
Labour Rate Rate Wire & Cable	100%	$ 108.74
Labour Rate Virtual Subcontrac	0%	$ -
Construction Distributables	100%	$ 106.70

In addition, 210 flights will be required. The number of flights required each year is aligned with the number of workers on site (see Objective: Worker Accommodation below). 82 flights are indeed estimated for the first two years, and 46 flights the third year. The price of flight is based on the 2011 rate of a round trip from Ottawa to Iqaluit, going to Mary River, then Iqaluit and back to Ottawa. En-route fees, terminal fees and handling fees are accounted for. Each flight can carry 112 passengers and the total cost is $88,875.52 (supplier estimate: Canadian North Airlines).

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

B.6.4 Objective: Mobilize Misc. Supplies

Fuel will be required during the three years of mine closure. The estimate is based on the amount of fuel required for construction: 273,846,688 L for equipment and 167,788,800 L for power generation at an estimated landed cost of $0.95 per litre. These are total costs for the construction phase which is planned to last four years. The amount of fuel required for the equipment has been factored by the number of men and years during reclamation, compared to construction. For construction, 9252 workers will be required over four years, while 2000 workers will be required for reclamation over three years. A ratio of 0.08 has indeed been applied for the fuel related to the equipment. Similarly, it is estimated that only two engines will run over three years of reclamation, as opposed to five over four years during construction. The ratio is 0.2. Total fuel quantity for closure amounts to 47,076,055 L.

A total price for sealifts has been estimated based on the PDW Mine Closure Cost estimate (McKeil Budget Pricing, 2011). The PDW costs are:

- Mobilization and deck demobilization deck barge 1, 2 and dock barge W/SPU: $2,930,000/year.
- Barge costs for two (2) years, including insurance: $2,910,000.
- Tug costs on site for two (2) years: $5,115,000.
- Stevedoring costs on site for two (2) years: $2,160,000.

Additionally, the freight off-load manpower costs $47,845,200 per year (Table B- 11).

There will be two sealifts during the reclamation period: one sealift will take place during the first two years, and the second sealift will take place at the end of open water season of the third year. Manpower will be required each of the three years to prepare material for shipment and this cost is captured in this estimate. The total cost associated with sealift is: $121,377,400.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 11: FREIGHT OFF-LOAD MANPOWER COST PER SEASON

Freight Off- Load Manpower	Location							
Title	Mary River	Milne	Steensby	Total # Persons	Hrs/day	# Days	avg $ cost/hr	Cost/Season
Logistics Manager	1			1	10	84	300	252,000
Safety Cordinator	2	2	2	6	60	84	110	554,000
Logistics Cordinator	2	2	2	6	60	84	110	554,000
Freight Handler	2	2	2	6	60	84	110	554,000
Loaders	3	3	3	9	180	84	150	2268000
Loader Operators	6	6	6	18	180	84	100	2268000
Sea-Can Manipulator	1	1	1	3	60	84	200	1008000
Sea-Can Manipulator Operator	2	2	2	6	60	84	100	504000
HEAVY Lift Fork Lift	1	1	1	3	60	84	200	1008000
Heavy Lift Fork Lift Operator	2	2	2	6	60	84	100	504000
Cranes	2	4	4	10	200	84	300	5040000
Crane Operator	4	8	8	20	200	84	200	3360000
Riggers	8	16	16	40	400	84	110	3696000
Tractor Trailers	6	4	4	14	280	84	150	2352000
Truck Drivers	12	8	8	28	280	84	100	2352000
Labourers (Lashing Guys)	12	8	8	28	280	84	100	2352000
Lightering Lead(Tug and Barge Crew Lead)		2	2	4	40	84	200	672000
	66	71	71	208				**29,298,000**
Tug	0	3	3	6	120	84	300	3024000
Barge	0	6	6	12	240	84	150	3024000
Tug Captain	0	6	6	12	240	84	300	6048000
Load Master		3	3	6	120	84	200	2016000
Barge labour		24	24	48	480	84	110	4,435,200
							Total	**$47,845,200**

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 12: BUDGETARY RATES FOR MARINE EQUIPMENT

BUDGETARY RATES FOR MARINE EQUIPMENT OPTION 2:

MOBILIZATION & DEMOBILIZATION COSTS:

YEAR 1	
MOBILIZATION & DEMOBILIZATION DECK BARGE 1	$990,000.00
MOBILIZATION & DEMOBILIZATION DECK BARGE 2	$990,000.00
MOBILIZATION & DEMOBILIZATION DOCK BARGE W/SPU	$950,000.00
TOTAL COSTS	$2,930,000.00

YEAR 2	
MOBILIZATION & DEMOBILIZATION DECK BARGE 1	$990,000.00
MOBILIZATION & DEMOBILIZATION DECK BARGE 2	$990,000.00
MOBILIZATION & DEMOBILIZATION DOCK BARGE W/SPU	$950,000.00
TOTAL COSTS	$2,930,000.00

Note: The mobilization and demobilizations costs are based on today's fuel cost of CD$ 0.93 cents per litre any increase will trigger a fuel surcharge.

TUG COSTS ON SITE:

YEAR 1 & 2 based on 75 days of operations per year		
1 fully crewed & operational tug	$465,000.00 x 5 months	$2,325,000.00
Fuel usage per day (average) 8,000 litres $ 1.30 per litre using Arctic rates	$312,000.00 x 5 months	$1,248,000.00
1 stand-by & back-up tug	$180,000.00 x 5 months	$900,000.00
Fuel usage per day on stand-by (average) 600 litres $ 1.30 per litre using Arctic rates	$23,400.00 x 5 months	$117,000.00
TUG COSTS		$4,590,000.00

NOTE:
IN ORDER TO AVOID CHARGING HATCH & ARCELOR MITTAL FOR A LIGHT TUG DEMOBILIZATION FEE WE WOULD SUGGEST THAT WE KEEK THE 3RD TUG ON SITE. WE WOULD BE WILLING TO LEAVE THE TUG ON SITE FOR A MONTHLY FEE OF $ 105,000.00, BASED ON A 5-MONTH OPERATION OVER TWO-YEARS THE COST TO KEEP THE BARGE ON SITE WOULD BE:

1 stand-by tug	$105,000.00 x 5 months	$525,000.00
TOTAL TUG COSTS		$5,115,000.00

BARGE COSTS BASED ON 2.5-MONTHS PER SEASON (BRINGING BARGES BACK):

YEAR 1 & 2		
2 deck barges 400' x 76' (30,000 sq ft deck space)	$350,000.00 x 5 months	$1,750,000.00
Insurance costs for 2 deck barges	$16,000.00 x 5 months	$80,000.00
1 Dock Barge w/ spuds & ramp	$120,000.00 x 5 months	$600,000.00
Insurance on Dock Barge	$6,000.00 x 5 months	$30,000.00
Dock Barge Operator $ 1,500.00 per day based on 12 hrs / $ 3,000.00 per day based on 24 hrs we are basing our rates on 24 hrs per day 75-days	$90,000.00 x 5 months	$450,000.00
TOTAL BARGE CHARTER & INSURANCE COSTS		$2,910,000.00

NOTE: Other cargo barges can be added to the 2 cargo barges we are offering, this may be necessary depending on the schedule of the ships arriving on site. If too many ships will be in port at the same time, 2 cargo barges may not be enough to handle all the volume.

STEVEDORING COSTS ON SITE:

YEAR 1 & 2 based on 75 days of operations per year		
12-men gang available to work 24 hrs per day 2 - crews of 6-men each	$432,000.00 x 5 months	$2,160,000.00
TOTAL STEVEDORING COSTS		$2,160,000.00

Notes:

1) Hatch to supply all the fuel & lubes for the tugs when operating in Milne Inlet as well as, the food required to feed the c
2) Hatch to provide the flights required for our crew rotation
3) Hatch to provide early access to the mine site in Milne Inlet so our marine superintendent can survey the proposed lanc
4) Hatch to provide the required room & board for the stevedoring
5) Hatch to provide the required unloading equipment, i.e. forklifts, container handler, cranes, slings, etc…

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

B.6.5 Objective: Worker Accommodation

The price associated with the camp operation is based on the estimate of $60/person/day (John Brooks Logistics). The total price is calculated with 180 working days per year, a crew an 800 for the first two years and 400 the third year.

B.6.6 Objective: Interim Care and Maintenance

The 2011 A&R plan provided an additional estimated cost of $20,000 for the general site cleanup. Labour costs associated with maintenance are taken into account in the objective: Mobilize Workers.

B.7 POST CLOSURE

B.7.1 Objective: Monitoring and Inspections

Costs of monitoring and inspections were extracted from the 2011 Exploration Phase A&R Plan. It is estimated that three survey inspections will take place: one general site inspection, one stability survey for the open pit and one stability survey for the rock pile. Reporting costs are added as well as transportation to and from site.

B.7.2 Objective: Cover Maintenance

According to the PDW closure plan, maintenance costs are estimated at $100,000 per year.

B.7.3 Objective: Spillway Maintenance

An annual cost of $5,702 has been applied for clearing the spillway during post closure, although the spillway is only expected to be used after a minimum of 85 years.

B.7.4 Objective: Post-closure Water Treatment

Post-closure water treatment accounts for $106,276 as per the on-going water spreadsheet (see Section B.8).

At the end of post-closure, a sealift will be needed to ship back the remaining equipments. The price is calculated similarly to the one estimated for mobilization.

B.8 ON-GOING WATER

Water costs during post closure will only be related to the survey visits. Prices were extracted from the 2011 Exploration Phase A&R Plan:

- Sampling equipment: $4,200.
- Equipment maintenance and parts: $5,000.
- Water analysis: $6,400.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

- Annual labour cost: $1,800 (three men per day, one day per year at hourly rate $75, 00).
- Annual site access cost: $88,875.52 (2011 Charter quote for a round trip Ottawa – Iqaluit – Mary River).

Necessary equipment will be left on site: at least one Weatherhaven building and an ATV at Mary River and Steensby Port.

B.9 INDIRECT COSTS

This section aims at clarifying how indirect costs are taken into account. Indirect costs include all the costs that are not directly linked to the decommissioning, demolition, dismantling, clean-up, etc. They consist of labour wages, management costs, workers accommodation and food.

B.9.1 Labour Wages

Unit costs in MINING RECLAIM take into account the price associated with labour. However, due to the location of the Project, labour conditions are different from regular Projects and therefore indirect cost associated with labour are also included.

B.9.2 Management Costs

Similarly to labour wages, management costs are already included in MINING RECLAIM. The “summary” spreadsheet allocates the management cost as well as the engineer costs as a percentage of the total reclamation costs, mobilization excluded. Both management and engineering costs are assumed to be 5%. This percentage may be adapted if necessary.

B.9.3 Workers Accommodation and Food

Workers accommodation and food is included in the “mobilization” spreadsheet under the Objective: Workers accommodation.

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 13: MINE CLOSURE AND RECLAMATION COST SUMMARY

CAPITAL COSTS	**0**	$0.00	$0.00	$0.00
COMPONENT TYPE	**COMPONENT NAME**	**TOTAL COST**	**LAND LIABILITY**	**WATER LIABILITY**
OPEN PIT	Mary River Mine Pit	$1,455,765	$1,449,650	$6,116
UNDERGROUND MINE	-	$0	$0	$0
TAILINGS	-	$0	$0	$0
ROCK PILE	Mary River Stockpile	$192,957	$16,667	$176,290
BUILDINGS AND EQUIPMENT	Milne Site	$7,311,986	$7,311,986	$0
	Tote Road	$1,092,211	$0	$1,092,211
	Mary River Mine	$23,488,970	$23,244,356	$244,614
	Railway	$14,345,812	$12,756,932	$1,588,880
	Steensby Port	$10,506,669	$10,289,403	$217,266
CHEMICALS AND SOIL MANAGEMENT	0	$144,940,175	$145,126,575	$0
WATER MANAGEMENT	0	$239,772	$0	$239,772
POST-CLOSUREMONITORING AND MAINTENANCE	0	$52,295,597	$51,782,771	$512,826
	0	$0	$0	$0
	SUBTOTAL	**$255,869,914**	**$251,978,339**	**$4,077,975**
	0	**PERCENTAGES**	**98%**	**2%**
MOBILIZATION/DEMOBILIZATION	0	$206,549,913	203,408,455	3,291,928
	0	$0	$0	0.00
PROJECT MANAGEMENT	5%	$12,793,496	$12,598,917	$203,899
Bonding	1%	$2,558,699	$2,519,783	$40,780
Taxes (GST on supplies) - est.	allowance	$0	$0	$0
Insurance	1%	$2,558,699	$2,519,783	$40,780
ENGINEERING	5%	$12,793,496	$12,598,917	$203,899
	0	$0	$0	$0
CONTINGENCY	10%	$25,586,991	$25,197,834	$407,798
	0	$0	$0	$0
Market Price Factor Adjustment	0%	$0	$0	$0
GRAND TOTAL - CAPITAL COSTS	**0**	**$518,711,208**	**$510,822,029**	**$8,267,058**
Inuit Owned Land Cost		$411,234,800	$405,430,454	$6,106,421
Federal Owned Land Cost		$107,476,408	$105,391,574	$2,160,637
Total		$518,711,208	$510,822,029	$8,267,058

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 14: MINE CLOSURE AND RECLAMATION COST – OPEN PIT

Open Pit Name: *Mary River Mine Pit* **Pit # *1***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: CONTROL ACCESS								
Fence	m		#N/A	0.00	$0	100%	$0	$0
Signs	each	9	SH	35.64	$321	100%	$321	$0
Berm at crest	m	4300	RBS	29.53	$126,969	100%	$126,969	$0
Block roads	m3		#N/A	0.00	$0		$0	$0
Other			#N/A		$0		$0	$0
OBJECTIVE: STABILIZE SLOPES								
Off-load crest, soil A	m3		#N/A	0	$0		$0	$0
Off-load crest, soil B	m3		#N/A	0	$0		$0	$0
Doze/trimoverburden at crest	m3		#N/A	0	$0		$0	$0
Drill & blast pit crest	m3		#N/A	0	$0		$0	$0
buttress slope	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: COVER/CONTOUR SLOPES								
Dump demolition materials (pit or landfill or qı	m3	3724.3566	SC1H	8.262	$30,771	100%	$30,771	$0
Place overburden over demolition material	m3	124145.22	RB1L	10.098	$1,253,618	100%	$1,253,618	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Vegetate slopes	ha		#N/A	0	$0		$0	$0
Vegetate pit floor	ha		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: SPILLWAY								
Excavate channel, soil A	m3	375	RC2H	16.308	$6,116		$0	$6,116
Excavate channel, soil B	m3		#N/A	0	$0		$0	$0
Concrete	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Other	each		#N/A	0	$0		$0	$0
OBJECTIVE: FLOOD PIT								
remove stationary equipment (sump pump)	each		#N/A	0	$0		$0	$0
remove power lines	each		#N/A	0	$0		$0	$0
Embankment/dam - Soil A	m3		#N/A	0	$0		$0	$0
Embankment/dam - Soil B	m3		#N/A	0	$0		$0	$0
supply/install pump & piping system	each		#N/A	0	$0		$0	$0
operate pumps to flood pit	each		#N/A	0	$0		$0	$0
Llme addition, _____ kg/m3 of water	tonne		#N/A	0	$0		$0	$0
Lime, purchase and shipping	tonne		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
RECLAIM QUARRIES								
Contour slopes	m3	3238.09524	DSH	3.3588	$10,876	100%	$10,876	$0
Berm at crest	m3		#N/A	0	$0		$0	$0
Place overburder	m3	809.52381	SBCL	3	$2,429	100%	$2,429	$0
Vegetate	m3		#N/A	0	$0		$0	$0
OTHER ITEMS								
Stability inspection		1	sis	16667	$16,667	100%	$16,667	$0
Reclaim road to primary crusher (scarification)		8	scs	1000	$8,000	100%	$8,000	$0

	Subtotal	$1,455,765	100%	$1,449,650	$6,116
			Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 15: MINE CLOSURE AND RECLAMATION COST – ROCK PILE

Rock Pile Name: *Mary River Stockpile* **Rock Pile #: *1***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: STABILIZE SLOPES								
Flatten slopes with dozer	m3		#N/A	0	$0		$0	$0
Flatten "bubble dump" areas	m3		#N/A		$0		$0	$0
Divert runon, ditch mat'l A	m3		#N/A	0	$0		$0	$0
, ditch mat'l B	m3		#N/A	0	$0		$0	$0
Toe buttress, drain mat'l	m3		#N/A	0	$0		$0	$0
, fill mat'l A	m3		#N/A	0	$0		$0	$0
, fill mat'l B	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: COVER DUMP								
Mat'l A	m3		#N/A		$0		$0	$0
Mat'l B	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Other (scarify)	m2	176.29	SCS	1000	$176,290		$0	$176,290
VERY LOW PERMEABILITY COVER								
supply geomembrame, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
upper and lower bedding layers	m3		#N/A	0	$0		$0	$0
install geomembrane, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
erosion protection layer	m3		#N/A	0	$0		$0	$0
vegetate	ha		#N/A	0	$0		$0	$0
install infiltration/seepage instrumentation	allow		#N/A	0	$0		$0	$0
OBJECTIVE: RELOCATE DUMPS								
Load, haul, dump or doze	m3		#N/A	0	$0		$0	$0
Add lime	tonne		#N/A	0	$0		$0	$0
Contour reclaimed area	ha		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
SPECIALIZED ITEMS								
Stability inspection		1	sis	16667	$16,667	100%	$16,667	$0
install permanent instrumentation, drilling			#N/A		$0		$0	$0
				Subtotal	$192,957	9%	$16,667	$176,290
						% Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 16: MINE CLOSURE AND RECLAMATION COST – MILNE PORT

Building / Equip Name: *Milne Site* **Bldg / Equip #: *1***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT								
Decontaminate and ship off-site	each		#N/A	0	$0		$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0		$0	$0
Other (sealift for equipmt)	each		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS								
Decontaminate crushing plant	each		#N/A	0	$0		$0	$0
Decontaminate tanks & plumbing	each		#N/A	0	$0		$0	$0
Decontaminate thickeners	each		#N/A	0	$0		$0	$0
Decontaminate water treatment plant	each		#N/A	0	$0		$0	$0
Decontaminate maintenance shop	each		#N/A	0	$0		$0	$0
Decontaminate power plant	each		#N/A	0	$0		$0	$0
Decontaminate bulk fuel storage	each	31702.5	BRCDS	200	$6,340,500	100%	$6,340,500	$0
Decontaminate ANFO plant	each		#N/A	0	$0		$0	$0
Deontaminate offices/warehouse/accom	each		#N/A	0	$0		$0	$0
Removal of asbestos siding on buildings	each		#N/A	0	$0		$0	$0
Removal of friable asbestos on equipment	each		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	1250	BRS	100	$125,000	100%	$125,000	$0
consolidate & dump boneyard debris	m3		#N/A	0	$0		$0	$0
other			#N/A	0	$0		$0	$0
OBJECTIVE: BREAK BASEMENT SLABS								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2	3170.25	BRCS	26.73	$84,741	100%	$84,741	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	1250	BRCS	26.73	$33,413	100%	$33,413	$0
Other	m2		#N/A	0	$0		$0	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE								
Place soil cover	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Landfill disposal fee	tonne		#N/A	0	$0		$0	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2	74100	SB4H	9.666	$716,251	100%	$716,251	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	1250	SB4H	9.666	$12,083	100%	$12,083	$0
other	m2		#N/A	0	$0		$0	$0
OBJECTIVE: RECLAIM ROADS								
Remove culverts	each		#N/A	0	$0		$0	$0
Remove bridges	each		#N/A	0	$0		$0	$0
Scarify and install water breaks	ha		#N/A	0	$0		$0	$0
remove/doze down berms	m3		#N/A	0	$0		$0	$0
create wildlife passage ramps	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
other			#N/A	0	$0		$0	$0
SPECIALIZED ITEMS								
Dispose of misc. debris and laydown area refuse	each		#N/A	0	$0		$0	$0
				Subtotal	$7,311,986	100%	$7,311,986	$0
						Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 17: MINE CLOSURE AND RECLAMATION COST – TOTE ROAD

Building / Equip Name: ***Tote Road*** **Bldg / Equip #:** ***2***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT								
Decontaminate and ship off-site	each		#N/A	0	$0		$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0		$0	$0
Other	each		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS								
Decontaminate crushing plant	each		#N/A	0	$0	100%	$0	$0
Decontaminate tanks & plumbing	each		#N/A	0	$0	100%	$0	$0
Decontaminate thickeners	each		#N/A	0	$0	100%	$0	$0
Decontaminate water treatment plant	each		#N/A	0	$0	100%	$0	$0
Decontaminate maintenance shop	each		#N/A	0	$0	100%	$0	$0
Decontaminate power plant	each		#N/A	0	$0	100%	$0	$0
Decontaminate bulk fuel storage	each		#N/A	0	$0	100%	$0	$0
Decontaminate ANFO plant	each		#N/A	0	$0	100%	$0	$0
Deontaminate offices/warehouse/accom	each		#N/A	0	$0	100%	$0	$0
Removal of asbestos siding on buildings	each		#N/A	0	$0	100%	$0	$0
Removal of friable asbestos on equipment	each		#N/A	0	$0	100%	$0	$0
Other			#N/A	0	$0	100%	$0	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS								
crushing plant	m2		#N/A	0	$0	100%	$0	$0
conveyors & transfer towers	m2		#N/A	0	$0	100%	$0	$0
tanks & plumbing	m2		#N/A	0	$0	100%	$0	$0
thickeners	m2		#N/A	0	$0	100%	$0	$0
water treatment plant	m2		#N/A	0	$0	100%	$0	$0
maintenance shop	m2		#N/A	0	$0	100%	$0	$0
power plant	m2		#N/A	0	$0	100%	$0	$0
bulk fuel storage	m2		#N/A	0	$0	100%	$0	$0
ANFO plant	m2		#N/A	0	$0	100%	$0	$0
offices/warehouse/accom	m2		#N/A	0	$0	100%	$0	$0
consolidate & dump boneyard debris	m3		#N/A	0	$0	100%	$0	$0
other	m2		#N/A	0	$0	100%	$0	$0
OBJECTIVE: BREAK BASEMENT SLABS								
crushing plant	m2		#N/A	0	$0	100%	$0	$0
conveyors & transfer towers	m2		#N/A	0	$0	100%	$0	$0
tanks & plumbing	m2		#N/A	0	$0	100%	$0	$0
thickeners	m2		#N/A	0	$0	100%	$0	$0
water treatment plant	m2		#N/A	0	$0	100%	$0	$0
maintenance shop	m2		#N/A	0	$0	100%	$0	$0
power plant	m2		#N/A	0	$0	100%	$0	$0
bulk fuel storage	m2		#N/A	0	$0	100%	$0	$0
ANFO plant	m2		#N/A	0	$0	100%	$0	$0
offices/warehouse/accom	m2		#N/A	0	$0	100%	$0	$0
Other	m2		#N/A	0	$0	100%	$0	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE								
Place soil cover	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Landfill disposal fee	tonne		#N/A	0	$0		$0	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
other	m2		#N/A	0	$0		$0	$0
OBJECTIVE: RECLAIM ROADS								
Remove box culverts & stabilize slopes	each	1	RBCS	285794	$285,794		$0	$285,794
Remove round culverts & stabilize slopes	each	1	RRCS	754618	$754,618		$0	$754,618
Install water breaks	ha	1	IWBS	18211	$18,211		$0	$18,211
remove/doze down berms	m3	10000	DSH	3.3588	$33,588		$0	$33,588
create wildilfe passage ramps	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
other			#N/A	0	$0		$0	$0
SPECIALIZED ITEMS								
Dispose of misc. debris and laydown area refuse	m3		#N/A	0	$0		$0	$0
				Subtotal	$1,092,211		$0	$1,092,211
						Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 18: MINE CLOSURE AND RECLAMATION COST – MARY RIVER MINE

Building / Equip Name: *Mary River Mine* **Bldg / Equip #: *3***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT								
Decontaminate and ship off-site	each		#N/A	0	$0	100%	$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0		$0	$0
Other (remove airstrip lightning)	each	1	RALS	10099	$10,099	100%	$10,099	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS								
Decontaminate crushing plant	each		#N/A	0	$0	100%	$0	$0
Decontaminate tanks & plumbing	each		#N/A	0	$0		$0	$0
Decontaminate thickeners	each		#N/A	0	$0		$0	$0
Decontaminate water treatment plant	each		#N/A	0	$0		$0	$0
Decontaminate maintenance shop	each	1900	BRCdS	200	$380,000	100%	$380,000	$0
Decontaminate power plant	each	6804	BRCdS	200	$1,360,800	100%	$1,360,800	$0
Decontaminate bulk fuel storage	each	9847.5	BRCdS	200	$1,969,500	100%	$1,969,500	$0
Decontaminate ANFO plant	each	930.25	BRCdS	200	$186,050	100%	$186,050	$0
Deontaminate offices/warehouse/accom	each		#N/A	0	$0		$0	$0
Removal of asbestos siding on buildings	each		#N/A	0	$0		$0	$0
Removal of friable asbestos on equipment	each		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS								
crushing plant	m2	1350	BRS	100	$135,000	100%	$135,000	$0
conveyors & transfer towers	m2	869	BRS	100	$86,900	100%	$86,900	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2	1930.2	BRS	100	$193,020		$0	$193,020
maintenance shop	m2		#N/A	0	$0	100%	$0	$0
power plant	m2		#N/A	0	$0	100%	$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0	100%	$0	$0
offices/warehouse/accom	m2	18061.76	BRS	100	$1,806,176	100%	$1,806,176	$0
consolidate & dump boneyard debris	m3	1200	BRS	100	$120,000	100%	$120,000	$0
other	m2	4439.94	BRS	100	$443,994	100%	$443,994	$0
OBJECTIVE: BREAK BASEMENT SLABS								
crushing plant	m2	1350.0	BRCH	53.46	$72,171	100%	$72,171	$0
conveyors & transfer towers	m2	869	BRCS	26.73	$23,228	100%	$23,228	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2	1930.2	BRCS	26.73	$51,594		$0	$51,594
maintenance shop	m2	1900	BRCS	26.73	$50,787	100%	$50,787	$0
power plant	m2	6804	BRCS	26.73	$181,871	100%	$181,871	$0
bulk fuel storage	m2	13130	BRCS	26.73	$350,965	100%	$350,965	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	14979.0	BRCS	26.73	$400,388	100%	$400,388	$0
Other	m2	4439.9	BRCS	26.73	$118,680	100%	$118,680	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE								
Place soil cover	m3	114450	SBTH	3.27	$374,252	100%	$374,252	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Landfill disposal fee	tonne		#N/A	0	$0		$0	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE								
crushing plant	m2	1350.0	SB4H	9.666	$13,049	100%	$13,049	$0
conveyors & transfer towers	m2	869	SB4H	9.666	$8,400	100%	$8,400	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2	1930.2	SB4H	9.666	$18,657	100%	$18,657	$0
maintenance shop	m2	1900	SB4H	9.666	$18,365	100%	$18,365	$0
power plant	m2	6804	SB4H	9.666	$65,767	100%	$65,767	$0
bulk fuel storage	m2	13130	SB4H	9.666	$126,915	100%	$126,915	$0
ANFO plant	m2	930.25	SB4H	9.666	$8,992	100%	$8,992	$0
offices/warehouse/accom	m2	14979.0	SB4H	9.666	$144,787	100%	$144,787	$0
other	m2	4439.9	SB4H	9.666	$42,916	100%	$42,916	$0
OBJECTIVE: RECLAIM ROADS								
Remove culverts	each		#N/A	0	$0		$0	$0
Remove bridges	each		#N/A	0	$0		$0	$0
Scarify and install water breaks	ha		#N/A	0	$0		$0	$0
Grade and contour road and ditch	m2	200000	DSH	3.3588	$671,760	100%	$671,760	$0
create wildilfe passage ramps	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
other	m3	600	DSH	3.3588	$2,015	100%	$2,015	$0
SPECIALIZED ITEMS								
Conveyors		1	cons	12036506	$12,036,506	100%	$12,036,506	
Stacker reclaimers	each	0.5	sts	2417431.8	$1,208,716	100%	$1,208,716	$0
Rail load out		1	tlos	806650	$806,650	100%	$806,650	
				Subtotal	$23,488,970		$23,244,356	$244,614
						Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 19: MINE CLOSURE AND RECLAMATION COST – RAILWAY

Building / Equip Name: *Railway* **Bldg / Equip #: *4***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT								
Decontaminate and ship off-site	each		#N/A	0	$0		$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0		$0	$0
Other	each		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS								
Decontaminate crushing plant	each		#N/A	0	$0		$0	$0
Decontaminate tanks & plumbing	each		#N/A	0	$0		$0	$0
Decontaminate thickeners	each		#N/A	0	$0		$0	$0
Decontaminate water treatment plant	each		#N/A	0	$0		$0	$0
Decontaminate maintenance shop	each		#N/A	0	$0		$0	$0
Decontaminate power plant	each		#N/A	0	$0		$0	$0
Decontaminate bulk fuel storage	each		#N/A	0	$0		$0	$0
Decontaminate ANFO plant	each		#N/A	0	$0		$0	$0
Deontaminate offices/warehouse/accom	each		#N/A	0	$0		$0	$0
Removal of asbestos siding on buildings	each		#N/A	0	$0		$0	$0
Removal of friable asbestos on equipment	each		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
consolidate & dump boneyard debris	m3		#N/A	0	$0		$0	$0
other	m2	351	BRS	100	$35,100	100%	$35,100	$0
OBJECTIVE: BREAK BASEMENT SLABS								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
Other	m2		#N/A	0	$0		$0	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE								
Place soil cover	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Landfill disposal fee	tonne		#N/A	0	$0		$0	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
other	m2	351	SB4H	9.666	$3,393	100%	$3,393	$0
OBJECTIVE: RECLAIM RAILWAY								
Remove culverts	each	200	PPLH	194.4	$38,880		$0	$38,880
Remove bridges	each	31	RBRIS	50000	$1,550,000		$0	$1,550,000
Remove tracks and ties	eallow	1	TTRS	1.3E+07	$12,686,168	100%	$12,686,168	$0
recontour/doze access road	m3		#N/A	0	$0		$0	$0
create wildlife passage ramps	m3		#N/A	0	$0		$0	$0
other (plug tunnels)		37.12	CSH	642.6	$23,853	100%	$23,853	$0
other (plug tunnels)		556.8	RB1H	15.12	$8,419	100%	$8,419	$0
SPECIALIZED ITEMS								
Dispose of misc. debris and laydown area refuse	m3		#N/A	0	$0		$0	$0
				Subtotal	$14,345,812		$12,756,932	$1,588,880
						Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 20: MINE CLOSURE AND RECLAMATION COST – STEENSBY PORT

Building / Equip Name: ***Steensby Port*** **Bldg / Equip #:** ***5***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT								
Decontaminate and ship off-site	each		#N/A	0	$0		$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0		$0	$0
Other (remove airstrip lightning)	each	1	RALS	10099	$10,099	100%	$10,099	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS								
Decontaminate crushing plant	each		#N/A	0	$0		$0	$0
Decontaminate tanks & plumbing	each		#N/A	0	$0		$0	$0
Decontaminate thickeners	each		#N/A	0	$0		$0	$0
Decontaminate water treatment plant	each		#N/A	0	$0		$0	$0
Decontaminate maintenance shop	each	11641.3	BRCdS	200	$2,328,260	100%	$2,328,260	$0
Decontaminate power plant	each	7704	BRCdS	200	$1,540,800	100%	$1,540,800	$0
Decontaminate bulk fuel storage	each	600	BRCdS	200	$120,000	100%	$120,000	$0
Decontaminate ANFO plant	each		#N/A	0	$0		$0	$0
Deontaminate offices/warehouse/accom	each		#N/A	0	$0		$0	$0
Removal of asbestos siding on buildings	each		#N/A	0	$0		$0	$0
Removal of friable asbestos on equipment	each		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS								
crushing plant	m2	1728	BRS	100	$172,800	100%	$172,800	$0
conveyors & transfer towers	m2	1473	BRS	100	$147,300	100%	$147,300	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2	1641	BRS	100	$164,100		$0	$164,100
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	6603.65	BRS	100	$660,365	100%	$660,365	$0
consolidate & dump boneyard debris	m3	1200	BRS	100	$120,000	100%	$120,000	$0
other	m2	12193.12	BRS	100	$1,219,312	100%	$1,219,312	$0
OBJECTIVE: BREAK BASEMENT SLABS								
crushing plant	m2	1728	BRCH	53.46	$92,379	100%	$92,379	$0
conveyors & transfer towers	m2	1473	BRCS	26.73	$39,373	100%	$39,373	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2	1389	BRCS	26.73	$37,128		$0	$37,128
maintenance shop	m2	9091.3	BRCS	26.73	$243,010	100%	$243,010	$0
power plant	m2	7704	BRCS	26.73	$205,928	100%	$205,928	$0
bulk fuel storage	m2	600	BRCS	26.73	$16,038		$0	$16,038
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	12447.8	BRCS	26.73	$332,730	100%	$332,730	$0
Other	m2	8453.1	BRCS	26.73	$225,951	100%	$225,951	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE								
Place soil cover	m3	15000	SBTH	3.27	$49,050	100%	$49,050	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Landfill disposal fee	tonne		#N/A	0	$0		$0	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE								
crushing plant	m2	1728	SB4H	9.666	$16,703	100%	$16,703	$0
conveyors & transfer towers	m2	1473	SB4H	9.666	$14,238	100%	$14,238	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2	1641	SB4H	9.666	$15,862	100%	$15,862	$0
maintenance shop	m2	11641.3	SB4H	9.666	$112,525	100%	$112,525	$0
power plant	m2	7704	SB4H	9.666	$74,467	100%	$74,467	$0
bulk fuel storage	m2	600	SB4H	9.666	$5,800	100%	$5,800	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	6603.65	SB4H	9.666	$63,831	100%	$63,831	$0
other	m2	12193.12	SB4H	9.666	$117,859	100%	$117,859	$0
OBJECTIVE: RECLAIM ROADS								
Remove culverts	each		#N/A	0	$0		$0	$0
Remove bridges	each		#N/A	0	$0		$0	$0
Scarify and install water breaks	ha		#N/A	0	$0		$0	$0
remove/doze down berms	m3		#N/A	0	$0		$0	$0
create wildlife passage ramps	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
other			#N/A	0	$0		$0	$0
SPECIALIZED ITEMS								
Car dumper		1	cds	180044	$180,044	100%	$180,044	
Stacker reclaimers	each	0.5	sts	2417432	$1,208,716	100%	$1,208,716	$0
Ship loaders		1	slos	972003	$972,003	100%	$972,003	
				Subtotal	$10,506,669		$10,289,403	$217,266
						Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 21: MINE CLOSURE AND RECLAMATION COST – CHEMICALS

Chemicals and Soil Contamination:

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
Note: The procedures, equipment and packaging for clean up and removal of chemicals or contaminated soils are highly dependent on the nature of the chemicals and their existing state of containment. Government guidelines should be consulted on an individual chemical basis. Any estimate made here should be considered very rough unless specific evaluations have been conducted.								
HAZARDOUS MATERIALS AUDIT								
Phase 1 audit	each	72	P1AS	1200	$86,400	100%	$86,400	$0
Phase 2 audit	each	1	#N/A	100000	$100,000	100%	$100,000	$0
HAZARDOUS MATERIALS TO BE CONSOLIDATED FOR REMOVAL								
Waste oils	litre	34816000	PCRH	2.214	$77,082,624	100%	$77,082,624	$0
Fuel - Type 1, eg diesel dregs	litre	49816000	FRH	1.1016	$54,877,306	100%	$54,877,306	$0
Fuel - Type 1, eg gasoline dregs	litre	1800000	FRH	1.1016	$1,982,880	100%	$1,982,880	$0
waste batteries	kg	3418000	PCRH	2.214	$7,567,452	100%	$7,567,452	$0
assay & environmental lab reagents	litre		#N/A	0	$0	100%	$0	$0
machine shop, paints, solvents etc	litre		#N/A	0	$0	100%	$0	$0
contaminated soils - hydrocarbon	m3		#N/A	0	$0	100%	$0	$0
metal contam. soil at conc. load-out	m3		#N/A	0	$0	100%	$0	$0
HAZARDOUS MATERIALS								
Transportation to disposal facility	T		#N/A	0	$0		$0	$0
Disposal fees	allow		#N/A		$0		$0	$0
other			#N/A	0	$0		$0	$0
CONTAMINATED SOILS								
Contam. soil investigation - technical	each	1	#N/A	34957	$34,957	100%	$34,957	$0
Contam. soil investigation - drilling & sampling	each	1	#N/A	34957	$34,957	100%	$34,957	$0
CONTAMINATED SOIL REMOVAL	m3				$0		$0	$0
contaminated soils - hydrocarbon	m3	33600	remss	100	$3,360,000	100%	$3,360,000	$0
metal contam. soil at conc. load-out	m3		#N/A	0	$0		$0	$0
Load, haul, dump or doze	m3		#N/A	0	$0		$0	$0
Reagents/stabilizing agent	m2		#N/A	0	$0		$0	$0
Contour reclaimed area	m3		#N/A	0	$0		$0	$0
other	m2		#N/A	0	$0		$0	$0
CONTAMIANTED SOIL VERY LOW PERMEABILITY COVER								
supply geomembrame, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
upper and lower bedding layers	m3		#N/A	0	$0		$0	$0
install geomembrane, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
erosion protection layer	m3		#N/A	0	$0		$0	$0
vegetate	m2		#N/A	0	$0		$0	$0
install infiltration/seepage instrumentation	allow		#N/A	0	$0		$0	$0
other			#N/A	0	$0		$0	$0
OTHER								
Explosives	kg	3002650	#N/A	0	$0		$0	$0
			Subtotal		$144,940,175	100%	$145,126,575	$0
						Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied. It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 22: MINE CLOSURE AND RECLAMATION COST – WATER MANAGEMENT

Water Management :

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: WATER SUPPLY EMBANKMENT								
Toe buttress, drain mat'l	m3		#N/A	0	$0		$0	$0
, fill mat'l A	m3		#N/A	0	$0		$0	$0
, fill mat'l B	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Breach dam	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: UPGRADE SPILLWAY								
Excavate channel, mat'l A	m3		#N/A	0	$0		$0	$0
, mat'l B	m3		#N/A	0	$0		$0	$0
Concrete	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: STABILIZE &/OR UPGRADE DIVERSION DITCHES								
Excavate channel	m3		#N/A	0	$0		$0	$0
doze & spread excavated material	m3		#N/A	0	$0		$0	$0
Vegetate, spread material	ha		#N/A	0	$0		$0	$0
Rip rap in channel base	each		#N/A		$0		$0	$0
OBJECTIVE: BREACH DITCHES								
Excavate breaches	m3		#N/A	0	$0		$0	$0
install rip rap	m3		#N/A	0	$0		$0	$0
install flow dissipation	m3		#N/A	0	$0		$0	$0
vegetate remainder of ditch	m2		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE PIPELINES								
Remove pipes	m	44402.3	PPSH	5.4	$239,772		$0	$239,772
Concrete plug deep pipes	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
Groundwater Collection - Long-term Collection System								
excavate/install sumps	m2		#N/A	0	$0		$0	$0
install pumping wells	m3		#N/A	0	$0		$0	$0
install pumps/pipelines/power supply			#N/A	0	$0		$0	$0
OBJECTIVE: COLLECT DRAINAGE FOR TREATMENT								
Excavate channel	m3		#N/A	0	$0		$0	$0
doze & spread excavated material	m3		#N/A	0	$0		$0	$0
Vegetate, spread material	ha		#N/A	0	$0		$0	$0
Rip rap in channel base	each		#N/A	0	$0		$0	$0
Construct contaminated water storage pond								
Excavation	m3		#N/A	0	$0		$0	$0
supply geomembrame, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
upper and lower bedding layers	m3		#N/A	0	$0		$0	$0
install geomembrane, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
erosion protection layer	m3		#N/A	0	$0		$0	$0
OBJECTIVE: TREAT DRAINAGE (see "ONGOING TREATMENT" for operating costs)								
Build treatment plant	LS		#N/A	0	$0		$0	$0
build sludge containment facility	LS		#N/A	0	$0		$0	$0
				Subtotal	$239,772	0%	$0	$239,772
						Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 23: MINE CLOSURE AND RECLAMATION COST – MOBILIZATION

Mobilization:

	ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
A	MOBILIZE HEAVY EQUIPMENT								
	Equipment to regional centre								
.	Excavators	km	100	MHERH	9.0936	$909	100%	$909	$0
.	Dump trucks	km	300	MHERH	9.0936	$2,728	100%	$2,728	$0
	Dozers	km	100	MHERH	9.0936	$909	100%	$909	$0
	Demolition shears	km	700	MHERH	9.0936	$6,366	100%	$6,366	$0
	Crane	km	200	MHERH	9.0936	$1,819	100%	$1,819	$0
	Light duty vehicles	km	3900	MHERH	9.0936	$35,465	100%	$35,465	$0
.	Other (loaders)	km	1100	MHERH	9.0936	$10,003	100%	$10,003	$0
.	Other	km	7500	MHERH	9.0936	$68,202	100%	$68,202	$0
	Equipment, regional centre to site								
.	Excavators	km		#N/A	0	$0		$0	$0
.	Dump trucks	km		#N/A	0	$0		$0	$0
	Dozers	km		#N/A	0	$0		$0	$0
	Demolition shears	km		#N/A	0	$0		$0	$0
	Crane	km		#N/A	0	$0		$0	$0
	Light duty vehicles	km		#N/A	0	$0		$0	$0
.	Other	km		#N/A	0	$0		$0	$0
.	Other	km		#N/A	0	$0		$0	$0
B	MOBILIZE CAMP								
.		allow		#N/A		$0		$0	$0
C	MOBILIZE WORKERS								
	crew travel time	manday		#N/A	0	$0	100%	$0	$0
.	crew transportation	each	210	flightS	88876	$18,663,859	100%	$18,663,859	$0
D	MOBILIZE MISC. SUPPLIES								
.	Fuel	litre	47,076,055	fss	0.95	$44,722,252	100%	$44,722,252	$0
.	Sealift per season	allow	2	sls	8E+06	$16,045,000	100%	$16,045,000	$0
.	Sealift manpower per season	allow	2	plss	5E+07	$95,690,400	100%	$95,690,400	$0
	Manpower for the season w/o sealift		1	slnss	1E+07	$9,642,000	100%	$9,642,000	$0
E	WORKER ACCOMODATIONS								
.		$	2000	cos	10800	$21,600,000	100%	$21,600,000	$0
F	WINTER ROAD							$0	$0
.	Full winter use	km		#N/A	0	$0		$0	$0
.	Limited winter use	km		#N/A	0	$0		$0	$0
.	other			#N/A	0	$0		$0	$0
G	INTERIM CARE & MAINTENANCE								
	on-site caretaker	annual		#N/A	0	$0			
	fuel and misc. supplies	annual		#N/A	0	$0			
	electrician	days		#N/A	0	$0			
	mechnaic	days		#N/A	0	$0			
	pick-up truck	yr		#N/A	0	$0			
	small dozer	allow		#N/A	0	$0			
	small excavator	allow		#N/A	0	$0			
	snow machine	allow		#N/A	0	$0			
	communications	allow		#N/A	0	$0			
	Water licence sampling & reporting	each		#N/A	0	$0			
	Geotechnical assessment	each		#N/A	0	$0			
	Other	each	1	#N/A	20000	$20,000			
				sub-total annual C&M cost		$20,000			
	Total C&M cost	years	3	#N/A	20000	$60,000	100%	$60,000	$0
					Subtotal	$206,549,913	100%	$206,549,913	$0
							Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 24: MINE CLOSURE AND RECLAMATION COST – POST-CLOSURE

Post-Closure Monitoring & Maintenance:

	ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
A	OBJECTIVE: MONITORING & INSPECTIONS								
	Annual geotechnical insp.	each		#N/A	$0	$0		$0	$0
.	Survey inspection	each	1	SIS	$16,667	$16,667	100%	$16,667	$0
.	Surface water sampling	each	0	WSS	$200	$0		$0	$0
	Groundwater Sampling	each	0	WSS	$200	$0		$0	$0
	Receiving/downstream water sampling	each	0	WSS	$200	$0		$0	$0
	Reporting	each	1	RPTH	$11,880	$11,880	100%	$11,880	$0
.	on-site transportation	each		#N/A	$0	$0		$0	$0
	transporation to site	each	1	#N/A	$4,918	$4,918	100%	$4,918	$0
.	Other (sea lift at the end of post closure)		1	slpcs	$11,173,540	$11,173,540	100%	$11,173,540	$0
B	OBJECTIVE: COVER MAINTENANCE								
.	Repair erosion - infill gullies	allow		#N/A	$0	$0		$0	$0
.	Repair erosion - upgrade diversion ditches	allow		#N/A	$0	$0		$0	$0
.	Remove problem vegetation	allow		#N/A	$0	$0		$0	$0
.	Repair animal damage	allow		#N/A	$0	$0		$0	$0
.	Repair/upgrade access controls	allow		#N/A	$0	$0		$0	$0
	Other		1	#N/A	$100,000	$100,000	100%	$100,000	$0
C	SPILLWAY MAINTENANCE								
	Repair erosion	m3		#N/A	$0	$0		$0	$0
	Clear spillway	each	1	CSWH	$5,702	$5,702		$0	$5,702
	Other			#N/A	$0	$0		$0	$0
D	POST-CLOSURE WATER TREATMENT								
	Annual water treatment cost, from Ongoing water		1	#N/A	$106,276	$106,276		$0	$106,276
	Subtotal, Annual post-closure costs					$11,418,983		$11,307,005	$111,978
	Discount rate for calculation of net present value of post-closure		3.00%						
	Number of years of post-closure activity		5 years						
	Present Value of payment stream					$52,295,597	$1	$51,782,771	$512,826
							Pct Land	Total Land	Total Water

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE B- 25: MINE CLOSURE AND RECLAMATION COST – ON-GOING WATER

WATER TREATMENT COSTS

ANNUAL VOLUME OF WATER (m3) _____

Reagent addition rates

Reagent	kg reagent/m3 water		cost in $/kg, FOB site	Annual reagent cost
H2O2		kg/m3		$0
lime		kg/m3		$0
ferric sulphate		kg/m3		$0
ferrous sulphate		kg/m3		$0
flocculents		kg/m3		$0
			TOTAL	$0

Supplies and Labour

power, kW-hr	0	rate, $/kW-hr	$0
misc. supplies, hoses, tools			$0
sampling equip.			$4,200
equip. maintenance and parts			$5,000
water analysis			$6,400
reporting			$0
truck rental			$0
annual mileage			$0
road maintenace & snow plowing			$0
electrician/mechanic for treatment plant & power supply			$0
		Annual cost	$15,600
labor, hourly rate	$75.00		
men per day for water treatment work			3
on site, days per year			1
spring/fall maintenance, extra work			0
hours worked per year			24
annual labor cost			$1,800
		Total, labour and supplies	$17,400
TOTAL ANNUAL COSTS, reagents + labour + supplies + site access			$106,276
Average treatment cost, $/m3			$0.00

Water analyses	
samples per month	0
analysis cost/sample	0
shipping	0
Total Water Sampling	0

Site Access	
road	$0
air	$88,876
winter road	$0
annual site access cost	$88,876

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

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 Interim A&R Plan provides an outline, at a conceptual level, of how the proponent plans to address the particular requirement.

TABLE C-1: QIKIQTANI INUIT ASSOCIATION, COMMERCIAL LEASE NO.: QIOC3001 (2010)

COMMERCIAL LEASE FOR INUIT OWNED LANDS BETWEEN QIKIQTANI INUIT ASSOCIATION AND BAFFINLAND IRON MINES CORPORATION November 2010	
Key Mine Closure and Reclamation Plan Guidelines	***Interim* MCRP (Section)**
Environmental Action Plans that shall include the activities to be undertaken in that year, the details of the environmental monitoring and reporting plans for the upcoming year, a report of the estimated costs to be incurred to implement the Environmental Action Plans for the year and the balance of the Term, and any other planned activities for the balance of the Term, and which shall also include, but shall not be limited to, the proposed methods and procedures for the progressive:	
Removal of all structures, equipment, and other manmade debris.	8.3, 8.4, 8.5, 8.6, 8.7, 8.8 & 8.9
Rehabilitation of the area.	8
Replacement of overburden and soil.	8
Grading of the area back to its natural contours. and	8.12
Re-establishment, to the extent possible, of flora required or necessary arising out of the Tenant's activities or presence on the Property.	8.13

TABLE C-2 : QIKIQTANI INUIT ASSOCIATION

Abandonment and Reclamation Policy for Inuit Owned Lands, Qikiqtani Inuit Association -Department of Lands and Resources (2010)	
Key Mine Closure and Reclamation Plan Guidelines	***Interim* MCRP (Section)**
Abandonment and Reclamation Plan (Preliminary Closure Plan) is to be a standalone document with supporting rationale and detail.	All
All referenced documents must be properly cited including document name, author, and section and page number.	16
Rationale on how the Preliminary Closure Plan understands and satisfies the QIA's Guiding Principle's on Reclamation:	1
Inuit Owned Land (IOL) to be returned to a safe and stable condition capable of maintaining the ecosystem integrity consistent with Inuit societal and cultural needs and aspirations.	3.3
Ensure the physical, chemical and biological stability of the mine site for closure.	8
Reclamation should be aesthetically and environmentally compatible with the surrounding area.	5.1
Reclamation should be consistent with locally valued ecosystem components and regional planning objectives.	11
Integrate Inuit Qaujimatajatuqangit (Inuit knowledge) and consultation with Community Land and Resources Committee(s).	2. and 2.5
Meet applicable federal and territorial public health and safety requirements.	Appendix C
Minimize human health risks.	6.1, 7.1 and 8.1

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Abandonment and Reclamation Policy for Inuit Owned Lands, Qikiqtani Inuit Association -Department of Lands and Resources (2010)	
Key Mine Closure and Reclamation Plan Guidelines	***Interim* MCRP (Section)**
Utilize progressive reclamation where possible.	5
Undertake research for the site as necessary.	2.2 and 2.3
Post closure monitoring, if required.	9
Financial security estimate for each mine component - results should be methodical and self explanatory. A comprehensive summary of closure cost estimate should be included.	12 and Appendix B
Contingency costs are to be included in the closure cost estimate.	Appendix B
Cost estimate to assume worst case scenario.	12 and Appendix B
Cost estimate for an independent third-party contractor to close out the site (including mobilization and equipment).	12 and Appendix B
Progressive reclamation credits may be applied to closure cost estimate.	Included in Appendix B
Provide a list of mine components that are considered in the Preliminary Closure Plan.	Table 3-1
Provide evidence to support the QIA policy assumptions for Preliminary Closure Plans.	1, Table E-2

TABLE C-3: TERRITORIAL LANDS ACT

Territorial Land Use Regulations (TLUR 2010)		
Key Mine Closure and Reclamation Plan Guidelines	**TLUR Section**	***Interim* MCRP (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
"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	8
"Restore the channel and bed of the stream to their original alignment and cross-section."	s. 13.(1 b)	8.12
"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	5.1
Remove all buildings equipment, machinery, and storage equipment/containers and materials onsite.	s. 19.(1)	8.3 and 8.4
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	8
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	Included in Appendix B

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE C-4: 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	***Interim* MCRP (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."	11
"Description of reclamation methods, time frames and schedules, including proposed notice periods to employees and public."	8
"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."	6
"Discussion of research programs to address challenges to reclamation, given the local conditions."	2.2 and 2.3
"Considerations for the Projection of public health and safety."	6.1, 7.1 and 8.1
"Description of closure and post - closure monitoring of environmental components."	9
"Discussion of the need for long - term monitoring and maintenance by establishing physical and chemical stability."	9.1, 9.2
"Discussion on reduction or elimination of environmental effects once the mine ceases operation."	8, 10, and 11
"Discussion regarding re-establish conditions that permit the land to return to similar pre-mining land use."	5, 5.1 and 8
"Consideration for ARD/ML potential of rocks, in association with related waste rock management strategies."	8.11
"Any considerations for the restoration of the natural aesthetics of the Project."	11

TABLE C-5: AANDC (INAC) GUIDELINES

Mine Site Reclamation Guidelines for the Northwest Territories (2007)	
Key Mine Closure and Reclamation Plan Guidelines	***Interim* MCRP Report Section**
Develop and implement preventive and control strategies to effectively minimize the potential for ARD and ML to occur.	8.11
Where ARD and ML are occurring as a result of mine activities, mitigate and minimize impacts to the environment.	8.11
Re-establish the pre-mining ground cover, which may involve encouraging self-sustainable indigenous vegetation growth.	5.1
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.	8.10
Ensure physical stability of residual earth structures for environmental, human, and wildlife safety.	9.1

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Mine Site Reclamation Guidelines for the Northwest Territories (2007)	
Key Mine Closure and Reclamation Plan Guidelines	***Interim* MCRP Report Section**
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.	8.2
Waste Rock: Minimize erosion, thaw settlement, slope failure, collapse or the release of contaminants or sediments.	8.11 and 8.13
Buildings and infrastructure, equipment: Return area to its original state or to a condition compatible with the end land-use targets.	8.3 and 8.4
Restore natural drainage patterns where surface infrastructure has been removed.	8.12 and 8.13
Landfills: • Control erosion and effects to the ground thermal regime.	8.9
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.	8.3, 8.4, 8.12 and 8.13

TABLE C-6: 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	***Interim* MCRP Report Section**
Areas should be returned to viable and self sustaining areas where practical.	5.1 and 8
Use best management principles such as progressive reclamation and reduce the environmental risk.	5.1
Communication and consultation shall be undertaken with all applicable parties.	2.2 and 2.3
Closure impacts for all mine components.	8
Closure costs estimates should be undertaken by a third party using a recognized methodology such as RECLAIM. Closure cost estimates should include contingency factors.	12 and Appendix B
Inclusion of a progressive reclamation plan.	5 and 5.1
Removal/stabilization of all structures.	8.3
Reclaim and stabilize waste rock stockpiles remaining on site.	8.11
Reclaim the disturbed surface areas to acceptable standards.	8
Water quality at closure shall meet or exceed the accepted standards.	9.2
Temporary Closure measures shall be included in the Preliminary Closure Plan and cost estimate.	6, 7
Inclusion of a post - closure monitoring program.	9

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Mine Site Reclamation Policy for Nunavut (2002) and Mine Site Reclamation Policy for the Northwest Territories (2002)	
Key Mine Closure and Reclamation Plan Guidelines	***Interim* MCRP 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.	8
Re-vegetation of the site where practical.	8.13
Meet or exceed applicable water standards.	9.2
Recycle materials where practical.	8
Closure cost estimate to be calculated for the total financial security for final closure.	12 and Appendix B
Utilization of a recognized methodology for calculating the closure costs (i.e. RECLAIM model).	12 and Appendix B
Establish financial security to be provided to the Minister of Aboriginal Affairs and Northern Development Canada (previously Indian Affairs and Northern Development).	To be included in Interim Closure Plan for submission

TABLE C-7: AANDC (INAC) GUIDELINE

Mine Reclamation in the Northwest Territories and Yukon (1992)	
Key Mine Closure and Reclamation Plan Guidelines	***Interim* MCRP 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.	11
Ensure post-closure physical and chemical stability.	9.1 & 9.2
Development of a monitoring program to assess the effectiveness of the restoration to be undertaken between the Proponent and Indian and Northern Affairs Canada.	9
Reclaimed areas should be returned to previous land use and aesthetics, to the extent possible.	5.1, 8
Include temporary closure and indefinite (long term) Preliminary Closure Plans.	6 & 7
Mine features should be closed in accordance with the guidelines provided in Tables 5.2 through Table 5.8 (Robertson and Kirsten 1992).	8
Inclusion of a fully developed closure cost estimate.	12 and Appendix B
Re-vegetation where practical. Local arctic species and distributions should be considered.	8.13

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

TABLE C-8: 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	***Interim* MCRP Plan Report Section**
Evaluation of ARD/ML potential for open pit, waste rock stockpiles and disturbed areas.	8.11 (on-going process) and to be included in Interim Closure Plan for submission
Cover design for waste rock stockpiles, if required. Stockpiles should be designed and contoured to ensure stability.	8.11 and 9.1
Re-vegetation of disturbed areas, where practical.	8.13
Open pit closure preferably backfilling or flooding.	8.2
Stability of open pit should be investigated.	8.2
Quarries should be backfilled and contoured to match the surrounding topography.	8.11
Removal of fuel and chemical storage tanks and associated piping and plumbing if applicable.	8.3, 8.4 and 8.8
Fuel contaminated soils should be remediated.	8.10
Chemical storage facilities should be removed from site.	8.8
Soils surrounding chemical facilities should be tested for contamination and where present be removed from site.	8.10
Culverts should be removed from site.	8.12
Airstrips should be left intact, unless deemed unsafe.	8.6
Natural drainage should be restored to the site. Roads that do not impede the natural drainage may remain intact.	8.12
Solid wastes should be dealt with in responsible manner.	8.9
Hazardous wastes are to be disposed at an approved facility.	8.8 and 8.9
Buildings and structures should be removed from the site.	8.3
Concrete foundations may be left in a safe condition.	8.7
The Preliminary Closure Plan should include a planned shutdown/temporary closure scenario.	6 Incorporated into Interim Mine Closure
The Preliminary Closure Plan should include a long term shutdown/Long-Term Closure scenario.	7 Incorporated into Interim Mine Closure
The Preliminary Closure Plan should include a final abandonment/final closure scenario.	8 Incorporated into Interim Mine Closure
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.	9
Financial security is required for the closure phase.	12

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

Appendix D-
Site Photos of Current Site Condition

The information contained herein is proprietary Baffinland Iron Mines Corporation and is used solely for the purpose for which it is supplied.
It shall not be disclosed in whole or in part, to any other party, without the express permission in writing by Baffinland Iron Mines Corporation.

Note: This is an UNCONTROLLED COPY. All staff members are responsible to ensure the latest revision is used

MINE SITE –SITE PHOTOS









MILNE INLET- SITE PHOTOS









Baffinland Iron Mines Corporation
Mary River Project

2014 Marginal Reclamation and Closure Security Estimate

2013-10-31	0	Approved for Use	A. Grzegorczyk	T. Mackay	S. Perry	E. Madsen
Date	**Rev.**	**Status**	**Prepared By**	**Checked By**	**Approved By**	**Approved By**

© Hatch 2013/10

Table of Contents

1. Purpose 1

2. Regulatory Context 1

2.1 2014 Marginal Reclamation and Closure Security Estimate for ERP Activities 2

3. 2014 Planned Marginal Activities 3

3.1 Planned Progressive Reclamation in 2014 3
3.2 2014 Planned Marginal Activities under ERP 4
3.3 Closure Scenario 6

4. 2014 Marginal Reclamation and Closure Security Estimate Summary 7

5. Closure and Reclamation Objectives 10

6. Supporting Documents 11

List of Tables

Table 4-1: Mary River Project Total Closure and Reclamation Security Summary
Table 4-2: 2014 Closure and Reclamation Security Detailed Summary
Table A1: QIA A&R Assumption Concordance Table
Table C1: Marginal Closure and Reclamation Security for 2014 Work Plan – Approved Activities, Mary River Project
Table C2: Marginal Road Construction Estimate for Mine Site
Table C3: Marginal Road Construction Estimate for Milne Port
Table E1: 2014 Marginal Closure and Reclamation Security Estimate – Non ERP Activities Summary

List of Figures

Figure B1: Summary of 2014 Work Plan Marginal Closure Cost – Approved Activities, 2014 Breakdown
Figure B2: 2014 Work Plan Closure Cost – Approved Activities for Open Pit
Figure B3: 2014 Work Plan Closure Cost – Approved Activities for Buildings and Equipment - Mary River Mine Site
Figure B4: 2014 Work Plan Closure Cost – Approved Activities for Buildings and Equipment – Milne Inlet
Figure B5: 2014 Work Plan Closure Cost – Approved Activities for Buildings and Equipment – Tote Road Camp
Figure B6: 2014 Work Plan Closure Cost – Approved Activities for Chemicals
Figure B7: 2014 Work Plan Closure Cost – Approved Activities for Water Management
Figure B8: 2014 Work Plan Closure Cost – Approved Activities for Mobilization
Figure B9: 2014 Work Plan Closure Cost – Approved Activities for Post Closure Monitoring
Figure D1: Summary of 2014 Closure and Reclamation Security Estimate – ERP Activities, 2014 Breakdown
Figure D2: 2014 Work Plan Closure Cost – ERP Activities for Open Pit
Figure D3: 2014 Work Plan Closure Cost – ERP Activities for Buildings and Equipment – Mine Site
Figure D4: 2014 Work Plan Closure Cost – ERP Activities for Buildings and Equipment – Milne Port
Figure D5: 2014 Work Plan Closure Cost – ERP Activities for Mobilization

© Hatch 2013/10

List of Appendices

Appendix A : QIA A&R Policy Concordance Table for 2014 Closure and Reclamation Security Estimate

Appendix B : 2014 Closure and Reclamation Security Estimate for Approved Activities: Mining RECLAIM Closure Cost Model Screenshots

Appendix C : 2014 Marginal Closure Cost – Approved Activities: Mining RECLAIM Closure Cost Model Assumptions

Appendix D : 2014 Marginal Reclamation and Closure Security Estimate for ERP Activities: Mining RECLAIM Closure Cost Model Screenshots

Appendix E : 2014 Marginal Reclamation and Closure Security Estimate for ERP Activities: Mining RECLAIM Closure Cost Model Assumptions

Appendix F : Additional Supporting Documentation

© Hatch 2013/10

1. Purpose

The purpose of this document is to provide a summary of the closure and reclamation security estimated to be required to meet the reclamation objectives outlined in the Mary River Interim Mine Closure and Reclamation Plan (H349000-1000-07-126-0012) for the Mary River Project (the 'Project') taking into consideration planned work in 2014 being conducted under Type A Water Licence 2AM-MRY1325 and the Qikiqtani Inuit Association's Commercial Lease (No. Q13C301).

The closure and reclamation security estimate was developed incorporating current site conditions and all applicable activities described in the Baffinland Iron Mine Corporation's 2014 Work Plan (October, 2013). The estimated marginal closure and reclamation security required to account for 2014 planned work is intended to be aggregated with previous project closure and reclamation security bonding and project wide totals to date are present in Table 4-1. Any proposed reclamation credits or adjustments made on previous reclamation security estimates from preceding years are explicitly noted in Appendix C.

In addition, a separate estimate of closure and reclamation security is presented in anticipation for work conducted under the 'Early Revenue Phase (ERP)' in 2014 which requires approval of an amended Project Certificate (Project Certificate No. 005) (the 'Project Certificate'). This closure and reclamation security estimate would only apply upon approval of the amended Project Certificate as described in the Environmental Impact Statement for the Early Revenue Phase (June 2013). See Section 2.1 for more discussion of work requiring Early Revenue Phase approval and Table 4-1, Appendix D and Appendix E for the closure and reclamation security estimated to be required.

2. Regulatory Context

An annual adjustment to reclamation security is required under Section 9.2 of the Commercial Lease, No. Q13C301, agreed to between Baffinland Iron Mines Corporation (Baffinland) and the Qikiqtani Inuit Association (QIA) as well as a requirement under the Type 'A' Water Licence 2AM-MRY1325 (Part J, Item 3). The 2014 Marginal Reclamation and Closure Security Estimate therefore represents Baffinland's proposed annual adjustment to reclamation security. The 2014 Marginal Reclamation and Closure Security Estimate has been developed in accordance with conditions outlined within Section 9.2 of the Commercial Lease; conditions outlined within Type A Water Licence 2AM-MRY1325, Part J, Item 3 and Schedule J; and in consideration of the QIA Abandonment and Reclamation (A&R) Policy (QIA, 2013).

© Hatch 2013/10

2.1 2014 Marginal Reclamation and Closure Security Estimate for ERP Activities

As stated in correspondence to the NIRB on January 13, 2013 and in the Mary River Project 2014 Work Plan, due to various business drivers, Baffinland proposes to make changes to the schedule and some activities in the initial stages of project development associated with the Mary River Project Proposal for which the NIRB recently issued Project Certificate.

In its request to the NIRB, Baffinland indicated that although the Proponent remains committed in the long-term to developing the Project as authorized in the Project Certificate, in the short term Baffinland proposes to change some development activities and project timelines to accommodate a proposed “Early Revenue Phase” which would include development of a nominal 3.5 million tonnes per annum (Mt/a) road haulage operation from the Mary River mine site to a port facility at Milne Inlet for shipping of iron ore during the open water season. As noted by Baffinland, this development option was presented previously as a project alternative, and was included within the initial technical review of the Draft Environmental Impact Statement for the Mary River Project Proposal.

Baffinland recognizes that this Early Revenue Phase will require an amendment to the Project Certificate which in turn requires the submission and review of an Environmental Impact Statement. In accordance to the directives issued by the NIRB, Baffinland completed its Environmental Impact Assessment for the Early Revenue Phase (ERP) of the Project in June 2013. The proposal is subjected to the NIRB review process which is expected to be completed by the first quarter of 2014.

If a favourable decision is granted from the Minister of AANDC with respect to the ERP, and subject to obtaining any amendments (if any) which might be necessary to the Water Licence, Baffinland will proceed with the construction of facilities required for the completion of the ERP. The work that requires ERP approval has therefore been considered in the 2014 Marginal Reclamation and Closure Security Estimate and the incremental reclamation security estimated to be required to account for these activities is presented in Table 4-1, Appendix D, and Appendix E. The 2014 Marginal Reclamation and Closure Security Estimate for ERP Activities would only apply upon approval of the amended Project Certificate as described in the Environmental Impact Statement for the Early Revenue Phase (June 2013).

© Hatch 2013/10

3. 2014 Planned Marginal Activities

The 2014 Marginal Reclamation and Closure Security Estimate was developed to estimate the closure and reclamation security required for planned activities not captured in previous estimates of the Project[1]. As described in the 2014 Work Plan (Baffinland, October 2013), planned marginal work in 2014 being conducted under the current Project Certificate and Type A Water Licence 2AM-MRY1325 includes:

- The development and construction of infrastructure required for site capture at Milne Port and the Mine Site for the launching of the Mary River Project.
- For Milne Port, it is expected that sealifts will occur during open water (approximately between July 15 and October 1, 2014). An estimated 7 vessels (dimension of barges approximately 35 m x 140 m) will be necessary to transport the equipment and material required for the execution of the 2014 work. Material, equipment, fuel and supplies required for construction activities at the Mine Site and the operation of the Mary River facilities will be transported to the Mine Site via the Tote Road year round.
- Ongoing environmental baseline data collection and geotechnical drilling in order to sustain the development of the Project. These activities will resume at the Milne Port site, along the Tote Road, at the Mine Site, at numerous quarry sites and at other Project development areas.
- Continual environmental monitoring in accordance with the approved environmental management monitoring and mitigation plans.
- Continued archaeological surveys at Project component areas as required.

3.1 Planned Progressive Reclamation in 2014

There will also be continued progressive reclamation of areas currently used and previously used in association with drilling, bulk sample, and historical exploration programs. It should be noted no progressive reclamation credits have been applied for in the 2014 Marginal Reclamation and Closure Security Estimate for any planned progressive reclamation conducted in 2014. Progressive reclamation plans in 2014 will include:

- Implementation of an action plan, developed and submitted in 2013, to address concerns from stakeholders about long term salt storage.
- Implementation of a program to dispose of existing inventory incinerator bottom ash in the existing Mary River Landfill and the development of a plan to manage and dispose of ash being generated on an ongoing basis.

[1] Previous reclamation security applied to the Project is described in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) and Mary River Exploration Project Abandonment and Reclamation Plan (H349000-1000-07-126-0016) documents.

Safety • Quality • Sustainability • Innovation
© Hatch 2013/10

- Completion of the decommissioning of the existing bladder farm at Milne Inlet and Mary River including the transport of hydrocarbon impacted soils to the planned landfarm facility.
- Continue the development and implementation of a long term multi-year plan to address localized areas of permafrost melting associated with current borrow areas, and taking into consideration the longer term designs for the Tote Road upgrades and new quarry development.
- Demobilization of equipment and supplies not required for near term activities, as well as the current inventory of hazardous waste and other materials by means of sealift from Milne Port.
- Continued development of the Mine Site landfill and deposition of non-hazardous wastes in accordance with the landfill operations and maintenance manual.
- Discharge of treated sewage stored in existing PWSP's at Mary River Camp and Milne Inlet after treatment. Two periods of discharge are planned, the first corresponding to freshet (May-June), and the second later in the summer if required.
- Ongoing removal from the site, or safe dispose on-site infrastructure, equipment, and supplies no longer required for ongoing construction and operations. The items are defined by the Mary River Project Interim Abandonment and Reclamation Plan, and include infrastructure and site materials, fuel caches, drums, barrels, buildings and contents, docks, water pumps and lines, material and equipment prior to the expiry of applicable permits. Roads, if any, will be re-graded to match the natural contour in order to reduce erosion.
- Unless otherwise identified within the approved Abandonment and Reclamation Plan under this Licence, where roads are no longer in use, BIMC will remove culverts and open the natural drainage channels. In carrying out this activity, measures will be implemented to minimize erosion and sedimentation.
- Areas that have been contaminated by hydrocarbons from normal fuel transfer, handling, and storage activities will be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation, 2010. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.

3.2 2014 Planned Marginal Activities under ERP

As discussed on Section 2.1, upon approval of the amended Project Certificate as described in the Environmental Impact Assessment for the Early Revenue Phase (June 2013) additional on-site activities are planned and therefore have been considered in the 2014 Marginal Reclamation and Closure Security estimate. If these activities were conducted, the 2014 Marginal Reclamation and Closure Security Estimate for ERP Activities estimate would apply.

© Hatch 2013/10

Construction activities for the ERP, which would only commence once the addendum to Project Certificate is granted, consist of the following:

- Milne Port Construction:
  - Receive marine equipment in order to install and construct dock structure for the Ore Dock
  - Receive stacker reclaimers and ship loaders
  - Develop Ore Stacking Systems for Material Handling
  - Construct Stockpile Settling Ponds.

The incremental reclamation security estimated to be required to account for these activities is presented in Table 4-1, Appendix D, and Appendix E.

The 2014 Marginal Reclamation and Closure Security Estimate to support the 2014 Work Plan (Baffinland, October 2013) has been developed in accordance to principles, methodology, and closure objectives defined within the Mary River Project Interim Abandonment and Reclamation Plan (H349000-1000-07-126-0012). The 2014 Marginal Reclamation and Closure Security Estimate is presented as two separate costs to allow for estimated security to be differentiated between activities being conducted in 2014 which require an amendment to the Project Certificate ('ERP activities') and activities being conducted in 2014 which have already been approved under the current Project Certificate and Type A Water Licence (2AM-MRY 1325). Both of these marginal reclamation and closure security estimates were developed using Mining RECLAIM Methodology (development sponsored by AANDC). The marginal reclamation and closure security estimated to be required for activities planned to be conducted in 2014 already approved under the current Project Certificate is presented in Table 4-1, Appendix B and Appendix C. The marginal reclamation and closure security estimated to be required for ERP activities in 2014 is presented in Table 4-1, Appendix D, and Appendix E.

Mining RECLAIM methodology is based on project components and a cost estimate for each reclamation activity that is required to be performed for each project component to meet reclamation objectives. The reclamation cost is based on a functional unit for that project component (e.g. m^2 for building foot print, m^3 for earthworks, etc.). Then, based on per unit costs provided by the developers or the users, a unit cost is applied for performing reclamation activities on that functional unit of the Project. Unit cost developed by Baffinland are used as much as possible and when deemed appropriate. When project specific unit costs are unknown, pre-determined RECLAIM 'unit' costs associated to reclaim the project component are used. Unit costs are always selected at the most conservative (highest) level possible in RECLAIM, unless noted otherwise, to increase conservatism in the estimate and to allow for project characteristics (mainly climate and remoteness). In addition, it should be noted RECLAIM unit costs are derived from a database of unit costs for reclamation activities based on operating experience at northern sites across the Canadian Arctic (see whitepaper: The Reclaim Model, Brodie & Milburn, 2001) and therefore are assumed to be the most

© Hatch 2013/10

accurate reclamation unit costs available that reflect Mary River Project conditions. The most recent update of the RECLAIM model occurred in 2009. The use of RECLAIM was also supported as the methodology of choice to estimate reclamation security by the Nunavut Securities Working Group (see Nunavut Securities Working Group, Over Bonding and Reclamation Guidelines Presentation, April 10, 2013) assuming that current unit rates are used whenever possible as is the case in the Mary River 2014 Marginal Closure Cost Estimate. Unit costs in RECLAIM are inclusive of fuel, labour, and equipment costs.

This unit cost approach is essentially an amalgamation of the person-day and equipment hour estimate used in other model types while also taking into consideration the required fuel. Contingency is established based on user experience and the level of confidence the user has in the accuracy of the representative costs for reclamation of the Project. In this case, a contingency of 10% for all activities was chosen. This level of contingency was determined based on review of the Qikiqtani Inuit Association (QIA) Abandonment and Reclamation Policy for Inuit Owned Lands (2013), Appendix D and BIMC experience in North Baffin Island supported by contributions from its consultant, Hatch. Reclamation activities required for the planned marginal activities being conducted in 2014 for the Mary River Project are predominantly an earthworks exercise with simple demolition. High allowances for contingency are not required as the reclamation program will be relatively simple.

The 2014 Marginal Reclamation and Closure Security Estimate also includes a 5% allowance for Project Management to all closure estimates. This is deemed sufficient based on Baffinland and its consultant, Hatch's evaluation that the resulting amount from a 5% multiplier would be sufficient to allow for overall management of marginal reclamation activities required for planned work in 2014.

Note: The Mining RECLAIM Excel model was requested to be used and provided by Aboriginal Affairs and Northern Development Canada (AANDC) (formerly Department of Indian and Northern Affairs Canada (INAC)).

Based on calculations of the RECLAIM Model, the cost of reclamation of the Mary River Project is presented in Table 4-1.

Note that the estimate of closure costs will be an iterative process that will be reviewed and re-evaluated as necessary annually to allow for project changes and updated costs. This document represents current understanding at time of publishing in 2013 and represents the estimated closure cost to reclaim the site at the end of 2014. The next revision is expected in Q3, 2014 before the start of 2015 field operations that will capture all project components expected on-site in 2015 as well as any redefined costs.

3.3 Closure Scenario

The 2014 Marginal Reclamation and Closure Security Estimate is based on a scenario that assumes all planned activities for 2014 have taken place on site. See Appendix C for full list of assumptions of the closure scenario for activities planned to be conducted in 2014 that have already been approved under the current Project Certificate and Appendix C for full list of assumptions of the closure scenario for ERP activities. The closure scenario is specially

© Hatch 2013/10

critical in relation to fuel as it is assumed all fuel on-site will not be available at time of reclamation (as per QIA Policy, see Appendix A) and fuel inventory fluctuates throughout 2014. Therefore to be conservative, the 2014 Marginal Reclamation and Closure Security Estimate considers the worst case scenario with fuel and includes a cost allocation for fuel removal after fuel tanks are full after the 2014 sealift, i.e., highest quantity of fuel on site after commencement of 2014 Work Plan.

4. 2014 Marginal Reclamation and Closure Security Estimate Summary

Table 4-1 with total costs and Table 4-2 with a categorized breakdown presents a summary of the 2014 Marginal Reclamation and Closure Security Estimate to support the 2014 Work Plan (Baffinland, October 2013) in accordance to principles, methodology, and closure objectives defined within the Mary River Project Interim Abandonment and Reclamation Plan (H349000-1000-07-126-0012).The estimated marginal reclamation and closure security required project-wide is presented by project component, required marginal reclamation and closure security based on land ownership, and required marginal reclamation and closure security by assumed land and water liability.

Table 4-1: Mary River Project Total Closure and Reclamation Security Summary

Liability Allocation		Total Security for Type A Water License in 2013	Mary River Exploration Project Closure Cost Estimate (Type B Renewal)	2014 Work Plan Marginal Closure Estimate – Approved Activities	2014 Work Plan Marginal Closure Estimate – ERP Activities	Total 2014 Closure Estimate for Mary River Project	Total Project-Wide Security for 2014
TOTAL		$35,994,000	$1,247,000	$3,315,000	$279,000	$3,594,000	$40,835,000
IOL	Land	$33,840,000	$147,000	$3,150,000	$279,000	$3,428,000	$37,415,000
	Water	$2,154,000	$18,000	$0	$0	$0	$2,172,000
	Total IOL	**$35,994,000**	**$165,000**	**$3,150,000**	**$279,000**	**$3,428, 000**	**$39,588,000**
Crown	Land	$0	$1,082,000	$166,000	$0	$166,000	$1,247,000
	Water	$0	$0	$0	$0	$0	$0
	Total Crown	**$0**	**$1,082,000**	**$166,000**	**$0**	**$166,000**	**$1,247,000**

**Rounded to nearest '000's

Safety • Quality • Sustainability • Innovation
© Hatch 2013/10

Table 4-2: 2014 Closure and Reclamation Security Detailed Summary

	A	B	C	D	E	F	G	H	I	J
Liability Allocation	**Revised Type B Closure Cost Estimate**	**Carry-over to Type A Closure Cost Estimate from Type B Estimate**	**2013 Work Plan Marginal Closure Estimate**	**Total Security for Type A Water Licence in 2013 (B+C)**	**Total 2013 Closure Estimate for Mary River Project (A+D)**	**Type B Renewal Closure Cost Estimate**	**2014 Work Plan Marginal Closure Estimate – Approved Activities**	**2014 Work Plan Marginal Closure Estimate –ERP Activities**	**Total 2014 Closure Estimate for Mary River Project (G+H)**	**Total Project-Wide Security for 2014 (E+I)**
Direct Costs Estimate										
Project Area										
Milne Port	$0	$6,452,520	$2,621,753	$9,074,273	$9,074,273	$0	$1,825,525	$78,579	$1,904,104	$10,978,377
Tote Road	$0	$1,938,492	$63,737	$2,002,229	$2,002,229	$0	-$64,999	$0	-$64,999	$1,937,230
Mary River Mine Site	$0	$3,237,514	$1,334,514	$4,572,028	$4,572,028	$0	$3,960,709	$85,385	$4,046,094	$8,618,122
Remote Sites/Rail Camps	$238,960	$0	$0	$0	$238,960	$238,960	$0	$0	$0	$238,960
Steensby Camp	$699,141	$0	$0	$0	$699,141	$699,141	$0	$0	$0	$699,141
Mineral Exploration Areas	$68,915	$0	$0	$0	$68,915	$68,915	$0	$0	$0	$68,915
General Site Area	$0	$2,686,739	$0	$2,686,739	$2,686,739	$0	$0	$0	$0	$2,686,739
Subtotal	*$1,007,016*	*$14,315,265*	*$4,020,004*	*$18,335,269*	*$19,342,285*	*$1,007,016*	*$5,721,235*	*$163,964*	*$5,885,199*	*$25,227,484*
Additional Reclamation Activities										
Chemicals, Fuel and Soil Management	$0	$90,000	$5,046,215	$5,136,215	$5,136,215	$0	-$1,294,086	$0	-$1,294,086	$3,842,129
Water management	$14,808	$0	$43,175	$43,175	$57,983	$14,808	$0	$0	$0	$57,983
Post-closure monitoring and maintenance	$0	$1,654,952	$457,971	$2,112,923	$2,112,923	$0	$0	$0	$0	$2,112,923
Mobilization	$0	$4,057,700	$1,340,873	$5,398,573	$5,398,573	$0	-$1,775,771	$90,027	-$1,685,744	$3,712,829
Subtotal	*$14,808*	*$5,802,652*	*$6,888,234*	*$12,690,886*	*$12,705,694*	*$14,808*	*-$3,069,857*	*$90,027*	*-$2,979,830*	*$9,725,864*
Sub-Total of Direct Costs	***$1,021,824***	***$20,117,917***	***$10,908,238***	***$31,026,155***	***$32,047,979***	***$1,021,824***	***$2,651,378***	***$253,991***	***$2,905,369***	***$34,953,348***
Indirect Costs Estimate										

© Hatch 2013/10

	A	B	C	D	E	F	G	H	I	J
Liability Allocation	**Revised Type B Closure Cost Estimate**	**Carry-over to Type A Closure Cost Estimate from Type B Estimate**	**2013 Work Plan Marginal Closure Estimate**	**Total Security for Type A Water Licence in 2013 (B+C)**	**Total 2013 Closure Estimate for Mary River Project (A+D)**	**Type B Renewal Closure Cost Estimate**	**2014 Work Plan Marginal Closure Estimate – Approved Activities**	**2014 Work Plan Marginal Closure Estimate –ERP Activities**	**Total 2014 Closure Estimate for Mary River Project (G+H)**	**Total Project-Wide Security for 2014 (E+I)**
Project management	$51,091	$803,011	$478,368	$1,281,379	$1,332,470	$51,091	$221,357	$8,198	$229,556	$1,562,026
Bonding	$10,218	$160,602	$0	$160,602	$170,820	$10,218	$0	$0	$0	$170,820
Insurance	$10,218	$160,602	$0	$160,602	$170,820	$10,218	$0	$0	$0	$170,820
Engineering	$51,091	$803,011	$0	$803,011	$854,102	$51,091	$0	$0	$0	$854,102
Contingency	$102,182	$1,606,022	$956,737	$2,562,758	$2,664,941	$102,182	$442,715	$16,396	$459,111	$3,124,052
Sub-total of Indirect Costs	***$224,801***	***$3,533,248***	***$1,435,105***	***$4,968,352***	***$5,193,154***	***$224,801***	***$664,072***	***$24,595***	***$688,667***	***$5,881,821***
Estimate of TOTAL COSTS	**$1,246,625**	**$23,651,165**	**$12,343,343**	**$35,994,507**	**$37,241,133**	**$1,246,625**	**$3,315,450**	**$278,586**	**$3,594,036**	**$40,835,169**
Liability Breakdown										
Land	$1,228,560	$21,546,546	$12,293,691	$33,840,237	$35,068,797	$1,228,560	$3,315,450	$278,586	$3,594,036	$38,662,833
Water	$18,066	$2,104,618	$49,651	$2,154,269	$2,172,335	$18,066	$0	$0	$0	$2,172,335
Land	99%	91%	100%	94%	94%	99%	100%	100%	100%	95%
Water	1%	9%	0%	6%	6%	1%	0%	0%	0%	5%

All costs in Canadian Dollars (CAD).

© Hatch 2013/10

5. Closure and Reclamation Objectives

The Mary River Project Interim Abandonment and Reclamation Plan (H349000-1000-07-126-0012) (the 'Plan') has been prepared to address mine closure in various scenarios. This interim plan incorporates progressive rehabilitation during the course of the Project to limit the work required after cessation of operations and to limit the environmental effects during the Project life. It addresses temporary 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 Mary River Project Interim Abandonment and Reclamation Plan will be updated 60 days prior to the Operations Phase of the Project as per requirement under the Type 'A' Water Licence 2AM-MRY1325 (Part J, Item 2).

For final closure, materials and equipment will either be removed from site or disposed of in on-site landfills, and all hazardous materials and wastes will be removed from site to licensed disposal facilities. The open pit, waste rock stockpiles and quarries will be inspected for physical and chemical stability. Roads (with the exception of the public Milne Inlet Tote Road), airstrips and development areas will be re-contoured as required to provide long-term stability and reduce the potential for erosion. The closure phase is expected to be 4 years, followed by a minimum of 5 years of post-closure safety and environmental monitoring and treatment, as and if required.

The Plan is a "living" document. It will be reviewed and revised during water licensing, and regularly updated throughout the Operation Phase to reflect the progress of the Project as well as changes in technology and/or standards or legislation. The Plan is subject to review and approval by the Nunavut Water Board. Future revisions will also consider input from consultations with communities and other stakeholders on methods to be used, and potential uses for project infrastructure.

The main objectives of closure activities are to:

- Adhere to QIA A&R Policy and Mine Site Reclamation Policy for Nunavut (INAC, 2002).A concordance table of 2013 closure assumptions with the QIA reclamation policy is presented in Appendix A.
- Return the Project affected sites to "wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and human activities" (Mine Site Reclamation Policy for Nunavut, 2002).
- Where practicable, undertake progressive reclamation 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. Where practical, affected areas will be returned to a state compatible with the original undisturbed area (Territorial Land Use Regulations).

© Hatch 2013/10

- Reduce the need for long-term monitoring and maintenance by designing for closure and instituting progressive reclamation, whenever possible.
- Provide for mine closure using the current available proven technologies in a manner consistent with sustainable development.
- Return altered water courses to their original alignment and cross-section (Territorial Land Use Regulations).

6. Supporting Documents

In addition to information presented within this document, please refer to the following appendices for supporting information:

- Refer to Appendix A for QIA A&R Policy Concordance Table for 2014 Marginal Cost Estimate.
- Refer to Appendix B for full screenshots of the 2014 Closure and Reclamation Security Estimate: Approved Activities - Mining RECLAIM model.
- Refer to Appendix C for the 2014 Closure and Reclamation Security Estimate: Approved Activities - Mining RECLAIM model assumptions.
- Refer to Appendix D for full screenshots of the 2014 Closure and Reclamation Security Estimate: ERP Activities - Mining RECLAIM model.
- Refer to Appendix E for the 2014 Closure and Reclamation Security Estimate: Approved Activities - Mining RECLAIM model assumptions.
- Refer to Appendix F for all other additional supporting documentation.

AG:pp

© Hatch 2013/10

Appendix A:
QIA A&R Policy Concordance Table for 2014 Closure and Reclamation Security Estimate

Safety • Quality • Sustainability • Innovation

© Hatch 2013/10

Table A1: QIA A&R Assumption Concordance Table

QIA Required Assumption	Compliance with 2014 Closure and Reclamation Security Estimate
Use of RECLAIM	Recognized non-compliance
Incorporation of QIA's CLARC A&R objectives and criteria	Baffinland Iron Mines Corporation (Baffinland) recognizes that consultation with Community Land and Resources Committee(s) (CLARC) is an important process in Abandonment and Reclamation planning. Reflecting this, and as required by QIA Abandonment and Reclamation Policy for Inuit Owned Land, consultation with the CLARC(s) both prior to and during the review process was conducted in collaboration with the Final Environmental Impact Statement (FEIS) and project approval process. Documentation to support this can be found in FEIS, Volume 2: Consultation, Regulatory Framework and Assessment Methodology. Meetings where CLARC feedback was requested and captured occurred at the following dates and locations: • March 27, 2007, Igoolik, NU • March 27, 2008, Igoolik, NU • March 26, 2008, Hall Beach, NU • March 17, 2009, Pond Inlet, NU • April 21, 2010, Igoolik, NU • August 16, 2011, Hall Beach, NU Documentation of these consultations, including and CLARC A&R objectives and criteria that was brought to Baffinland's attention, was captured and consider during the development the Interim Abandonment and Reclamation Plan as documented in the following locations: • FEIS, Appendix 2A-2 - Public Consultation Record, Closure and Reclamation, pg. 437-443 • FEIS, Appendix 2A-3 - QIA Community Consultation Database, Closure and Reclamation, Pg. 119 • Addendum to the FEIS , Appendix 3B, Attachment 10, Interim Abandonment and Reclamation Plan, H349000-1000-07-126-0012, Rev. 0 (7 June 2013) • FEIS, Appendix 3B, Attachment 10, Preliminary Abandonment and Reclamation Plan, H337697-0000-07-126-0014, Rev. C (1 Jan 2012) Based on feedback received as shown in the records referenced above, Baffinland is of the position that CLARC A&R objectives and

© Hatch 2013/10

QIA Required Assumption	Compliance with 2014 Closure and Reclamation Security Estimate
	criteria are addressed in the Interim Abandonment and Reclamation Plan and are demonstrated in Section 11: Closure Criteria of said document.
A scenario where QIA assumes authority over project components on IOL	For the 2014 Closure and Reclamation Security Estimate, it is assumed a 3rd Party, such as the QIA, is responsible for the performance of all closure and reclamation activities. Baffinland recognize on activities occurring on IOL this responsibly would fall on the QIA. Therefore 2014 Closure and Reclamation Security Estimate differentiates 3rd Party closure and reclamation costs required on IOL and Crown Land in addition to land and water liability allocation.
Security costs should equal 100% of the cost for an independent third-party contractor to reclaim the site	The Marginal Closure and Reclamation Security estimated for the 2014 Work Plan is based on activities scheduled to occur in 2014 that were not captured in previous estimates. The closure and reclamation costs were estimated using the RECLAIM excel model provided by Aboriginal Affairs and Northern Development Canada (AANDC). Unit costs used in the estimate are inclusive of fuel, labour and equipment required by a 3rd party to reclaim a functional unit of that component. An additional cost was applied for contingency and project management to ensure conservatism. It is in Hatch's opinion the allocated cost is sufficient to reach reclamation objectives by a 3rd Party.
Security costs are based on an independent third-party contractor and equipment, including mobilization and demobilization	The closure and reclamation costs were estimated using the RECLAIM Excel model provided by Aboriginal Affairs and Northern Development Canada (AANDC). Unit costs used in the estimate are inclusive of fuel, labour and equipment required by a 3rd party to reclaim a functional unit of that component. It has been assumed that the 3rd party contractors will utilize the equipment on site for reclamation activities (recognized non-compliance). This equipment will then be disposed of on-site at the end of site closure. A cost of equipment disposal is included in the 2014 Closure and Reclamation Security Estimate.
An independent third-party contractor may be required to enter into a commercial lease with QIA and agree to standard terms and conditions (i.e., lease administration costs, tipping fees and water compensation)	Understood.
Transportation rates (including air travel, marine shipping and overland haul) must be supported by site-specific invoicing and or cost quotations	Supporting documentation used to develop the 2014 Closure and Reclamation Security Estimate was based on the level information available at the time of development and is presented in Appendix F. Some site-specific invoicing and or cost quotations are not available for external distribution due to the sensitive and confidential nature of business arrangements and the affect their disclosure would have in an open market economy.

© Hatch 2013/10

QIA Required Assumption	Compliance with 2014 Closure and Reclamation Security Estimate
Camp operation costs must be supported by site-specific invoicing or cost quotations	Supporting documentation used to develop the 2014 Closure and Reclamation Security Estimate was based on the level information available at the time of development and is presented in Appendix F. The 2014 Closure and Reclamation Security Estimate was developed with consideration that camp operation costs are accounted for in previous estimates.
Assumed use of on-site fuel for reclamation purposes is not acceptable	The 2014 Closure and Reclamation Security Estimate considers the worst case scenario to include the cost allocation for fuel removal after fuel tanks are full after the 2014 sealift, i.e., highest quantity of fuel on site after commencement of 2014 Work Plan. As per the Mary River Project Fuel Balance (see Appendix F), a maximum 31.7 ML will be on site after commencement of 2014 Work Plan (in October 2014). The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) includes a cost allocation for removal of 31.2 ML of Type 1 fuel from site, at a $0.10/L backhaul rate (rate established and documented in 2013 Mary River A&R Plan, AMEC, and January 2013). Therefore the 2014 Closure and Reclamation Security Estimate includes a cost allocation for removal of the marginal volume of 0.5 ML of Type 1 fuel from site, at a $0.10/L backhaul rate. All unit costs used in the 2014 Closure and Reclamation Security Estimate include consideration of fuel.
Salvage values for on-site equipment and materials are not accepted as a security credit	No salvage value was considered in the 2014 Closure and Reclamation Security Estimate.
Review and approval of all plans associated with infrastructure development, including stamped and signed as-constructed documentation (e.g., drawings, reports, etc.) by a qualified Engineer registered with Association of Professional Engineers, Geologists and Geophysicists of the NWT and Nunavut (NAPEGG)	Supporting documentation used to develop the 2014 Closure and Reclamation Security Estimate was based on the level of information available at the time of development and is presented in Appendix F.
Security should be posted in a form that is readily available to QIA, retains its value throughout the land use activity, and is beyond the control of the land user or its creditors in the event of insolvency.	To be determined.

© Hatch 2013/10

QIA Required Assumption	Compliance with 2014 Closure and Reclamation Security Estimate
Progressive reclamation credits may be applied against a security amount once proven through QIA assessment and authorization.	Understood. Progressive reclamation credits applied in the development of the 2014 Closure and Reclamation Security Estimate are clearly identified in Appendix C.
IOL aggregates are used in completing a reclamation program for any project element requiring aggregates.	N/A
Potential transboundary impacts to IOL due to activities not on IOL will be considered.	Understood.

© Hatch 2013/10

Appendix B:
2014 Closure and Reclamation Security Estimate for Approved Activities: Mining RECLAIM Closure Cost Model Screenshots

Safety • Quality • Sustainability • Innovation

© Hatch 2013/10

B.1 Summary of Closure 2014 Work Plan Marginal Cost Estimate – Approved Activities

SUMMARY OF COSTS

CAPITAL COSTS

COMPONENT TYPE	COMPONENT NAME	TOTAL COST	LAND LIABILITY	WATER LIABILITY
OPEN PIT	0	$829,470	$829,470	$0
UNDERGROUND MINE	0	$0	$0	$0
TAILINGS	0	$0	$0	$0
ROCK PILE	0	$0	$0	$0
BUILDINGS AND EQUIPMENT	MINE SITE	$3,131,238	$3,131,238	$0
	MILNE PORT	$1,825,525	$1,825,525	$0
	TOTE ROAD	-$64,999	-$64,999	$0
CHEMICALS AND SOIL MANAGEMENT		-$1,294,086	-$1,294,086	$0
WATER MANAGEMENT		$0	$0	$0
POST-CLOSUREMONITORING AND MAINTENANCE		$0	$0	$0
	SUBTOTAL	**$4,427,148**	**$4,427,148**	**$0**
		PERCENTAGES	**$1**	**$0**
MOBILIZATION/DEMOBILIZATION		-$1,775,771	-$1,775,771	$0
PROJECT MANAGEMENT	5%	$221,357	$221,357	$0
Bonding	0%	$0	$0	$0
Taxes (GST on supplies) - est.	allowance	$0	$0	$0
Insurance	0%	$0	$0	$0
ENGINEERING	0%	$0	$0	$0
CONTINGENCY	10%	$442,715	$442,715	$0
Market Price Factor Adjustment	0%	$0	$0	$0
GRAND TOTAL - CAPITAL COSTS		**$3,315,449**	**$3,315,449**	**$0**

Figure B1: Summary of 2014 Work Plan Marginal Closure Cost – Approved Activities, 2014 Breakdown

© Hatch 2013/10

B.2 Open Pit

Open Pit Name:								Pit # 1
ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: CONTROL ACCESS								
Fence	m	644	FL	12.00	$7,724	100%	$7,724	$0
Signs	each	2	SH	35.64	$71	100%	$71	$0
Berm at crest	m		#N/A	0.00	$0		$0	$0
Block roads	m3		#N/A	0.00	$0		$0	$0
Other			#N/A		$0		$0	$0
OBJECTIVE: STABILIZE SLOPES								
Off-load crest, soil A	m3		#N/A	0	$0		$0	$0
Off-load crest, soil B	m3		#N/A	0	$0		$0	$0
Doze/trimoverburden at crest	m3		#N/A	0	$0		$0	$0
Drill & blast pit crest	m3		#N/A	0	$0		$0	$0
buttress slope	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: COVER/CONTOUR SLOPES								
Dump demolition materials (pit or landfill or quarry	m3		#N/A	0	$0		$0	$0
Place overburden over demolition material	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Vegetate slopes	ha		#N/A	0	$0		$0	$0
Vegetate pit floor	ha		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: SPILLWAY								
Excavate channel, soil A	m3		#N/A	0	$0		$0	$0
Excavate channel, soil B	m3		#N/A	0	$0		$0	$0
Concrete	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Other	each		#N/A	0	$0		$0	$0
OBJECTIVE: FLOOD PIT								
remove stationary equipment (sump pump)	each		#N/A	0	$0		$0	$0
remove power lines	each		#N/A	0	$0		$0	$0
Embankment/dam - Soil A	m3		#N/A	0	$0		$0	$0
Embankment/dam - Soil B	m3		#N/A	0	$0		$0	$0
supply/install pump & piping system	each		#N/A	0	$0		$0	$0
operate pumps to flood pit	each		#N/A	0	$0		$0	$0
Lime addition, _____ kg/m3 of water	tonne		#N/A	0	$0		$0	$0
Lime, purchase and shipping	tonne		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
RECLAIM QUARRIES								
Contour slopes	m3		#N/A	0	$0		$0	$0
Berm at crest	m3		#N/A	0	$0		$0	$0
Place overburder	m3		#N/A	0	$0		$0	$0
Vegetate	m3		#N/A	0	$0		$0	$0
Quarry Q1	m2	92,000	PrSpe	2.6193	$240,976	100%	$240,976	$0
Quarry QMR2	m2	70,000	PrSpe	2.6193	$183,351	100%	$183,351	$0
Quarry Q7	m2	14,600	PrSpe	2.6193	$38,242	100%	$38,242	$0
Quarry Q11	m2	17,500	PrSpe	2.6193	$45,838	100%	$45,838	$0
Quarry P1	m2	55,000	PrSpe	2.6193	$144,062	100%	$144,062	$0
Quarry Q19	m2	14,600	PrSpe	2.6193	$38,242	100%	$38,242	$0
Quarry D1Q1	m2	27,500	PrSpe	2.6193	$72,031	100%	$72,031	$0
Quarry D1Q2	m2	22,500	PrSpe	2.6193	$58,934	100%	$58,934	$0
OTHER ITEMS								
Geotechnical Drilling	Lot	-	PrSpe	0	$0	100%	$0	$0
Reclamation of Mineral Exploration Areas	Lot	-	PrSpe	0	$0	100%	$0	$0
				Subtotal	$829,470	100%	$829,470	$0
						Pct Land	Total Land	Total Water

Figure B2: 2014 Work Plan Closure Cost – Approved Activities for Open Pit

© Hatch 2013/10

B.3 Buildings and Equipment

Building / Equip Name: *MINE SITE* **Bldg / Equip #: *1***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost % Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT							
Decontaminate and ship off-site	each		#N/A	0	$0	$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0	$0	$0
Other (sealift for equipmt)	each		#N/A	0	$0	$0	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS			#N/A				
Decontaminate crushing plant	m2		#N/A	0	$0	$0	$0
Decontaminate tanks & plumbing	m2	132	BRCDS	200	$26,400	100% $26,400	$0
Decontaminate thickeners	m2		#N/A	0	$0	$0	$0
Decontaminate water treatment plant	m2	669	BRCDS	200	$133,800	100% $133,800	$0
Decontaminate maintenance shop	m2	5,238	BRCDS	200	$1,047,600	100% $1,047,600	$0
Decontaminate power plant	m2	787	BRCDS	200	$157,400	100% $157,400	$0
Decontaminate bulk fuel storage	m2	-	BRCDS	200	$0	100% $0	$0
Decontaminate ANFO plant	m2	747	BRCDS	200	$149,400	100% $149,400	$0
Deontaminate offices/warehouse/accom	m2		#N/A	0	$0	$0	$0
Removal of asbestos siding on buildings	m2		#N/A	0	$0	$0	$0
Removal of friable asbestos on equipment	m2		#N/A	0	$0	$0	$0
Other (Waste facilities)	m2	498	BRCDS	200	$99,600	100% $99,600	$0
Other (Credit for 2013 contaminated buildings)			#N/A		-6,000	100% -6,000	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS							
crushing plant	m2		#N/A	0	$0	$0	$0
conveyors & transfer towers	m2		#N/A	0	$0	$0	$0
tanks & plumbing	m2		#N/A	0	$0	$0	$0
thickeners	m2		#N/A	0	$0	$0	$0
water treatment plant	m2		#N/A	0	$0	$0	$0
maintenance shop	m2		#N/A	0	$0	$0	$0
power plant	m2		#N/A	0	$0	$0	$0
bulk fuel storage	m2		#N/A	0	$0	$0	$0
ANFO plant	m2		#N/A	0	$0	$0	$0
offices/warehouse/accom	m2	17,165	BRS1H	57.024	$978,817	100% $978,817	$0
consolidate & dump boneyard debris	m2		#N/A	0	$0	$0	$0
other	m2		#N/A	0	$0	$0	$0
Other (Credit for 2013 non-contaminated buildings)			#N/A		-691,631	100% -691,631	$0
OBJECTIVE: BREAK BASEMENT SLABS							
crushing plant	m2		#N/A	0	$0	$0	$0
conveyors & transfer towers	m2		#N/A	0	$0	$0	$0
tanks & plumbing	m2		#N/A	0	$0	$0	$0
thickeners	m2		#N/A	0	$0	$0	$0
water treatment plant	m2	446	BRCS	26.73	$11,922	100% $11,922	$0
maintenance shop	m2	5,091	BRCS	26.73	$136,082	100% $136,082	$0
power plant	m2		#N/A	0	$0	$0	$0
bulk fuel storage	m2		#N/A	0	$0	$0	$0
ANFO plant	m2		#N/A	0	$0	$0	$0
offices/warehouse/accom	m2	892	BRCS	26.73	$23,843	100% $23,843	$0
Other (Waste facilities)	m2	446	BRCS	26.73	$11,922	100% $11,922	$0
Other (Credit for 2013 break Basement Slabs)			#N/A		-362,114	100% -362,114	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE							
Place soil cover	m3	37,854	RB1H	15.12	$572,352	100% $572,352	$0
Vegetate	ha		#N/A	0	$0	$0	$0
Landfill disposal fee	tonne		#N/A	0	$0	$0	$0
Other (Credit for 2013 landfill for demolition waste)			#N/A		-187,724	100% -187,724	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE							
crushing plant	m2		#N/A	0	$0	$0	$0
conveyors & transfer towers	m2		#N/A	0	$0	$0	$0
tanks & plumbing	m2	132	PrSpe	2.6193	$346	100% $346	$0
thickeners	m2		#N/A	0	$0	$0	$0
water treatment plant	m2	669	PrSpe	2.6193	$1,752	100% $1,752	$0
maintenance shop	m2	5,238	PrSpe	2.6193	$13,720	100% $13,720	$0
power plant	m2	787	PrSpe	2.6193	$2,061	100% $2,061	$0
bulk fuel storage	m2	-	PrSpe	2.6193	$0	100% $0	$0
ANFO plant	m2	747	PrSpe	2.6193	$1,957	100% $1,957	$0
offices/warehouse/accom	m2	17,165	PrSpe	2.6193	$44,960	100% $44,960	$0
Other (Waste facilities)	m2	498	PrSpe	2.6193	$1,304	100% $1,304	$0
Other (Credit for 2013 grade and countour)			#N/A		-131,235	100% -131,235	$0
Other (Ore Stockpile Pad + Dump Pad + Crusher Pad)	m2	167,602	PrSpe	2.6193	$439,000	100% $439,000	$0
OBJECTIVE: RECLAIM ROADS							
Remove culverts	each	14	PrSpe	1,785	$24,990	100% $24,990	$0
Remove bridges	each		#N/A	0	$0	$0	$0
Scarify and install water breaks	ha		#N/A	0	$0	$0	$0
remove/doze down berms	m3		#N/A	0	$0	$0	$0
create wildlife passage ramps	m3		#N/A	0	$0	$0	$0
Vegetate	ha		#N/A	0	$0	$0	$0
other (Drainage Ditches)		-	PrSpe	0	$0	100% $0	$0
Other (roads)	m2	148,480	PrSpe	2.6193	$388,914	100% $388,914	$0
SPECIALIZED ITEMS							
Remove Road lighting devices @ Pit 1 Haul Road	lot	-	PrSpe	0	$0	100% $0	$0
Extention airstrip	lot	-	PrSpe	0	$0	100% $0	$0
Decommission of existing bladder farm	lot	-	PrSpe	0	$0	100% $0	$0
Disposal of Mobile Equipment	Each	372	PrSpe	650	$241,800	100% $241,800	$0
				Subtotal	$3,131,238	100% $3,131,238	$0
						Pct Land Total Land	Total Water

Figure B3: 2014 Work Plan Closure Cost – Approved Activities for Buildings and Equipment - Mary River Mine Site

© Hatch 2013/10

Building / Equip Name: *MILNE PORT* **Bldg / Equip #: *2***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT								
Decontaminate and ship off-site	each		#N/A	0	$0		$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0		$0	$0
Other (sealift for equipmt)	each		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS			#N/A					
Decontaminate crushing plant	m2		#N/A	0	$0		$0	$0
Decontaminate tanks & plumbing	m2	91	BRCDS	200	$18,200	100%	$18,200	$0
Decontaminate thickeners	m2		#N/A	0	$0		$0	$0
Decontaminate water treatment plant	m2	654	BRCDS	200	$130,800	100%	$130,800	$0
Decontaminate maintenance shop	m2	2,024	BRCDS	200	$404,800	100%	$404,800	$0
Decontaminate power plant	m2	739	BRCDS	200	$147,800	100%	$147,800	$0
Decontaminate bulk fuel storage (Fuel Tank)	m2	938	BRCDS	200	$187,500	100%	$187,500	$0
Decontaminate ANFO plant	m2		#N/A	0	$0		$0	$0
Deontaminate offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
Removal of asbestos siding on buildings	m2		#N/A	0	$0		$0	$0
Removal of friable asbestos on equipment	m2		#N/A	0	$0		$0	$0
Other (Waste facilities)	m2	446	BRCDS	200	$89,200	100%	$89,200	$0
Other (Credit for 2013 contaminated buildings)			#N/A		-80,400	100%	-80,400	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS			#N/A					
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	16,556	BRS1H	57.024	$944,089	100%	$944,089	$0
consolidate & dump boneyard debris	m2	52	BRS1H	57.024	$2,965	100%	$2,965	$0
other	m2		#N/A	0	$0		$0	$0
Other (Credit for 2013 non-contaminated buildings)			#N/A		-574,631	100%	-574,631	$0
OBJECTIVE: BREAK BASEMENT SLABS			#N/A					
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2	32	BRCS	26.73	$855	100%	$855	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2	446	BRCS	26.73	$11,922	100%	$11,922	$0
maintenance shop	m2	1,988	BRCS	26.73	$53,139	100%	$53,139	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	966	BRCS	26.73	$25,821	100%	$25,821	$0
Other (Waste facilities)	m2	446	BRCS	26.73	$11,922	100%	$11,922	$0
Other (Credit for 2013 break Basement Slabs)			#N/A		-280,105	100%	-280,105	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE			#N/A					
Place soil cover	m3	30,843	RB1H	15.12	$466,346	100%	$466,346	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Landfill disposal fee	tonne		#N/A	0	$0		$0	$0
Other (Credit for 2013 landfill for demolition waste)			#N/A		-151,091	100%	-151,091	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE			#N/A					
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2	91	PrSpe	2.6193	$238	100%	$238	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2	654	PrSpe	2.6193	$1,713	100%	$1,713	$0
maintenance shop	m2	2,024	PrSpe	2.6193	$5,301	100%	$5,301	$0
power plant	m2	739	PrSpe	2.6193	$1,936	100%	$1,936	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2	16,556	PrSpe	2.6193	$43,365	100%	$43,365	$0
Consolidate & dump boneyard debris	m2	52	PrSpe	2.6193	$136	100%	$136	$0
Other (waste Facilities)	m3	446	PrSpe	2.6193	$1,168	100%	$1,168	$0
Other (Credit for 2013 grade and countour)			#N/A		-101,289	100%	-101,289	$0
Other (Ore Stockpile Pad)	m2	235,241	PrSpe	2.6193	$616,167	100%	$616,167	$0
OBJECTIVE: RECLAIM ROADS								
Remove culverts	each	13	PrSpe	1,785	$23,205	100%	$23,205	$0
Remove bridges	each		#N/A	0	$0		$0	$0
Scarify and install water breaks	ha		#N/A	0	$0		$0	$0
remove/doze down berms	m3		#N/A	0	$0		$0	$0
create wildlife passage ramps	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
other (Ramp to the Beach)	m2	5,177	#N/A	2.6193	$13,560	100%	$13,560	$0
Other (roads)	m2	9,720	PrSpe	2.6193	$25,460	100%	$25,460	$0
SPECIALIZED ITEMS			#N/A					
Decommission of existing bladder farm			#N/A		-243,984	100%	-243,984	$0
Remove Mooring Buoys	each	2	PrSpe	14708	$29,416	100%	$29,416	$0
				Subtotal	$1,825,525	100%	$1,825,525	$0
						Pct Land	Total Land	Total Water

Figure B4: 2014 Work Plan Closure Cost – Approved Activities for Buildings and Equipment – Milne Inlet

© Hatch 2013/10

Building / Equip Name: *TOTE ROAD*						Bldg / Equip #: *3*	
ACTIVITY/MATERIAL	**Units**	**Quantity**	**Cost Code**	**Unit Cost**	**Cost % Land**	**Land Cost**	**Water Cost**
OBJECTIVE: DISPOSE MOBILE EQUIPMENT							
Decontaminate and ship off-site	each		#N/A	0	$0	$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0	$0	$0
Other (sealift for equipmt)	each		#N/A	0	$0	$0	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS			#N/A				
Decontaminate crushing plant	m2		#N/A	0	$0	$0	$0
Decontaminate tanks & plumbing	m2		#N/A	0	$0	$0	$0
Decontaminate thickeners	m2		#N/A	0	$0	$0	$0
Decontaminate water treatment plant	m2		#N/A	0	$0	$0	$0
Decontaminate maintenance shop	m2		#N/A	0	$0	$0	$0
Decontaminate power plant	m2		#N/A	0	$0	$0	$0
Decontaminate bulk fuel storage	m2		#N/A	0	$0	$0	$0
Decontaminate ANFO plant	m2		#N/A	0	$0	$0	$0
Deontaminate offices/warehouse/accom	m2		#N/A	0	$0	$0	$0
Removal of asbestos siding on buildings	m2		#N/A	0	$0	$0	$0
Removal of friable asbestos on equipment	m2		#N/A	0	$0	$0	$0
Other (2014 buildings)	m2		#N/A	0	$0	$0	$0
Other (credit for 2013 buildings)	m2		#N/A	0	$0	$0	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS			#N/A				
crushing plant	m2		#N/A	0	$0	$0	$0
conveyors & transfer towers	m2		#N/A	0	$0	$0	$0
tanks & plumbing	m2		#N/A	0	$0	$0	$0
thickeners	m2		#N/A	0	$0	$0	$0
water treatment plant	m2		#N/A	0	$0	$0	$0
maintenance shop	m2		#N/A	0	$0	$0	$0
power plant	m2		#N/A	0	$0	$0	$0
bulk fuel storage	m2		#N/A	0	$0	$0	$0
ANFO plant	m2		#N/A	0	$0	$0	$0
offices/warehouse/accom	m2		#N/A	0	$0	$0	$0
consolidate & dump boneyard debris	m3		#N/A	0	$0	$0	$0
other	m2		#N/A	0	$0	$0	$0
Other (Credit for 2013 non-contaminated buildings)			#N/A		-86,791	100% -86,791	$0
OBJECTIVE: BREAK BASEMENT SLABS			#N/A				
crushing plant	m2		#N/A	0	$0	$0	$0
conveyors & transfer towers	m2		#N/A	0	$0	$0	$0
tanks & plumbing	m2		#N/A	0	$0	$0	$0
thickeners	m2		#N/A	0	$0	$0	$0
water treatment plant	m2		#N/A	0	$0	$0	$0
maintenance shop	m2		#N/A	0	$0	$0	$0
power plant	m2		#N/A	0	$0	$0	$0
bulk fuel storage	m2		#N/A	0	$0	$0	$0
ANFO plant	m2		#N/A	0	$0	$0	$0
offices/warehouse/accom	m2		#N/A	0	$0	$0	$0
Other (Buildings)	m2		#N/A	0	$0	$0	$0
Other (Credit for 2013 break Basement Slabs)			#N/A		-40,683	100% -40,683	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE			#N/A				
Place soil cover	m3		#N/A	0	$0	$0	$0
Vegetate	ha		#N/A	0	$0	$0	$0
Landfill disposal fee	tonne		#N/A	0	$0	$0	$0
Other (credit for 2013landfill demolition waste)			#N/A	0	$0	$0	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE			#N/A				
crushing plant	m2		#N/A	0	$0	$0	$0
conveyors & transfer towers	m2		#N/A	0	$0	$0	$0
tanks & plumbing	m2		#N/A	0	$0	$0	$0
thickeners	m2		#N/A	0	$0	$0	$0
water treatment plant	m2		#N/A	0	$0	$0	$0
maintenance shop	m2		#N/A	0	$0	$0	$0
power plant	m2		#N/A	0	$0	$0	$0
bulk fuel storage	m2		#N/A	0	$0	$0	$0
ANFO plant	m2		#N/A	0	$0	$0	$0
offices/warehouse/accom	m2		#N/A	0	$0	$0	$0
Other	m2		#N/A	0	$0	$0	$0
Other	m2		#N/A	0	$0	$0	$0
Other			#N/A	0	$0	$0	$0
OBJECTIVE: RECLAIM ROADS							
Remove culverts	each	35	PrSpe	1,785	$62,475	100% $62,475	$0
Remove bridges		-	PrSpe	0	$0	100% $0	$0
Scarify and install water breaks	ha		#N/A	0	$0	$0	$0
remove/doze down berms	m3		#N/A	0	$0	$0	$0
create wildlife passage ramps	m3		#N/A	0	$0	$0	$0
Vegetate	ha		#N/A	0	$0	$0	$0
other			#N/A	0	$0	$0	$0
Other (roads)			#N/A	0	$0	$0	$0
SPECIALIZED ITEMS			#N/A				
Decommission temporary 49 person camp			#N/A	0	$0	$0	$0
Dispose of misc. debris and laydown area refuse			#N/A	0	$0	$0	$0
				Subtotal	($64,999)	100% ($64,999)	$0
						Pct Land Total Land	Total Water

Figure B5: 2014 Work Plan Closure Cost – Approved Activities for Buildings and Equipment – Tote Road Camp

© Hatch 2013/10

B.4 Chemicals

Chemicals and Soil Contamination:

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
Note: The procedures, equipment and packaging for clean up and removal of chemicals or contaminated soils are highly dependent on the nature of the chemicals and their existing state of containment. Government guidelines should be consulted on an individual chemical basis. Any estimate made here should be considered very rough unless specific evaluations have been conducted.								
HAZARDOUS MATERIALS AUDIT								
Phase 1 audit	each		#N/A	0	$0		$0	$0
Phase 2 audit	each		#N/A	0	$0		$0	$0
HAZARDOUS MATERIALS TO BE CONSOLIDATED FOR REMOVAL								
Waste oils	litre	-	PrSpe	0	$0	100%	$0	$0
Fuel - Type 1, eg diesel dregs	litre	537,462	PrSpe	0.1	$53,746	100%	$53,746	$0
Fuel - Type 1, eg gasoline dregs	litre		#N/A	0	$0		$0	$0
waste batteries	kg	-	PrSpe	0	$0	100%	$0	$0
assay & environmental lab reagents	litre	-	PrSpe	0	$0	100%	$0	$0
machine shop, paints, solvents etc	litre	-	PrSpe	0	$0	100%	$0	$0
contaminated soils - hydrocarbon	m3		#N/A	0	$0		$0	$0
metal contam. soil at conc. load-out	m3		#N/A	0	$0		$0	$0
HAZARDOUS MATERIALS								
Transportation to disposal facility	T		#N/A	0	$0		$0	$0
Disposal fees	allow		#N/A	0	$0		$0	$0
other			#N/A	0	$0		$0	$0
CONTAMINATED SOILS								
Contam. soil investigation - technical	each		#N/A	0	$0		$0	$0
Contam. soil investigation - drilling & samplir	each		#N/A	0	$0		$0	$0
CONTAMINATED SOIL REMOVAL	m3				$0		$0	$0
contaminated soils - hydrocarbon	m3		#N/A	0	$0		$0	$0
metal contam. soil at conc. load-out	m3		#N/A	0	$0		$0	$0
Load, haul, dump or doze	m3		#N/A	0	$0		$0	$0
Reagents/stabilizing agent	m2		#N/A	0	$0		$0	$0
Contour reclaimed area	m3		#N/A	0	$0		$0	$0
other	m2		#N/A	0	$0		$0	$0
CONTAMIANTED SOIL VERY LOW PERMEABILITY COVER								
supply geomembrame, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
upper and lower bedding layers	m3		#N/A	0	$0		$0	$0
install geomembrane, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
erosion protection layer	m3		#N/A	0	$0		$0	$0
vegetate	m2		#N/A	0	$0		$0	$0
install infiltration/seepage instrumentation	allow		#N/A	0	$0		$0	$0
other			#N/A	0	$0		$0	$0
OTHER								
Calcium Chloride	kg	1,447,684	PCRL	0.38	$547,224	100%	$547,224	$0
Ammonium Nitrate			#N/A		-1,895,057	100%	-1,895,057	$0
			Subtotal		($1,294,086)	100%	($1,294,086)	$0
						Pct Land	Total Land	Total Water

Figure B6: 2014 Work Plan Closure Cost – Approved Activities for Chemicals

© Hatch 2013/10

B.5 Water Management

Water Management :

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: WATER SUPPLY EMBANKMENT								
Toe buttress, drain mat'l	m3		#N/A	0	$0		$0	$0
, fill mat'l A	m3		#N/A	0	$0		$0	$0
, fill mat'l B	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Breach dam	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: UPGRADE SPILLWAY								
Excavate channel, mat'l A	m3		#N/A	0	$0		$0	$0
, mat'l B	m3		#N/A	0	$0		$0	$0
Concrete	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: STABILIZE &/OR UPGRADE DIVERSION DITCHES								
Excavate channel	m3		#N/A	0	$0		$0	$0
doze & spread excavated material	m3		#N/A	0	$0		$0	$0
Vegetate, spread material	ha		#N/A	0	$0		$0	$0
Rip rap in channel base	each		#N/A		$0		$0	$0
OBJECTIVE: BREACH DITCHES								
Excavate breaches	m3		#N/A	0	$0		$0	$0
install rip rap	m3		#N/A	0	$0		$0	$0
install flow dissipation	m3		#N/A	0	$0		$0	$0
vegetate remainder of ditch	m2		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE PIPELINES								
Remove pipes	m	0	PrSpe	0	$0	0%	$0	$0
Concrete plug deep pipes	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
Groundwater Collection - Long-term Collection System								
excavate/install sumps	m2		#N/A	0	$0		$0	$0
install pumping wells	m3		#N/A	0	$0		$0	$0
install pumps/pipelines/power supply			#N/A	0	$0		$0	$0
OBJECTIVE: COLLECT DRAINAGE FOR TREATMENT								
Excavate channel	m3		#N/A	0	$0		$0	$0
doze & spread excavated material	m3		#N/A	0	$0		$0	$0
Vegetate, spread material	ha		#N/A	0	$0		$0	$0
Rip rap in channel base	each		#N/A	0	$0		$0	$0
Construct contaminated water storage pond			#N/A	0	$0		$0	$0
Excavation	m3		#N/A	0	$0		$0	$0
supply geomembrane, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
upper and lower bedding layers	m3		#N/A	0	$0		$0	$0
install geomembrane, HDPE, ES3, GCL	m2		#N/A	0	$0		$0	$0
erosion protection layer	m3		#N/A	0	$0		$0	$0
OBJECTIVE: TREAT DRAINAGE (see "ONGOING TREATMENT" for operating costs)								
Build treatment plant	LS		#N/A	0	$0		$0	$0
build sludge containment facility	LS		#N/A	0	$0		$0	$0
				Subtotal	$0	0%	$0	$0
						Pct Land	Total Land	Total Water

Figure B7: 2014 Work Plan Closure Cost – Approved Activities for Water Management

© Hatch 2013/10

B.6 Mobilization

Mobilization:

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
MOBILIZE HEAVY EQUIPMENT								
Equipment to regional centre								
Excavators	km		#N/A	0	$0		$0	$0
Dump trucks	km		#N/A	0	$0		$0	$0
Dozers	km		#N/A	0	$0		$0	$0
Demolition shears	km		#N/A	0	$0		$0	$0
Crane	km		#N/A	0	$0		$0	$0
Light duty vehicles	km		#N/A	0	$0		$0	$0
Other (loaders)	km		#N/A	0	$0		$0	$0
Other (Credit for mobilize 2013 heavy equipment)			#N/A		-173,688	100%	-173,688	$0
Other			#N/A	0	$0		$0	$0
Equipment, regional centre to site								
Excavators	km		#N/A	0	$0		$0	$0
Dump trucks	km		#N/A	0	$0		$0	$0
Dozers	km		#N/A	0	$0		$0	$0
Demolition shears	km		#N/A	0	$0		$0	$0
Crane	km		#N/A	0	$0		$0	$0
Light duty vehicles	km		#N/A	0	$0		$0	$0
Other (Mobilize Heavy Equipment)	km	14,000	MHERH	9.094	$127,310	100%	$127,310	$0
MOBILIZE CAMP								
	allow		#N/A		$0		$0	$0
MOBILIZE WORKERS								
crew travel time	manday		#N/A	0	$0		$0	$0
crew transportation	each	-	PrSpe	0	$0	0%	$0	$0
MOBILIZE MISC. SUPPLIES								
Fuel	litre	-	PrSpe	0	$0	100%	$0	$0
Sealift per season	tonne	2,349	PrSpe	115	$270,106	100%	$270,106	$0
Sealift per season (contingency)	tonne	8,700	PrSpe	115	$1,000,500	100%	$1,000,500	$0
Sealift manpower per season			#N/A	0	$0		$0	$0
Manpower for the season w/o sealift			#N/A	0	$0		$0	$0
Other (Credit for 2013 Sealift)			#N/A		-3,000,000	100%	-3,000,000	$0
WORKER ACCOMODATIONS								
Camp Operation	$	-	PrSpe	0	$0	100%	$0	$0
WINTER ROAD							$0	$0
Full winter use	km		#N/A	0	$0		$0	$0
Limited winter use	km		#N/A	0	$0		$0	$0
other			#N/A	0	$0		$0	$0
INTERIM CARE & MAINTENANCE								
on-site caretaker	annual		#N/A	0	$0			
fuel and misc. supplies	annual		#N/A	0	$0			
electrician	days		#N/A	0	$0			
mechnaic	days		#N/A	0	$0			
pick-up truck	yr		#N/A	0	$0			
small dozer	allow		#N/A	0	$0			
small excavator	allow		#N/A	0	$0			
snow machine	allow		#N/A	0	$0			
communications	allow		#N/A	0	$0			
Water licence sampling & reporting	each		#N/A	0	$0			
Geotechnical assessment	each		#N/A	0	$0			
Other	each		#N/A	0	$0			
			sub-total annual C&M cost		$0			
Total C&M cost	years	1	#N/A	0	$0	100%	$0	$0
				Subtotal	($1,775,771)	100%	($1,775,771)	$0
						Pct Land	Total Land	Total Water

Figure B8: 2014 Work Plan Closure Cost – Approved Activities for Mobilization

© Hatch 2013/10

B.7 Post Closure

Post-Closure Monitoring & Maintenance:

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: MONITORING & INSPECTIONS								
Annual geotechnical insp.	each		#N/A	$0	$0		$0	$0
Survey inspection	each		#N/A	$0	$0		$0	$0
Surface water sampling	each		#N/A	$0	$0		$0	$0
Groundwater Sampling	each		#N/A	$0	$0		$0	$0
Receiving/downstream water sampling	each		#N/A	$0	$0		$0	$0
Reporting	each		#N/A	$0	$0		$0	$0
on-site transportation	each		#N/A	$0	$0		$0	$0
transporation to site	each		#N/A	$0	$0		$0	$0
Other (Post Closure Monitoring)		-	PrSpe	0	$0	0%	$0	$0
OBJECTIVE: COVER MAINTENANCE								
Repair erosion - infill gullies	allow		#N/A	$0	$0		$0	$0
Repair erosion - upgrade diversion ditch	allow		#N/A	$0	$0		$0	$0
Remove problem vegetation	allow		#N/A	$0	$0		$0	$0
Repair animal damage	allow		#N/A	$0	$0		$0	$0
Repair/upgrade access controls	allow		#N/A	$0	$0		$0	$0
Other		-	PrSpe	0	$0	0%	$0	$0
SPILLWAY MAINTENANCE								
Repair erosion	m3		#N/A	$0	$0		$0	$0
Clear spillway	each		#N/A	$0	$0		$0	$0
Other			#N/A	$0	$0		$0	$0
POST-CLOSURE WATER TREATMENT								
Annual water treatment cost, from Ongoing water			#N/A	$0	$0		$0	$0
Subtotal, Annual post-closure costs					$0		$0	$0
Discount rate for calculation of net present value of post-clo			3.00%					
Number of years of post-closure activity			5 years					
Present Value of payment stream					$0	$0	$0	$0
						Pct Land	Total Land	Total Water

Figure B9: 2014 Work Plan Closure Cost – Approved Activities for Post Closure Monitoring

© Hatch 2013/10

Appendix C:
2014 Marginal Closure Cost – Approved Activities: Mining RECLAIM Closure Cost Model Assumptions

Safety • Quality • Sustainability • Innovation

© Hatch 2013/10

C.1 Introduction

The Marginal Reclamation and Closure Security Estimate for the 2014 Work Plan for Approved Activities is based on activities scheduled to occur in 2014 that were not captured in the 2013 Marginal Closure Cost H349000-1000-07-245-0001 and therefore the Remaining Type 'B' Water Licence Costs or Type 'A' Water Licence Carry Over Costs. This was done to avoid double counting and to ensure 2014 activities that were not considered in the 2013 Marginal Closure Cost H349000-1000-07-245-0001 were accounted for.

The 2014 Marginal Reclamation and Closure Security Estimate – Approved Activities has been estimated using the Mining RECLAIM spreadsheet. The cost is derived based on the model methodology of identifying reclamation components, required in addition to those already addressed in the 2013 Marginal Closure Cost H349000-1000-07-245-0001, and assigning a reclamation cost based on a quantity of functional units of that component. Each functional unit has a pre-defined or specified unit cost required to meet reclamation objectives. Unit costs in the RECLAIM Models are derived from a database of unit costs for reclamation activities based on operating experience at northern sites across the Canadian Arctic (The Reclaim Model, Brodie & Milburn, 2001) and therefore are assumed to be the most accurate reclamation unit costs available that reflect Mary River Project conditions. Unit costs in the Mining RECLAIM spreadsheet are inclusive of fuel, labour and equipment (J. Brodie, Brodie Consulting Ltd, March 2013). Components addressed include:

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

Several reclamation strategies ("Objectives") are listed for each component, and broken down into lists of actions that can be priced separately. A unit cost spreadsheet (part of the generic RECLAIM model) provides a range of prices for most actions; it has been completed where possible with the most accurate available or Project specific costs.

It should be noted that all work described in the 2014 Work Plan will not be completed in 2014. The cost presented in this document only covers the cost of reclamation of activities scheduled to occur in 2014. Although a total cost for all the 2014 Work Plan activities was considered, activities that extend into 2015 are not considered to apply for 2014.

© Hatch 2013/10

To best estimate the total closure and reclamation security, some actions were modified or adapted to the strategies defined in the Preliminary Mine Closure and Reclamation Plan (February, 2012).

The closure and reclamation security estimate is based on the information available at the time of publishing.

Several assumptions and estimations have been made and are described in the following sections.

The spreadsheet will require to be updated annually as the Project progresses.

To make up for uncertainties, the highest prices of the range provided by the unit costs spreadsheet were systematically chosen when possible unless noted otherwise.

The 2014 Marginal Reclamation and Closure Security Estimate for Approved Activities expected to occur in 2014 as part of the 2014 Work Plan is estimated to cost $3,315,449. For the 2014 Work Plan Marginal Closure Cost – Approved Activities, it is assumed all activity is on IOL. Land and water liability allocation has been determined

The breakdown of cost for 2014 approved activities is summarized in Table C1.

Table C1: Marginal Closure and Reclamation Security for 2014 Work Plan – Approved Activities, Mary River Project

Liability Allocation	Marginal Cost for 2014 Work Plan – Approved Activities	Land Liability	Water Liability
Capital Cost for Infrastructure	$4,427,148	$4,427,148	$0
Mobilization	-$1,775,771	-$1,775,771	$0
INDIRECT COSTS			
Project Management (5%)	$221,357	$221,357	$0
Bonding (0%)	$0	$0	$0
Insurance (0%)	$0	$0	$0
Engineering's (0%)	$0	$0	$0
Contingency (10%)	$442,715	$442,715	$0
Sub-total of Indirect	$664,072	$664,072	$0
TOTALS	**$3,315,449**	**$3,315,449**	**$0**

© Hatch 2013/10

C.2 Assumptions

C.2.1 General Assumptions

The following is a list of general assumptions that were made during the estimate of the total closure and reclamation security required to meet reclamation objectives stated in Section 5 of this document:

- The annual allocation of the security needing to be deposited each year is based on activities expected to occur in that year (i.e. if activities occur in 2014, cost for reclamation would have to be given prior to the commencement of that activity). The cost of reclamation of a project component is based on reclaiming a defined functional unit of that component multiplied by the number of functional units the component is comprised of.
- Whenever possible, the unit cost spreadsheet (part of the generic RECLAIM model) has been completed with Project specific costs. When project specific unit costs are unknown, pre-determined RECLAIM 'unit' costs associated to reclaim the project component are used. Pre-determined unit costs are always selected at the most conservative (highest) level possible in RECLAIM, unless noted otherwise, to increase conservatism in the estimate to allow for project characteristics (mainly climate and remoteness). In addition, it should be noted RECLAIM pre-determined unit costs are derived from a database of unit costs for reclamation activities based on operating experience at northern sites across the Canadian Arctic (see whitepaper: The Reclaim Model, Brodie & Milburn, 2001) and therefore are assumed to be the most accurate reclamation unit costs available that reflect Mary River Project conditions. The most recent update of the RECLAIM model occurred in 2009. The use of RECLAIM was also supported as the methodology of choice to estimate reclamation security by the Nunavut Securities Working Group (Nunavut Securities Working Group, Over bonding and Reclamation Guidelines Presentation, April 10, 2013) assuming that current unit rates are used whenever possible as is the case in the Mary River 2014 Marginal Closure and Reclamation Security Estimate.
- 2014 Marginal Closure and Reclamation Security Estimate does not include a cost allocation for additional fuel nor for equipment to be brought on-site. Unit costs are inclusive of fuel, equipment and labour.
- 2014 Marginal Closure and Reclamation Security Estimate does not include additional cost allocation for Bonding, Insurance, Engineering of 2014 Marginal Closure activities. This was deemed included in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), Carry Over to Type A. Specifically, the 2013 A&R Plan (AMEC, January 2013) included $800,000 for "Engineering Design & Execution Planning" to cover 'miscellaneous tasks not specifically estimated in direct costs'. This cost allocation was deemed adequate for marginal 2014 activities as well.

© Hatch 2013/10

- As per RECLAIM methodology, a 10% multiplier was added to the sub-totals of 'On-Site Costs' to account for funds for contingency ($442,715). This was not applied to mobilization costs as per RECLAIM methodology. A 10% contingency was determined based on review of the Qikiqtani Inuit Association (QIA) Abandonment and Reclamation Policy for Inuit Owned Lands (2013), Appendix D and BIMC experience since 2006 in North Baffin Island. Reclamation activities for the Mary River Project are predominantly an earthworks exercise with simple demolition. High allowances for contingency are not required as the construction program will be relatively simple. A 10% contingency is deemed sufficient based on confidence that the cost assigned for the activities required to meet reclamation objectives is adequate.
- As per RECLAIM methodology, a 5% multiplier was added to the sub-totals of 'On-Site Costs'' to account for funds for Project Management ($221,357). This was not applied to mobilization costs as per RECLAIM methodology. Hatch is confident that 5% would be sufficient to allow for overall management of reclamation activities.
- Where RECLAIM does not have costs for a particular activity or it is not practical to break the activity down into the sub-tasks, a "specified" lump sum estimate of cost has been used.
- There has been no consideration of difference of reclamation techniques that would occur at the end of construction vs. the end of operation.
- If an activity spans multiple years of construction, the cost for its reclamation is evenly distributed across all years that it is scheduled to take place.
- Annual costs are all deposited in Year 1 and are not re-applied every year (i.e. the cost for removing hazardous waste from site would be deposited in Year 1 because it is the current project strategy that there will be annual shipments off-site of all hazardous waste generated that year).
- It is estimated the closure activities for the marginal 2014 activities can be completed concurrently with the timeframe presented in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) therefore no additional costs for camp operation and crew mobilization is allocated.
- Security deposited for each year is aggregated with previous years.
- As a default, RECLAIM assumes the discount rate for calculation of net present value of post-closure cost as 3%.

C.2.2 Open Pit

C.2.2.1 Objective: Control Access

The open pit will be barricaded (rock barrier) to prevent inadvertent access and maintain public safety. At the end of 2014, the Open Pit will have a surface area equal to 32,981 m^2,

Safety • Quality • Sustainability • Innovation
© Hatch 2013/10

with an estimated perimeter equal to 643.7 m. Based on RECLAIM Model, the unit cost associated with the installing a fence is $12/m.

Signage around the open pit will be installed every 500m at a minimum, as per Northwest Territories & Nunavut Mine Health and Safety Act Regulations. At the end of 2014, the Open Pit will have a surface area equal to 32,981 m^2, with an estimated perimeter equal to 643.7 m. Based on RECLAIM Model, the unit cost associated with the installing signage is $35.64/signage.

C.2.2.2 Objective: Cover/Contour Slopes

Assume no cover or contour slopes will be required at the Open Pit at the end of 2014.

C.2.2.3 Objective: Spillway

Assume no spillway is required at the open pit at the end of 2014.

C.2.2.4 Objective: Flood Pit

Assume no accelerated pit filling is required at the end of 2014.

C.2.2.5 Objective: Reclaim Quarries

The 2014 Marginal Closure and Reclamation Security Estimate includes the cost associated with re-grading and contouring slopes, as reclamation activities for the following quarries:

- Quarry Q1. At the end of 2014, Q1 will have a marginal area increase equal to 92,000 m^2 from the previous year.
- Quarry QMR2. At the end of 2014, QMR2 will have a marginal area increase equal to 70,000 m^2 from the previous year.
- Quarry Q7. At the end of 2014, Q7 will have an area equal to 14,600 m^2.
- Quarry Q11. At the end of 2014, Q11 will have an area equal to 17,500 m^2.
- Quarry P1. At the end of 2014, P1 will have an area equal to 55,000 m^2.
- Quarry Q19. At the end of 2014, Q19 will have an area equal to 14,600 m^2.
- Quarry D1Q1. At the end of 2014, D1Q1 will have an area equal to 27,500 m^2.
- Quarry D1Q2. At the end of 2014, D1Q2 will have an area equal to 22,500 m^2.

A Project specific unit cost has been developed for re-grading and contouring land on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The grade and contour area to natural drainage unit cost assume 12hrs/day of labour at blended labour rate, six (6) person days of man power, 12 hrs/day of labour at blended labour rate, 100 hrs of grader/dozer work at blended equipment rate and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $26,193/Ha or $2.62/$m^2$ unit cost has been applied.

© Hatch 2013/10

It should be noted although some minor quantities of sand and gravel material are planned to be obtained in 2014 from existing borrow source areas adjacent to the Tote Road, at Km 2 (formerly Borrow Source no. 1) and Km 97 (formerly Borrow Source no. 3), no additional marginal reclamation security associated with these sites is assumed required as it has been accounted for in previous estimates and planned marginal 2014 activities would not change the previously estimated required reclamation activities.

C.2.2.6 Objective: Other Items

Geotechnical Drilling

The 2014 Marginal Closure and Reclamation Security Estimate does not include a cost associated with geotechnical drilling as it is accounted for in the Mary River Exploration Project Abandonment and Reclamation Plan (H349000-1000-07-126-0016) and associated reclamation cost estimate under Type “B” Water Licence 2BB-MRY1114.

Reclamation of Mineral Exploration Areas

The 2014 Marginal Closure and Reclamation Security Estimate does not include a cost associated with reclamation of current and past use area associated with drilling, bulk sample and historical exploration programs, as it is accounted for in the Mary River Exploration Project Abandonment and Reclamation Plan (H349000-1000-07-126-0016) and associated reclamation cost estimate under Type “B” Water Licence 2BB-MRY1114.

C.2.2.7 Objective: Stability Inspection

The 2014 Marginal Closure and Reclamation Security Estimate does not include a cost associated with stability inspection, as it is accounted for in the Mary River Exploration Project Abandonment and Reclamation Plan (H349000-1000-07-126-0016), Carry Over to Type A Water Licence. The total cost associated with geotechnical monitoring of permitted & road side borrow area reclamation is based on the 2013 A&R Plan (AMEC, January 2013). Specifically, the cost is listed as $55,000 with $5,000 as contingency.

C.2.3 Underground Mine

C.2.3.1 Underground Mine Assumptions

There will be no underground mining at the Mary River Project and therefore this component of RECLAIM was not considered.

C.2.4 Tailings

C.2.4.1 Tailings Assumptions

There will be no tailings produced at the Mary River Project and therefore this component of RECLAIM was not considered.

Safety • Quality • Sustainability • Innovation
© Hatch 2013/10

C.2.5 Rock Pile

C.2.5.1 Rock Pile Assumptions

There will be no waste rock pile in 2014 and therefore no associated reclamation cost is allocated in 2014 for a waste rock stockpile.

In addition, the 2014 Marginal Closure and Reclamation Security Estimate does not include additional cost of covering the Milne Inlet or Mary River stockpiles as this cost is allocated in the Carry Over to Type A closure cost as described in 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001). Specifically, the cost is listed as $182,256 at Milne Inlet and $86,881 for the Mary River Stockpile. This estimate is based on approximate footprint of Mary River Stockpile of 24,500 m^2 and approximate footprint of Milne Inlet Stockpile as 68,500 m^2. Reclamation activities include grading areas and placement of cover. This cost allocation was deemed sufficient for all planned stockpiles on-site in 2014.

C.2.6 Buildings and Equipment

C.2.6.1 Building and Equipment Assumptions

Scrap material will be produced by the demolition of buildings. Assume area of all buildings on-site needs to be covered with 1.5 m of cover at closure (disposal site to be determined).

2014 Marginal Closure and Reclamation Security Estimate includes a cost allocated with the site contouring of the footprint of buildings listed in the 2014 Master Building Matrix (H349000-1000-00-144-0001) that considers all buildings on-site (excluding accommodation complex's) upon completion of the 2014 Work Plan.

Assume that the unit cost for removal of contaminated building includes the cost to decontaminate the buildings. Persistent contamination is not expected due to primarily hydrocarbon based contamination.

Assume 1 revenue ton per 1 cubic meter of building material.

The list of buildings was extracted from the document H349000-1000-00-144-0001 - Mary River Project: Master Building Matrix, Rev 3. An update of this section will be necessary as this document is revised.

C.2.6.2 Objective: Remove Contaminated Buildings at Mine Site

2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for removal of contaminated buildings. The area footprint has been estimated based on 2014 Master Building Matrix (H349000-1000-00-144-0001) that considers all buildings on-site (excluding accommodation complex's) upon completion of the 2014 Work Plan, as follows:

- Tanks and plumbing – 132 m^2
- Water treatment Plant – 669 m^2
- Maintenance Shop – 5,238 m^2

© Hatch 2013/10

- Power Plant - 787 m^2
- Explosives Plant – 747 m^2
- Other (Waste Facilities) – 498 m^2

Based on RECLAIM Model, the unit cost associated with the removal of contaminated building is 200 $/$m^2$.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for removal of contaminated buildings as described by the Master Building Matrix available at the time. The total footprint considered in the 2013 Work Plan Marginal Closure Cost Summary was 30 m^2, with an associated reclamation cost of $6,000. This cost ($6,000) has been applied as a credit for 2014 as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for removal of all contaminated buildings on-site irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001), which is inclusive of all contaminated buildings on-site.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) includes a cost for decommissioning and contouring footprints of four (4), 500,000L diesel tanks at the Mine Site. No additional tanks are planned for 2014 and therefore, no additional associated reclamation cost is allocated in 2014 Marginal Closure and Reclamation Security Estimate.

C.2.6.3 Objective: Remove Non-Contaminated Buildings at Mine Site

2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for removal of non-contaminated buildings, i.e. offices/warehouses/accommodation. The footprint associated with the offices and warehouses at the Mine Site, based on 2014 Master Building Matrix (H349000-1000-00-144-0001), is 9,397 m^2. The footprint associated with the for accommodation camps at Mine Site, based on drawing E349000-TX001-50-014-0002, has been estimated as 7,768 m^2. Therefore, the total footprint for offices/warehouse/accommodations is 17,165 m^2.

Based on the RECLAIM Model, the unit cost associated with the tear down of non-contaminated steel structures is $57.02/$m^2$.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for removal of all non-contaminated buildings as described by the Master Building Matrix available at the time. The total footprint considered in the 2013 Marginal Cost was 12,120 m^2, with an associated reclamation cost of $691,131. This cost has been applied as a credit for 2014 as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for removal of all non-contaminated buildings on-site irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001) and accommodation camp footprint estimates, which is inclusive of all non-contaminated buildings on-site upon completion of the 2014 Work Plan.

© Hatch 2013/10

C.2.6.4 Objective: Break Basement Slabs at Mine Site

2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for break of basement slabs of buildings with precast piers and precast footing types of foundation. The area footprint has been estimated based on 2014 Master Building Matrix (H349000-1000-00-144-0001) which includes all buildings planned to be on-site upon completion of 2014 Work Plan with precast piers and precast footing types of foundation. Included is:

- Water treatment Plant - 446 m^2
- Maintenance Shop – 5,091 m^2
- Office/warehouse/accommodation – 892 m^2
- Other (Waste Facilities) – 446 m^2

Based on RECLAIM Model, the unit cost associated with the break of slabs is 26.73 $/$m^2$.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for breaking basement slabs as described by the Master Building Matrix available at the time. The total footprint considered in the 2013 Marginal Cost was 13,577 m^2, with an associated reclamation cost of $362,114. This cost ($362,114) has therefore been applied as a credit for 2014 as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for all building foundations on-site irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001), which is inclusive of all buildings on-site with concrete foundations.

C.2.6.5 Objective: Landfill for Demolition Waste at Mine Site

Scrap materials are produced by the demolition of buildings. The 2014 Marginal Closure and Reclamation Security Estimate considers a cost allocated for placing 1.5 m of cover (disposal site to be determined) over all buildings on-site as listed on 2014 Master Building Matrix (H349000-1000-00-144-0001) and associated accommodation camp estimates. The footprint accounted for includes the following infrastructure:

- De-contaminated buildings (7,737 m^2), including:
  - Tanks & plumbing – 132 m^2
  - Water treatment plant – 669 m^2
  - Maintenance shop – 4,904 m^2
  - power plant – 787 m^2
  - Explosives plant – 747 m^2
  - Waste Facilities – 498 m^2
- Non-Contaminated buildings (17,499 m^2) , including:
  - Maintenance shop – 334 m^2

© Hatch 2013/10

- Offices/warehouse/accommodation – 17,165 m^2

Based on RECLAIM Model, the unit cost associated for place a soil cover is 15.12 $/$m^3$.

2013 Marginal Cost included the cost for place soil over demolition materials. The total footprint considered in the 2013 Marginal Cost was 12,391 m^2, with an associated reclamation cost of $187,724. This cost ($187,724) has been applied as a credit for the 2013 landfill for demolition wastes as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for all buildings on-site irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001) and associated accommodation camp estimates which is inclusive of all buildings on-site.

C.2.6.6 Objective: Grade and Contour Mill & Plant Site at Mine Site

2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for site contouring of the footprint of buildings. The area footprint has been estimated based on 2014 Master Building Matrix (H349000-1000-00-144-0001) that covers all buildings planned on being on-site upon completion of the 2014 Work Plan. Included is:

- Tanks and plumbing – 132 m^2
- Water treatment Plant – 669 m^2
- Maintenance Shop – 5,238 m^2
- Power Plant – 787 m^2
- Explosives Plant – 747 m^2
- Offices/warehouse/accommodation - 17,165 m^2
- Other (Waste Facilities) - 498 m^2

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for re-grading and contouring footprints of all buildings listed on-site for 2013. The total footprint considered in the 2013 Work Plan Marginal Closure Cost Summary for re-grading and contouring was 13,577 m^2, with an associated reclamation cost of $131,235. This cost ($131,235) has therefore been applied as a credit for 2014 as re-grading and contouring of all building footprints is already accounted for as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001) and associated accommodation complex estimates which is inclusive of all buildings on-site upon completion of the 2014 Work Plan.

2013 Marginal Closure Cost includes a cost for decommissioning and contouring of four (4) 500,000L diesel tank at the Mine Site. No additional tanks are planned for 2014 and therefore no additional reclamation cost is allocated in 2014.

The 2014 Marginal Closure and Reclamation Security Estimate includes a closure security allowance associated with the re-grading and contouring of the Ore Stockpile Pad, the Dump Pad and the Crusher Pad. The total area of these pads has an estimated footprint of 167,602

© Hatch 2013/10

m^2. The footprints of the Ore Stockpile Pad, the Dump Pad and the Crusher Pad have been estimated based on the following drawings:

- Mine Site - Ore Crushing & Screening - Earthworks & Drainage - Plan (H349000-4133-10-035-0001).
- Mine Site - Ore Crushing & Screening - Earthworks & Drainage - Sections (H349000-4133-10-035-0002).
- Mine Site - Crushing and Screening Sedimentation Pond - Earthworks & Drainage – Plan (H349000-4385-10-035-0001).
- Mine Site - Crushing and Screening Sedimentation Pond - Earthworks & Drainage - Sections & details (H349000-4385-10-035-0002).

A Project specific unit cost has been developed for re-grading and contouring land on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The grade and contour area to natural drainage unit cost assumes 12hrs/day of labour at blended labour rate, six (6) person day of man power hrs/day of labour at blended labour rate, 100 hrs of grader/dozer work at blended equipment rate and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $26,193/Ha or $2.62/$m^2$ unit cost has been applied.

C.2.6.7 Objective: Reclaim Roads at Mine Site

Remove Culverts

The 2014 Marginal Closure and Reclamation Security Estimate takes into account the reclamation cost of any additional culverts installed at the Mine Site during 2014. It is estimated five (5) additional culverts will be installed at the Mine Site with an additional nine (9) along the haul road. It has been assumed that in circumstances where culverts may be replaced with larger culverts, the cost of closure and reclamation would remain the same.

A Project specific unit cost has been developed for culvert removal on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The 'Remove Culverts' unit cost assumes 12hrs/person day , 1.0 person days to complete task of labour at blended labour rate, 4 hrs of heavy equipment work at blended equipment rate, and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $1,785/culvert unit cost has been applied.

Other (Roads)

The 2014 Marginal Closure and Reclamation Security Estimate accounts for the reclamation of any additional roads at the Mine Site developed during 2014. The total length of the new roads is estimated to equal 8,890 m in length, based on the following road length estimates:

© Hatch 2013/10

Table C2: Marginal Road Construction Estimate for Mine Site

Road	Length (m)	With (m)	Area (m^2)
Accommodation camp delivery road	95	8	760
Accommodation Camp Site Services Access Road	135	8	1080
Utilities Pad Access Road	120	8	960
Treated Effluent Access Road	850	8	6800
	560	6	3360
Explosives Facility Access Road	590	8	4720
Haul Road	6,540	20	130,800
TOTAL Estimate	8890	66	148,480

For further details of the roads accounted for in the 2014 Marginal Closure and Reclamation Security Estimate, refer to the following documents in Appendix F:

- Mine Site - Traffic Management Plan - Sheet 1 of 2 (H349000-4139-10-035-0001).
- Mine Site - Traffic Management Plan - Sheet 2 of 2 (H349000-4139-10-035-0002).
- Mine Haul Road - OVERALL Layout (H349000-4221-10-014-0001).
- Mine Site - Treated Effluent Pond Access Road - Plan & Profile - Sheet 2 of 2 (H349000-4139-10-012-0002).
- Mine Site - Explosives Facilities Road - Plan & Profile (H349000-4139-10-012-0003).
- Civil Design Criteria: H349000-1000-10-122-0001.

It has been assumed that the reclamation of drainage ditches would be captured in grading and contouring of roads and therefore no individual reclamation cost has been applied.

A Project specific unit cost has been developed for re-grading and contouring land on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The grade and contour area to natural drainage unit cost assumes 12hrs/day of labour at blended labour rate, six (6) person day of man power hrs/day of labour at blended labour rate, 100 hrs of grader/dozer work at blended equipment rate and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $26,193/Ha or $2.62/$m^2$ unit cost has been applied.

C.2.6.8 Objective: Specialized Items at Mine Site

Extension airstrip

The 2014 Marginal Closure and Reclamation Security Estimate does not include a cost allocation for reclamation of the Mary River Airstrip as it was addressed in the 2013 Marginal Closure Cost and the airstrip will be left intact in a closure scenario. The size of the airstrip extension at Mary River was assumed as 2,500 m^2 (250 m x 100 m expansion). The design of this extension remains the same at the time of estimate.

© Hatch 2013/10

For further detail, refer to 2013 Marginal Closure Cost (H349000-1000-07-245-0001).

Decommission of existing bladder farm

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), Carry Over to Type A, considers the decommission of the existing bladder farm at Mine Site (13 fuel bladder tanks) and is based on the 2013 A&R Plan (AMEC, January 2013). Specifically the 2013 A&R Plan (AMEC, January 2013) estimate consider the following remedial activities:

- Return excess fuel at Mary River to Milne (total cost of $88,524).
- Drain, fold, and containerize Mary River bladder tanks (total cost of $38,376).
- Remove all geomembrane fuel liners, package and transport to Milne Inlet for sealift backhaul (total cost $15,340).
- Execute civil works to transport potential hydrocarbon contaminated soil from Mary River bulk fuel farm to Milne Inlet landfarm (total cost of $52,668).
- Execute civil works to transport potential hydrocarbon contaminated soil from Milne Inlet non - bulk fuel farm lined containment areas to the Milne Inlet landfarm (total cost of $55,176).
- Re-contour surface (total cost of $6,564).

As the planned decommissioning activities of the existing bladder farm at Mine Site remain the same, no additional cost has been included in the 2014 Marginal Closure and Reclamation Security Estimate.

Disposal Mobile Equipment

Based on the Mechanical Equipment and Motors List (H349000-1000-50-144-0001), 372 pieces of mechanical equipment (from 2013 and 2014) will be onsite upon completion of the 2014 Work Plan project-wide. It is assumed all the mechanical equipment listed on the Mechanical Equipment and Motors List will be disposed on-site (exact disposal location to be determined).

A Project specific unit cost has been developed for disposal of mechanical equipment based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The ‘decontaminate and dispose of 'typical' mechanical equipment’ unit cost assumes 2 hours of labour charges for a person to prepare 'typical' equipment for final disposal (remove hazardous materials/fluids, prepare for safe disposal) at the blended labour rate, 1 hour of labour charges to move equipment locally to final disposal location at the blended labour rate, 2 hours of equipment work at blended equipment rate to prepare 'typical' equipment for final disposal, positions appropriately and apply cover, and 40 L/hr fuel consumption for equipment at $1.25/L fuel cost. Thus, a $650 /equipment unit cost has been applied.

© Hatch 2013/10

C.2.6.9 Objective: Remove Contaminated Buildings at Milne Port

2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for removal of contaminated buildings. The area footprint has been estimated based on 2014 Master Building Matrix (H349000-1000-00-144-0001) that includes all contaminated buildings planned to be on-site upon completion of the 2014 Work Plan. Included is:

- Tanks and plumbing – 91 m^2
- Water treatment Plant – 654 m^2
- Maintenance Shop – 2,024 m^2
- Power Plant – 739 m^2
- Other (Waste Facilities) – 446 m^2

Based on RECLAIM Model, the unit cost associated with the removal of contaminated building is 200 $/$m^2$.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for removal of all contaminated buildings at Milne Port as described by the Master Building Matrix available at the time. The total footprint considered in the 2013 Work Plan Marginal Closure Cost Summary was 402 m^2, with an associated reclamation cost of $80,400. This cost ($80,400) has therefore been applied as a credit for 2014 as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for removal of all contaminated buildings on-site at Milne Port irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001) which is inclusive of all contaminated buildings on-site.

The 2014 Marginal Closure and Reclamation Security Estimate includes a cost allocated for reclamation of one (1), 12ML diesel fuel storage tank at Milne Port scheduled to be constructed in 2014. Based on the 'Milne Port Fuel Tank Farm Interface Earthworks & Drainage - Plan & Sections' drawing (H349000-2130-10-035-0003), the footprint for the Milne Port tank has been estimated as 1,250 m^2 (assume same as already constructed tanks). Assumed that strictly the footprints of the aboveground fuel tanks would be reclaimed and not the entire fuel storage site. Therefore it was estimated that this is 75% of the fuel storage site area will need to be reclaimed. RECLAIM Model considers the removal of contaminated buildings, with an associated cost of $200/$m^2$.

C.2.6.10 Objective: Remove Non-Contaminated Buildings at Milne Port

2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for removal of non-contaminated buildings, i.e. Offices/warehouses/accommodation. The footprint associated with the offices and warehouses at the Mine Site, based on 2014 Master Building Matrix (H349000-1000-00-144-0001), is 6,626 m^2. The footprint associated with the accommodation camps at Mine Site, based on E349000-TX001-50-014-0003 & H349000-

© Hatch 2013/10

7200-50-014-0001 drawings, is estimated at 9,930 m^2. Therefore, the total footprint for offices/warehouse/accommodations is 16,556 m^2.

Based on the 2014 Master Building Matrix (H349000-1000-00-144-0001), the footprint associated with the consolidate & dump bone yard debris (incinerators) is 52 m^2 at Milne Port.

Based on the RECLAIM Model, the unit cost associated with the tear down of non-contaminated steel structures is \$57.02/m^2.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for removal non-contaminated buildings. The total footprint considered in the 2013 Work Plan Marginal Closure Cost Summary was 10,077 m^2, with an associated reclamation cost of \$574,631. This cost (\$574,631) has been applied as a credit for 2014 as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for removal of all non-contaminated buildings on-site at Milne Port irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001) and associated accommodation camp estimates which is inclusive of all non-contaminated buildings on-site.

C.2.6.11 Objective: Break Basement Slabs at Milne Port

2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for breaking basement slabs. Building with precast piers and precast footing types of foundation were consider for this costs. The area footprint has been estimated based on 2014 Master Building Matrix (H349000-1000-00-144-0001) that is inclusive of all buildings planned to be on-site at Milne Port upon completion of the 2014 Work Plan with precast piers and precast footing types of foundation. Included are:

- Tanks and plumbing – 32 m^2
- Water treatment Plant – 446 m^2
- Maintenance Shop – 1,988 m^2
- Office/warehouse/accommodation – 966 m^2
- Other (Waste Facilities) – 446 m^2

Based on RECLAIM Model, the unit cost associated with the breaking of basement slabs is \$26.73/m^2.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for breaking basement slabs. The total footprint considered in the 2013 Work Plan Marginal Closure Cost Summary was 10,479 m^2, with an associated reclamation cost of \$280,105. This cost (\$280,105) has therefore been applied as a credit for 2014 as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for breaking of all basement slabs on-site at Milne Port irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001) which is inclusive

© Hatch 2013/10

of all buildings planned to be on-site at Milne Port with precast piers and precast footing types of foundation upon completion of the 2014 Work Plan.

C.2.6.12 Objective: Landfill for Demolition Waste at Milne Port

Scrap materials are produced by the demolition of buildings. The 2014 Marginal Closure and Reclamation Security Estimate considers a cost allocated for placing 1.5m overburden over all buildings planned to be on-site upon completion of the 2014 Work Plan as listed on Master Building Matrix (H349000-1000-00-144-0001) and associated accommodation camp estimates at Milne Port. Assume area of all buildings on-site needs to be covered with 1.5m of cover at closure (disposal site to be determined). The footprint accounted for includes the following infrastructure:

- De-contaminated buildings (3,954 m^2), including:
  - Tanks & plumbing – 91 m^2
  - Water treatment plant – 654 m^2
  - Maintenance shop – 2,024 m^2
  - Power plant – 739 m^2)
  - Waste Facilities – 446 m^2
- Non-Contaminated buildings (16,608 m^2), including:
  - Offices/warehouse/accommodation – 16,556 m^2
  - Consolidate & dump bone yard debris – 52 m^2

Based on RECLAIM Model, the unit cost associated for place a soil cover is \$15.12/m^3.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for placing soil cover over demolition materials. The total footprint considered in the 2013 Marginal Cost was 9,973 m^2, with an associated reclamation cost of \$151,091. This cost (\$151,091) has been applied as a credit as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for disposal of all buildings on-site, as applicable, irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001) and associated accommodation complex estimates which is inclusive of all buildings planned to be on-site upon completion of the 2014 Work Plan at Milne Port.

C.2.6.13 Objective: Grade and Contour Mill & Plant Site at Milne Port

2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for site contouring of the footprint of buildings at Milne Port. The area footprint has been estimated based on 2014 Master Building Matrix (H349000-1000-00-144-0001) that is inclusive of all buildings planned to be on-site upon completion of the 2014 Work Plan at Milne Port. Included is:

© Hatch 2013/10

- Tanks and plumbing – 91 m^2
- Water treatment Plant – 654 m^2
- Maintenance Shop – 2,024 m^2
- Power Plant – 739 m^2
- Offices/warehouse/accommodation – 17,165 m^2
- consolidate & dump bone yard debris – 52 m^2
- Other (Waste Facilities) – 446 m^2

In addition, the 2014 Marginal Closure and Reclamation Security Estimate includes a reclamation cost associated with the re-grading and contouring of the Ore Stockpile Pad at Milne Inlet. The Ore Stockpile Pad has an estimated footprint of 235,241 m^2. The footprints of the Ore Stockpile Pad, the Dump Pad and the Crusher Pad have been estimated based on the following drawings:

- Milne Port - Ore Stockpiles No. 1 & 2 - Earthworks & Drainage - Plan (H349000-2133-10-035-0001).
- Milne Port - Ore Stockpiles No. 3 & 4 - Earthworks & Drainage - Plan (H349000-2133-10-035-0002).
- Milne Port - Ore Stockpiles - Earthworks & Drainage - Sections Sheet 1 of 2 (H349000-2133-10-035-0003).
- Milne Port - Ore Stockpiles - Earthworks & Drainage - Sections Sheet 2 of 2 (H349000-2133-10-035-0004).
- Milne Port - Ore Stockpile Sedimentation Ponds - Earthworks & Drainage - Plan & Sections (H349000-2345-10-035-0001).

A Project specific unit cost has been developed for re-grading and contouring land on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The ‘grade and contour area to natural drainage’ unit cost assumes 12hrs/person day of labour at blended labour rate, six (6) person days of man power, 100 hrs of grader/dozer work at blended equipment rate and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $26,193 /Ha or $2.62/$m^2$ unit cost has been applied.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for grading and contouring Mill & Plant Site at Milne Port. The total footprint considered in the 2013 Marginal Cost for grade and contour of the Mill & Plant Site at Milne Port was 10,479 m^2, with an associated reclamation cost of $101,289. This cost ($101,289) has been applied as a credit as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for grading and contouring all buildings on-site, as applicable, irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix

© Hatch 2013/10

(H349000-1000-00-144-0001) and associated accommodation complex drawings which is inclusive of all buildings planned to be on-site upon completion of the 2014 Work Plan.

C.2.6.14 Objective: Reclaim Roads at Milne Port

Remove Culverts

The 2014 Marginal Closure and Reclamation Security Estimate takes into account the reclamation cost of any additional culverts planned to be installed at Milne Port during 2014. Twelve (12) additional culverts are planned to be installed at Milne Port with one additional culvert in the ramp to the beach. It has been assumed that in circumstances where culverts may be replaced with larger culverts, the cost of reclamation would remain the same.

A project specific unit cost has been developed for culvert removal on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The 'Remove Culverts' unit cost assumes 12hrs/person day of labour at blended labour rate, 1.0 person days to complete task, 4 hrs of heavy equipment work at blended equipment rate, and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $1,785/culvert unit cost has been applied.

Other (Ramp to the Beach)

The 2014 Marginal Closure and Reclamation Security Estimate includes cost allocation for the reclamation of the ramp to the beach at Milne Inlet in 2014, by scarifying and installing water breaks. The ramp areas has been estimated as 5,177 m^2 and includes one (1) culvert based on drawing: Milne Port - Ramp to Beach - Plan, Profile & Section (H349000-2131-10-012-0001).

A project specific unit cost has been developed for re-grading and contouring land on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The 'grade and contour area to natural drainage' unit cost assumes 12hrs/person day of labour at blended labour rate, six (6) person day of man power, 100 hrs of grader/dozer work at blended equipment rate and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $26,193/Ha or $2.62/$m^2$ unit cost has been applied.

For further details, refer to Milne Port - Ramp to Beach - Plan, Profile & Section (H349000-2131-10-012-0001).

Other (Roads)

The 2014 Marginal Closure and Reclamation Security Estimate accounts for the reclamation of any additional roads developed during 2014 at Milne Port. The total length of the new roads is estimated to be 1,345 m long and 9,720 m^2 in area, based on the following roads sizes:

© Hatch 2013/10

Table C3: Marginal Road Construction Estimate for Milne Port

Road	Length (m)	With (m)	Area (m^2)
Raw Water Intake Access Road	520	6	3,120
	130	8	1,040
Infrastructure Pad Access Road	545	8	4,360
West Fuel Tank Access Road	150	8	1,200
TOTAL Estimate	1345	30	9,720

For further details of the roads at Milne Port accounted for in the 2014 Marginal Closure and Reclamation Security Estimate, refer to the following documents in Appendix F:

- Milne Port - Traffic Management Plan (H349000-2139-10-035-0001).
- Milne Port - Raw Water Intake Road - Plan & Profile - Sheet 1 of 2 (H349000-2139-10-012-0003).

It has been assumed that the reclamation of drainage ditches would be captured in grading and contouring of roads and therefore no individual reclamation cost has been applied.

A Project specific unit cost has been developed for re-grading and contouring land on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The grade and contour area to natural drainage unit cost assumes 12hrs/day of labour at blended labour rate, six (6) person day of man power hrs/day of labour at blended labour rate, 100 hrs of grader/dozer work at blended equipment rate and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $26,193/Ha or $2.62/$m^2$ unit cost has been applied.

C.2.6.15 Objective: Specialized Items at Milne Port

Decommission of existing bladder farm

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), Carry Over to Type A, considers the decommissioning of the existing bladder farm at Milne Port (73 x114, 000 L bladders in lined containment facility) and is based on the 2013 A&R Plan (AMEC, January 2013). Specifically the 2013 Work Plan Marginal Closure Cost Summary estimate considers the following remedial activities:

- Milne Inlet fuel farm Oil Water Separation Operation (total cost of $199,280).
- Drain, fold, and containerize Milne bladder tanks (total cost of $44,704).
- Remove all hazardous material/fuel storage geomembrane fuel liners and package for sealift (total cost of $11,424).
- Execute civil works to convert the fuel farm to hydrocarbon impacted soil land farm (total cost of $54,432).

© Hatch 2013/10

- Execute civil works to transport potential hydrocarbon contaminated soil from Milne Inlet non - bulk fuel farm lined containment areas to landfarm (total cost of $34,740).
- Re-contour surface (total cost of $26,520 with $2,562 as contingency).

During 2013, the 73 bladders were drained, folded, containerized and shipped off-site. Thus, the value associated to this activity has been applied as credit. In addition the operation of the Oil Water Separation Facility will no longer require during 2014. Thus, the value associated to this activity is also applied as credit.

For further detail of the costs associated with decommission of existent fuel bladder farm, refer to Appendix G-3 of 2013 A&R Plan (AMEC, January 2013).

Mooring buoys

Two (2) mooring buoys are planned to be installed during the 2014 Work Plan.

A project specific unit cost has been developed for removal of mooring buoys based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The remove mooring buoys unit cost assumes 12hrs/person day of labour at blended labour rate, 6.0 person days to complete task, 50 hrs of equipment work at blended equipment rate, 40 L/hr fuel consumption for equipment at $1.25/L fuel cost. Thus, a $14,708/buoy unit cost has been applied.

C.2.6.16 Objective: Remove Contaminated Buildings at Tote Road

No contaminated buildings will be present on the Tote Road, and therefore this component of RECLAIM was not considered.

C.2.6.17 Objective: Remove Non-Contaminated Buildings at Tote Road

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for removal of all non-contaminated buildings as described by the Master Building Matrix available at the time. The total footprint considered in the 2013 Marginal Cost was 1,522 m^2, with an associated reclamation cost of $86,791. This cost has been applied as a credit for 2014 as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for removal of all non-contaminated buildings on-site irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001) and accommodation camp footprint estimates, which is inclusive of all non-contaminated buildings planned to be on-site upon completion of the 2014 Work Plan.

No additional non-contaminated buildings along the Tote Road have been considered as none are planned for the 2014 Work Plan at the time of estimate.

C.2.6.18 Objective: Break Basement Slabs Tote Road

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for breaking basement slabs as described by the Master Building Matrix available at the time. The total footprint considered in the 2013 Marginal Cost was 1,522 m^2, with an

© Hatch 2013/10

associated reclamation cost of $40,683. This cost has therefore been applied as a credit for 2014 as the 2014 Marginal Closure and Reclamation Security Estimate allocates a cost for all building foundations on-site irrespective from when they were built as it is a reflection of the 2014 Master Building Matrix (H349000-1000-00-144-0001), which is inclusive of all buildings planned to be on-site with concrete or pier foundations upon completion of the 2014 Work Plan.

C.2.6.19 Objective: Reclaim Roads at Tote Road

Remove Culverts

The 2014 Marginal Closure and Reclamation Security Estimate takes into account the reclamation cost of any additional culverts installed at the Mine Site during 2014. Thirty (30) additional culverts are planned to be installed along the Tote Road with an additional five (5) associated with quarrying activities based on the assumption one (1) culvert would be required per quarry. It has been assumed that in circumstances where culverts may be replaced with larger culverts, the cost of reclamation would remain the same.

A project specific unit cost has been developed for culvert removal on-site based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The 'Remove Culverts' unit cost assumes 12hrs/person days of labour at blended labour rate, 1.0 person days to complete task, 4 hrs of heavy equipment work at blended equipment rate, and 40 L/hr fuel consumption for equipment at $1.25/L of fuel cost. Thus, a $1,785/culvert unit cost has been applied.

Remove Bridges

2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), Carry Over to Type A, includes the following activities related to reclamation of roads: Inspect and repair any erosion and/or permafrost damage; Remove all box culverts crossings and stabilize slopes; install water bars; and remove round culverts. Although these bridges/box culvert crossings will be replaced in 2014, for the purpose of the 2014 Marginal Closure and Reclamation Security Estimate, it is assumed the reclamation cost of removing the future bridges and the current crossings is the same and therefore no additional cost has been included in the 2014 Marginal Closure and Reclamation Security Estimate.

C.2.7 Chemicals

C.2.7.1 Objective: Hazardous Materials Audit

2014 Marginal Closure and Reclamation Security Estimate does not include a cost allocation for a Phase I, II or II Phase II Environmental Site Assessment as it is covered in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) closure cost estimate. Specifically, the cost is listed as $90,000.

© Hatch 2013/10

C.2.7.2 Objective: Hazardous Materials to be Consolidated for Removal

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), Carry Over to Type A, included a cost allocation ($5,535) for preparation chemicals for shipping and a cost allocation ($31,464) for disposal of 76 m³ of hazardous material in the South (except bulk contaminated soil). It was assumed that the packaging of 76 m³, based 2009 productivity, would require 3 days of QE representation and 2 workers with the use of a skid steer for 12 hours/day. The average disposal cost was based on the 2010 blended hazardous material weighted cost @ $414 /m³. These costs are based on the 2013 A&R Plan (AMEC, January 2013).

In addition to the costs in The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), Carry Over to Type A, the 2013 Work Plan Marginal Closure Cost included am additional cost allocation for removing hazardous wastes. The total cost allocated was $89,075. The 2013 Marginal Coast was based on the annual generation rates established in the Waste Management Plan for Construction, Operation, and Closure (H349000-1000-07-126-0007). The following assumptions were considered in 2013 Marginal Closure Cost:

- Annual production of waste Oils (construction/operation) – 0.65 t /17.88 t (assuming 0.8 t/m^3).
- Annual production of waste batteries (construction/operation) – 0.06 t / 1.76 t.
- Annual production of spent activated carbon (construction/operation) - 0.06 t /1.78 t.
- Annual production of kitchen Grease (construction/operation) - 0.28 t /7.72 t.
- Annual production of spoiled CaCl (construction/operation) - 0.02 t /0.59 t.
- Annual production of aerosols containers (construction/operation) - 0.04 t /1.07 t.
- Annual production of empty compressed gas cylinders (construction/operation) - 0 t /0 t.
- Annual production of crushed drums/plastics pails (construction/operation) - 0.13 t /3.56 t.

The 2014 Marginal Closure and Reclamation Security Estimate does not include a cost allocation for removing any additional hazardous wastes as the removal of hazardous waste is an annual activity that has been accounted for in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001).

It should be noted, the $126,074 total security estimate allocated for Hazardous Material removal is deemed conservative based on experience in 2013 which saw a cost of approximately $66,000 incurred for the shipment and disposal off-site all hazardous waste generated project-wide (including Milne Port Bladder Farm material generated during decommissioning activities). Although specific 3rd Party documentation is not available due to confidentiality and commercial purposes, costs incurred were based on 11 x 20 foot containers at $3697 each totaling $40,667. An additional Hazardous Material surcharge of 20% was added for total cost of $48,800. Also included was roughly 136 measured tonnes of

© Hatch 2013/10

break bulk at $127.63 per measured tonne totaling $17,357. The combination of both ($66,157) is below the current $126,074 total security estimate allocated for Hazardous Material removal.

As per the 2014 Mary River Project Fuel Balance, a maximum 31.7 ML will be on site after commencement of 2014 Work Plan (in October 2014). The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) includes a cost allocation for removal of 31.2 ML of Type 1 fuel from site, at a $0.10/L backhaul rate (rate established and documented in 2013 Mary River A&R Plan, AMEC, January 2013). Therefore the 2014 Work Plan Marginal Closure Cost Estimate includes a cost allocation for removal of the marginal volume of 0.5 ML of Type 1 fuel from site, at a $0.10/L backhaul rate.

C.2.7.3 Objective: Contaminated Soil Removal

2014 Marginal Closure and Reclamation Security Estimate does not include a cost for the removal of contaminated soils as it is covered in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) closure cost estimate. Specifically, the cost is listed as $626,080. The removal of contaminated soils is described as: till hydrocarbon impacted soil - Landfarm operation, and assumes mechanic and operator execute the work required to till the hydrocarbon impacted soil work.

C.2.7.4 Objective: Other

Calcium Chloride

The 2014 Marginal Closure and Reclamation Security Estimate takes into account the reclamation cost of all CaCl stored on-site. Based on the most recent inventory it is estimated that 1.45 million kg of CaCl is currently stored on-site. Backhaul unit rate based on 'Low' unit rate for 'Process Chemicals' selected in RECLAIM due to the relative stability and low risk of product (CaCl) needing to be removed.

Ammonium Nitrate

2014 Marginal Closure and Reclamation Security Estimate includes a cost allocation for removing off-site 20% of the explosives brought on-site for the 2014 Work Plan in 2014. As per the '2013-10-10_2014 Explosives Requirements.xlsx', 601,990 kg of explosives (82,895 kg of pre-packaged emulsion and 519,095 kg of Ammonium Nitrate) will be needed on-site in 2014. The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included a cost allocation for removal of 920,000 kg of explosives from site, at a $2.37/kg reclamation unit rate. Explosives brought on-site are used for annual consumption; therefore the 2014 Work Plan Marginal Closure Cost Estimate includes a credit for the marginal difference, 799,602 kg, of explosives estimated needing to be reclaimed from site in 2013 vs. 2014 at the $2.37/kg reclamation unit rate.

© Hatch 2013/10

C.2.8 Water Management

C.2.8.1 Objective: Remove Pipelines

The piping infrastructure design has not change for 2014 Work Plan, and therefore, it is not expected that additional pipelines will be required. Therefore, the 2014 Marginal Closure and Reclamation Security Estimate does not include an additional cost allocation for removing pipelines. Based on 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), the cost associated for removing the total length of pipelines (8,200 m) was $44,280.

Sewage and sludge will be incinerated whenever possible. If incineration is not available it will be sent to the existing waste water settling pond for decantation. Solids will be left to dry and sent to the landfills.

C.2.9 Mobilization

C.2.9.1 Objective: Mobilize Heavy Equipment

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included the cost for the removal of heavy equipment from site. For 2013 Marginal Closure Cost it was assumed that at the end of reclamation, all heavy equipments at Mary River Mine Site will be transported to Milne Port for shipment as it was owned by a 3rd Party. It was assumed that each piece of equipment will travel once the length of Tote Road (100 km). The following heavy equipments were accounted for in the 2013 Marginal Closure Cost:

- Excavators (x5)
- Dump trucks (x2)
- Dozers (x5)
- Crane (x3)
- Light Duty Vehicle (x51)
- Other (Loaders) (x18)
- Other (x107)

As all company owned heavy equipment will be disposed of on-site, the cost associated with the mobilization of heavy equipment from the Mine Site to Milne Port ($173,688) is applied as a credit for the 2014 Marginal Closure and Reclamation Security Estimate.

Based on the Mechanical Equipment and Motors List (H349000-1000-50-144-0001), 372 pieces of mechanical equipment (from 2013 and 2014) will be onsite upon completion of the 2014 Work Plan. Assume all company owned equipment on-site will be disposed of on-site (disposal location to be determined). The 2014 Marginal Closure and Reclamation Security Estimate therefore includes a cost allocation for moving all mechanical equipment located at the Milne Port and/or Tote Road to the Mine Site for disposal. Thus, at the end of

© Hatch 2013/10

reclamation, all equipment located at Milne Port will travel a distance equivalent to the Tote Road (100 km) to the Mine Site, and equipment located at the Tote Road will travel a distance of 50 km. Based on these assumptions, it has been estimated that the 372 pieces of mechanical equipment on site will travel (in total) a distance of 10,100 km.

The RECLAIM Model considers the mobile heavy equipment through road access, with an associated cost of $9.0936/km.

C.2.9.2 Objective: Mobilize Workers

2014 Marginal Closure and Reclamation Security Estimate does not include a cost for crew transportation as it is assumed no additional flights would be required for marginal 2014 reclamation activities.

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) assumed 53 flights with an associated cost of $2,300 per flight, based on a 25 person camp operating for 16 weeks on 4 & 2 crew rotation. The average travel expense including flight cost from Southern Canada to Iqaluit was $2300/rotation. Assume conservative estimate that 80% of contractors or 53 flights are from southern Canada. The total cost allocated for the commercial flights was $121,900.

In addition, the 2013 Work Plan Marginal Closure Cost Summary allocates $571,200 for Fixed wing Charter Support, assuming on average 3 charter flights/week will meet the needs of a 21 man camp over 4 months. Assume 3 charters/week to move passengers and freight.

C.2.9.3 Objective: Fuel Required for Reclamation

2014 Marginal Closure and Reclamation Security Estimate does not include a cost allocation for mobilization of additional fuel as it assumes that sufficient fuel is on-site to complete reclamation activities. RECLAIM and Project Specific unit costs are inclusive of fuel, equipment and labour. Remaining fuel will be backhauled and disposed of off-site. Maximum fuel storage volume on-site in 2014 for backhaul is accounted for in the 2014 Marginal Closure and Reclamation Security Estimate to remain conservative.

C.2.9.4 Sealift per Season

In a closure scenario, it is assumed only 3rd party owned equipment will need to be backhauled on sealift due to contractual agreements. Based on the 3rd party Equipment List (see Appendix F), 94 pieces of equipment will need to be backhauled. Assume that all equipment on the list needs to be demobilized from site at end of 2014. Price is assumed to be $115.00 per ton based on 2013 sealift rates for the Mary River Project (supporting documentation of per ton price not available due to confidentiality and commercial reasons).

As a contingency and to remain conservative and additional 8,700 ton has been accounted for in 2014 Marginal Closure and Reclamation Security Estimate, with a total cost of $1,000,500, for de-mobilization of misc-equipment, materials, waste, and consumables that have yet to be identified at the time of this estimate. Price is assumed to be $115.00 per ton meter based on 2013 sealift rates for the Mary River Project.

© Hatch 2013/10

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) includes a cost allocation for demobilization of mechanical equipment and construction support equipment brought on-site in 2013 via sealift. This is in addition to the cost allocated in the 'Carry Over to Type A' de-mobilization estimate as presented in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001).

The cost associated with the de-mobilization sealift was based on the assumption that three ships @ 12,000 rev ton/ship would be required to transport equipment off-site (based on Hatch Logistical Estimate). At the time of estimate in 2013, it was assumed a cost per ship of $1,000,000/ship or $83.30/rev ton. For 2014, it is assumed this de-mobilization cost allocation is no longer required based on current understanding of the amount of material estimated needing to be backhauled (3rd party equipment, small quantity misc equipment, misc consumables etc only) and considering the de-mobilization costs now included in the 2014 Closure Cost Estimate and the still applicable de-mobilization costs in the Carry Over to Type A Closure Cost estimates.

C.2.9.5 Objective: Worker Accommodation

The 2014 Marginal Closure and Reclamation Security Estimate does not include a cost associated with camp operation. It has been assumed that the marginal activities considered in 2014 Marginal Closure and Reclamation Security Estimate will not require any additional camp operation to the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), 'Carry Over to Type A'. Specifically, the cost allocated previously amounted to $2,007,017 for camp operation during reclamation activities. The following activities are included under camp operation in the 2013 Work Plan Marginal Closure Cost:

- Mine Site Camp Operation Year 2 (21 person camp operation, camp operating overhead and food).
- Mine Site Camp Operation Year 3 (29 person camp operation, camp operating overhead and food).
- Milne Inlet Year 2 - Operate average five - person camp (16 person peak for two weeks) (Camp operating overhead and food).
- Milne Inlet Year 3 - Operate average five (six person camp operation, camp operating overhead and food).
- Milne Inlet Year 4 (14 person camp operation, camp operating overhead and food).

It has been assumed that, due to the type of closure activities to be undertaken during 2014, the operation of these camps will only be required for the period of time specified in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001).

© Hatch 2013/10

C.2.10 Post Closure

C.2.10.1 Post Closure Assumptions

It is estimated the post-closure monitoring activities for the marginal 2014 activities can be completed concurrently to the timeframe presented in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) therefore no additional costs for post-closure monitoring is allocated.

C.2.10.2 Objective: Monitoring and Inspections

The 2014 Marginal Closure and Reclamation Security Estimate does not include any cost associated with post closure monitoring. It has been assumed that the marginal activities considered in 2014 Marginal Closure and Reclamation Security Estimate will not require any monitoring additional to the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), Carry Over to Type A. Specifically, the closure cost estimate includes $21,100/year for five years of post -closure environmental monitoring (including water sampling).

C.2.10.3 Objective: Cover Maintenance

An allowance for cover maintenance on landfill/waste rock stockpile equals $100,000 (same as PDW Closure Plan) was made in 2013 Marginal Closure Cost. This allowance includes:

- Repair erosion - infill gullies.
- Repair erosion - upgrade diversion ditches.
- Remove problem vegetation.
- Repair animal damage.
- Repair/upgrade access controls.

Therefore, it assumed this is sufficient for cover and maintenance and the 2014 Marginal Closure and Reclamation Security Estimate does not include any cost associated with maintenance on landfill/waste rock stockpile.

© Hatch 2013/10

Appendix D:
2014 Marginal Reclamation and Closure Security Estimate for ERP Activities: Mining RECLAIM Closure Cost Model Screenshots

Safety • Quality • Sustainability • Innovation

© Hatch 2013/10

D.1 Summary of Closure 2014 Work Plan Marginal Cost Estimate – ERP Activities

CAPITAL COSTS

COMPONENT TYPE	COMPONENT NAME	TOTAL COST	LAND LIABILITY	WATER LIABILITY
OPEN PIT	0	$21,035	$21,035	$0
UNDERGROUND MINE	0	$0	$0	$0
TAILINGS	0	$0	$0	$0
ROCK PILE	0	$0	$0	$0
BUILDINGS AND EQUIPMENT	MINE SITE	$64,350	$64,350	$0
	MILNE PORT	$78,579	$78,579	$0
CHEMICALS AND SOIL MANAGEMENT		$0	$0	$0
WATER MANAGEMENT		$0	$0	$0
POST-CLOSUREMONITORING AND MAINTENANCE		$0	$0	$0
	SUBTOTAL	**$163,964**	**$163,964**	**$0**
		PERCENTAGES	**$1**	**$0**
MOBILIZATION/DEMOBILIZATION		$90,027	$90,027	$0
PROJECT MANAGEMENT	5%	$8,198	$8,198	$0
Bonding	0%	$0	$0	$0
Taxes (GST on supplies) - est.	allowance	$0	$0	$0
Insurance	0%	$0	$0	$0
ENGINEERING	0%	$0	$0	$0
CONTINGENCY	10%	$16,396	$16,396	$0
Market Price Factor Adjustment	0%	$0	$0	$0
GRAND TOTAL - CAPITAL COSTS		**$278,585**	**$278,585**	**$0**

Figure D1: Summary of 2014 Closure and Reclamation Security Estimate – ERP Activities, 2014 Breakdown

© Hatch 2013/10

D.2 Open Pit

Open Pit Name:								Pit # 1
ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: CONTROL ACCESS								
Fence	m		#N/A	0.00	$0		$0	$0
Signs	each		#N/A	0.00	$0		$0	$0
Berm at crest	m		#N/A	0.00	$0		$0	$0
Block roads	m3		#N/A	0.00	$0		$0	$0
Other			#N/A		$0		$0	$0
OBJECTIVE: STABILIZE SLOPES								
Off-load crest, soil A	m3		#N/A	0	$0		$0	$0
Off-load crest, soil B	m3		#N/A	0	$0		$0	$0
Doze/trimoverburden at crest	m3		#N/A	0	$0		$0	$0
Drill & blast pit crest	m3		#N/A	0	$0		$0	$0
buttress slope	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: COVER/CONTOUR SLOPES								
Dump demolition materials (pit or landfill or quarry	m3		#N/A	0	$0		$0	$0
Place overburden over demolition material	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Vegetate slopes	ha		#N/A	0	$0		$0	$0
Vegetate pit floor	ha		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: SPILLWAY								
Excavate channel, soil A	m3		#N/A	0	$0		$0	$0
Excavate channel, soil B	m3		#N/A	0	$0		$0	$0
Concrete	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Other	each		#N/A	0	$0		$0	$0
OBJECTIVE: FLOOD PIT								
remove stationary equipment (sump pump)	each		#N/A	0	$0		$0	$0
remove power lines	each		#N/A	0	$0		$0	$0
Embankment/dam - Soil A	m3		#N/A	0	$0		$0	$0
Embankment/dam - Soil B	m3		#N/A	0	$0		$0	$0
supply/install pump & piping system	each		#N/A	0	$0		$0	$0
operate pumps to flood pit	each		#N/A	0	$0		$0	$0
Lime addition, _____ kg/m3 of water	tonne		#N/A	0	$0		$0	$0
Lime, purchase and shipping	tonne		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
RECLAIM QUARRIES								
Contour slopes	m3		#N/A	0	$0		$0	$0
Berm at crest	m3		#N/A	0	$0		$0	$0
Place overburder	m3		#N/A	0	$0		$0	$0
Vegetate	m3		#N/A	0	$0		$0	$0
Quarries	m2		#N/A	0	$0		$0	$0
OTHER ITEMS								
Decomission od Settling Ponds (Milne and Mine)	hour	70	PrSpe	300.5	$21,035	100%	$21,035	$0
				Subtotal	$21,035	100%	$21,035	$0
						Pct Land	Total Land	Total Water

Figure D2: 2014 Work Plan Closure Cost – ERP Activities for Open Pit

© Hatch 2013/10

D.3 Building and Equipment

Building / Equip Name: *MINE SITE* **Bldg / Equip #: *1***

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT								
Decontaminate and ship off-site	each		#N/A	0	$0		$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0		$0	$0
Other (sealift for equipmt)	each		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS			#N/A					
Decontaminate crushing plant	m2		#N/A	0	$0		$0	$0
Decontaminate tanks & plumbing	m2		#N/A	0	$0		$0	$0
Decontaminate thickeners	m2		#N/A	0	$0		$0	$0
Decontaminate water treatment plant	m2		#N/A	0	$0		$0	$0
Decontaminate maintenance shop	m2		#N/A	0	$0		$0	$0
Decontaminate power plant	m2		#N/A	0	$0		$0	$0
Decontaminate bulk fuel storage	m2		#N/A	0	$0		$0	$0
Decontaminate ANFO plant	m2		#N/A	0	$0		$0	$0
Deontaminate offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
Removal of asbestos siding on buildings	m2		#N/A	0	$0		$0	$0
Removal of friable asbestos on equipment	m2		#N/A	0	$0		$0	$0
Other (Waste facilities)	m2		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
consolidate & dump boneyard debris	m2		#N/A	0	$0		$0	$0
other	m2		#N/A	0	$0		$0	$0
OBJECTIVE: BREAK BASEMENT SLABS								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
Other (Waste facilities)	m2		#N/A	0	$0		$0	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE								
Place soil cover	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Landfill disposal fee	tonne		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
Other (Waste facilities)	m2		#N/A	0	$0		$0	$0
OBJECTIVE: RECLAIM ROADS								
Remove culverts	each		#N/A	0	$0		$0	$0
Remove bridges	each		#N/A	0	$0		$0	$0
Scarify and install water breaks	ha		#N/A	0	$0		$0	$0
remove/doze down berms	m3		#N/A	0	$0		$0	$0
create wildlife passage ramps	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
other (Drainage Ditches)	each		#N/A	0	$0		$0	$0
Other (roads)	m2		#N/A	0	$0		$0	$0
SPECIALIZED ITEMS								
Reclamation of dredging - land disposal facility	m2		#N/A	0	$0		$0	$0
Extention airstrip	lot		#N/A	0	$0		$0	$0
Disposal of Mobile Equipment	Each	99	PrSpe	650	$64,350	100%	$64,350	$0
			Subtotal		$64,350	100%	$64,350	$0
						Pct Land	Total Land	Total Water

Figure D3: 2014 Work Plan Closure Cost – ERP Activities for Buildings and Equipment – Mine Site

© Hatch 2013/10

Building / Equip Name: *MILNE PORT*								Bldg / Equip #: *2*
ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: DISPOSE MOBILE EQUIPMENT								
Decontaminate and ship off-site	each		#N/A	0	$0		$0	$0
Decontaminate, dispose on-site	each		#N/A	0	$0		$0	$0
Other (sealift for equipmt)	each		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE CONTAMINATED BUILDINGS			#N/A					
Decontaminate crushing plant	m2		#N/A	0	$0		$0	$0
Decontaminate tanks & plumbing	m2		#N/A	0	$0		$0	$0
Decontaminate thickeners	m2		#N/A	0	$0		$0	$0
Decontaminate water treatment plant	m2		#N/A	0	$0		$0	$0
Decontaminate maintenance shop	m2		#N/A	0	$0		$0	$0
Decontaminate power plant	m2		#N/A	0	$0		$0	$0
Decontaminate bulk fuel storage (Fuel Tank)	m2		#N/A	0	$0		$0	$0
Decontaminate ANFO plant	m2		#N/A	0	$0		$0	$0
Deontaminate offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
Removal of asbestos siding on buildings	m2		#N/A	0	$0		$0	$0
Removal of friable asbestos on equipment	m2		#N/A	0	$0		$0	$0
Other (Waste facilities)	m2		#N/A	0	$0		$0	$0
OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS			#N/A					
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
consolidate & dump boneyard debris	m2		#N/A	0	$0		$0	$0
other	m2		#N/A	0	$0		$0	$0
OBJECTIVE: BREAK BASEMENT SLABS			#N/A					
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
Other (Waste facilities)	m2		#N/A	0	$0		$0	$0
OBJECTIVE: LANDFILL FOR DEMOLITION WASTE			#N/A					
Place soil cover	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
Landfill disposal fee	tonne		#N/A	0	$0		$0	$0
Other (Credit for 2013 landfill for demolition waste)			#N/A	0	$0		$0	$0
OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE								
crushing plant	m2		#N/A	0	$0		$0	$0
conveyors & transfer towers	m2		#N/A	0	$0		$0	$0
tanks & plumbing	m2		#N/A	0	$0		$0	$0
thickeners	m2		#N/A	0	$0		$0	$0
water treatment plant	m2		#N/A	0	$0		$0	$0
maintenance shop	m2		#N/A	0	$0		$0	$0
power plant	m2		#N/A	0	$0		$0	$0
bulk fuel storage	m2		#N/A	0	$0		$0	$0
ANFO plant	m2		#N/A	0	$0		$0	$0
offices/warehouse/accom	m2		#N/A	0	$0		$0	$0
Other (Ore Stockpile Pad)	m2		#N/A	0	$0		$0	$0
OBJECTIVE: RECLAIM ROADS								
Remove culverts	each		#N/A	0	$0		$0	$0
Remove bridges	each		#N/A	0	$0		$0	$0
Scarify and install water breaks	ha		#N/A	0	$0		$0	$0
remove/doze down berms	m3		#N/A	0	$0		$0	$0
create wildlife passage ramps	m3		#N/A	0	$0		$0	$0
Vegetate	ha		#N/A	0	$0		$0	$0
other (Ramp to the Beach)	m2		#N/A	0	$0		$0	$0
Other (roads)	m2		#N/A	0	$0		$0	$0
SPECIALIZED ITEMS			#N/A					
Reclamation of dredging - land disposal facility	m2	30,000	PrSpe	2.6193	$78,579	100%	$78,579	$0
Docks and Rock Causeway	each		#N/A	0	$0		$0	$0
				Subtotal	$78,579	100%	$78,579	$0
						Pct Land	Total Land	Total Water

Figure D4: 2014 Work Plan Closure Cost – ERP Activities for Buildings and Equipment – Milne Port

© Hatch 2013/10

D.4 Mobilization

1 **Mobilization:**

	ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
A	MOBILIZE HEAVY EQUIPMENT								
	Equipment to regional centre								
.	Excavators	km		#N/A	0	$0		$0	$0
.	Dump trucks	km		#N/A	0	$0		$0	$0
	Dozers	km		#N/A	0	$0		$0	$0
	Demolition shears	km		#N/A	0	$0		$0	$0
	Crane	km		#N/A	0	$0		$0	$0
	Light duty vehicles	km		#N/A	0	$0		$0	$0
.	Other (loaders)	km		#N/A	0	$0		$0	$0
	Equipment, regional centre to site								
.	Excavators	km		#N/A	0	$0		$0	$0
.	Dump trucks	km		#N/A	0	$0		$0	$0
	Dozers	km		#N/A	0	$0		$0	$0
	Demolition shears	km		#N/A	0	$0		$0	$0
	Crane	km		#N/A	0	$0		$0	$0
	Light duty vehicles	km		#N/A	0	$0		$0	$0
.	Other (Mobilize Heavy Equipment)	km	9900	MHERH	9.094	$90,027		$0	$90,027
B	MOBILIZE CAMP								
.		allow		#N/A	0	$0		$0	$0
C	MOBILIZE WORKERS								
	crew travel time	manday		#N/A	0	$0		$0	$0
.	crew transportation	each		#N/A	0	$0		$0	$0
D	MOBILIZE MISC. SUPPLIES								
.	Fuel	litre		#N/A	0	$0		$0	$0
.	Sealift per season	tonne		#N/A	0	$0		$0	$0
.	Sealift per season (contingency)	tonne		#N/A	0	$0		$0	$0
.	Sealift manpower per season			#N/A	0	$0		$0	$0
	Manpower for the season w/o sealift			#N/A	0	$0		$0	$0
	Other (Credit for 2013 Sealift)			#N/A	0	$0		$0	$0
E	WORKER ACCOMODATIONS								
.	Camp Operation	$		#N/A	0	$0		$0	$0
F	WINTER ROAD							$0	$0
.	Full winter use	km		#N/A	0	$0		$0	$0
.	Limited winter use	km		#N/A	0	$0		$0	$0
.	other			#N/A	0	$0		$0	$0
G	INTERIM CARE & MAINTENANCE								
	on-site caretaker	annual		#N/A	0	$0			
	fuel and misc. supplies	annual		#N/A	0	$0			
	electrician	days		#N/A	0	$0			
	mechnaic	days		#N/A	0	$0			
	pick-up truck	yr		#N/A	0	$0			
	small dozer	allow		#N/A	0	$0			
	small excavator	allow		#N/A	0	$0			
	snow machine	allow		#N/A	0	$0			
	communications	allow		#N/A	0	$0			
	Water licence sampling & reporting	each		#N/A	0	$0			
	Geotechnical assessment	each		#N/A	0	$0			
	Other	each		#N/A	0	$0			
				sub-total annual C&M cost		$0			
	Total C&M cost	years	1	#N/A	0	$0	100%	$0	$0
					Subtotal	$90,027	0%	$0	$90,027
							Pct Land	Total Land	Total Water

Figure D5: 2014 Work Plan Closure Cost – ERP Activities for Mobilization

© Hatch 2013/10

Appendix E:
2014 Marginal Reclamation and Closure Security Estimate for ERP Activities: Mining RECLAIM Closure Cost Model Assumptions

Safety • Quality • Sustainability • Innovation

© Hatch 2013/10

E.1 Introduction

The 2014 Marginal Closure and Reclamation Security Estimate – ERP Activities is based on the activities pending on approval of the amended Project Certificate as described in the Environmental Impact Statement for the Early Revenue Phase (June 2013). Although these activities have not been approved, they have been accounted for in a cost estimate for planning purposes. If these activities were conducted, the 2014 Marginal Reclamation and Closure Security Estimate for ERP Activities estimate would apply. Construction activities for the ERP would only commence once the addendum to the Project Certificate is granted.

The marginal financial cost of the 2014 Marginal Closure and Reclamation Security Estimate – ERP Activities has been estimated using the Mining RECLAIM spreadsheet. The cost is derived based on the model methodology of identifying reclamation components, required in addition to those already addressed in the 2013 Marginal Closure Cost H349000-1000-07-245-0001, and assigning a reclamation cost based on a quantity of functional units of that component. Each functional unit has a pre-defined or specified unit cost required to meet reclamation objectives.

Unit costs in the RECLAIM Models are derived from a database of unit costs for reclamation activities based on operating experience at northern sites across the Canadian Arctic (The Reclaim Model, Brodie & Milburn, 2001) and therefore are assumed to be the most accurate reclamation unit costs available that reflect Mary River Project conditions. Unit costs in the Mining RECLAIM spreadsheet are inclusive of fuel, labour and equipment (J. Brodie, Brodie Consulting Ltd, March 2013). Components addressed include:

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

Several reclamation strategies (“Objectives”) are listed for each component, and broken down into lists of actions that can be priced separately. A unit cost spreadsheet (part of the generic RECLAIM model) provides a range of prices for most actions; it has been completed where possible with the most accurate available or Project specific costs.

The financial cost obtained is based on the information available at the time of publishing.

The breakdown of cost for 2014 Marginal Closure and Reclamation Security Estimate – Non ERP Activities is summarized up in Table E1.

© Hatch 2013/10

Table E1: 2014 Marginal Closure and Reclamation Security Estimate – Non ERP Activities Summary

Liability Allocation	Marginal Cost for 2014 Work Plan – ERP Activities	Land Liability	Water Liability
Capital Cost for Infrastructure	$163,964	$163,964	$0
Mobilization	$90,027	$90,027	$0
INDIRECT COSTS			
Project Management (5%)	$8,198	$8,198	$0
Bonding (0%)	$0	$0	$0
Insurance (0%)	$0	$0	$0
Engineering's (0%)	$0	$0	$0
Contingency (10%)	$16,396	$16,396	$0
Sub-total of Indirect			$0
TOTALS	**$278,585**	**$278,585**	$0

E.2 Assumptions

E.2.1 General Assumptions

The following is a list of general assumptions that were made during the estimate of the total cost of reclamation to meet reclamation objectives stated in the in the Mary River Interim Mine Closure and Reclamation Plan (H349000-1000-07-126-0012):

- The annual allocation of the security needing to be deposited each year is based on activities expected to occur in that year (i.e. if activities occur in 2014, cost for reclamation would have to be given prior to the commencement of that activity). The cost of reclamation of a project component is based on reclaiming a defined functional unit of that component multiplied by the number of functional units the component is comprised of.
- Whenever possible, the unit cost spreadsheet (part of the generic RECLAIM model) has been completed with Project specific costs. When Project specific unit costs are unknown, pre-determined RECLAIM 'unit' costs associated to reclaim the project component are used. Pre-determined unit costs are always selected at the most conservative (highest) level possible in RECLAIM, unless noted otherwise, to increase conservatism in the estimate to allow for project characteristics (mainly climate and remoteness). In addition, it should be noted RECLAIM's pre-determined unit costs are derived from a database of unit costs for reclamation activities based on operating experience at northern sites across the Canadian Arctic (see whitepaper: The Reclaim Model, Brodie & Milburn, 2001) and therefore are assumed to be the most accurate reclamation unit costs available that reflect Mary River Project conditions. The most recent update of the RECLAIM model occurred in 2009. The use of RECLAIM was also supported as the methodology of choice to estimate reclamation security by the Nunavut Securities Working Group (Nunavut Securities Working Group, Over bonding and

© Hatch 2013/10

Reclamation Guidelines Presentation, April 10, 2013) assuming that current unit rates are used whenever possible as is the case in the Mary River 2014 Marginal Closure and Reclamation Security Estimate.

- 2014 Marginal Closure and Reclamation Security Estimate – ERP Activities does not include a cost allocation for additional fuel nor for equipment to be brought on-site. Unit costs are inclusive of fuel, equipment and labour.
- 2014 Marginal Closure and Reclamation Security Estimate – ERP Activities does not include additional cost allocation for Bonding, Insurance, Engineering of 2014 Marginal Closure activities. This was deemed included in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001), Carry Over to Type A. Specifically, the 2013 A&R Plan (AMEC, January 2013) included $800,000 for "Engineering Design & Execution Planning" to cover 'miscellaneous tasks not specifically estimated in direct costs'. This cost allocation was deemed adequate for marginal 2014 activities as well.
- As per RECLAIM methodology, a 10% multiplier was added to the sub-totals of 'On-Site Costs' to account for funds for contingency ($16,396). This was not applied to mobilization costs as per RECLAIM methodology. A 10% contingency was determined based on review of the Qikiqtani Inuit Association (QIA) Abandonment and Reclamation Policy for Inuit Owned Lands (2013), Appendix D and BIMC experience since 2006 in North Baffin Island. Reclamation activities for the Mary River Project are predominantly an earthworks exercise with simple demolition. High allowances for contingency are not required as the construction program will be relatively simple. A 10% contingency is deemed sufficient based on confidence that the cost assigned for the activities required to meet reclamation objectives is adequate.
- As per RECLAIM methodology, a 5% multiplier was added to the sub-totals of 'On-Site Costs'' to account for funds for Project Management ($8,198). This was not applied to mobilization costs as per RECLAIM methodology. Hatch is confident that 5% would be sufficient to allow for overall management of reclamation activities.
- Where RECLAIM does not have costs for a particular activity or it is not practical to break the activity down into the sub-tasks, a "specified" lump sum estimate of cost has been used.
- There has been no consideration of difference of reclamation techniques that would occur at the end of construction vs. the end of operation.
- If an activity spans multiple years of construction, the cost for its reclamation is evenly distributed across all years that it is scheduled to take place.
- Annual costs are all deposited in Year 1 and are not re-applied every year (i.e. the cost for removing hazardous waste from site would be deposited in Year 1 because it is the current project strategy that there will be annual shipments off-site of all hazardous waste generated that year).

© Hatch 2013/10

- It is estimated the closure activities for the marginal 2014 ERP activities can be completed concurrently with the timeframe presented in the 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) therefore no additional costs for camp operation and crew mobilization is allocated.
- Security deposited for each year is aggregated with previous years.
- As a default, RECLAIM assumes the discount rate for calculation of net present value of post-closure cost as 3%.

E.2.2 Open Pit

E.2.2.1 Objective: Other Items

Decommission of Settling Ponds (Milne Inlet and Mine Site)

The 2013 Work Plan Marginal Closure Cost Summary (H349000-1000-07-245-0001) included a cost allocation for removing 50% of the volume of the settling ponds presented in the Stormwater Management and Drainage System Design, H337697-0000-10-122-0001, Rev. B (Annex 1, Waste Rock Management Plan).

Size estimates used were as follows:

- Pond 1 (west pond): Approx. 0.7 million of cubic meters
- Pond 2 (east pond): Approx. 0.5 million cubic meters
- Pond 3: Approx. 0.15 million cubic meters
- TOTAL: 1.35 million cubic meters

The reclamation of 675,000 m^3 was allocated in 2013 and therefore the balance will be allocated in 2014 (same dollar amount). Cost of reclamation in 2013 was based on: the cost per hour of a CAT D8T Dozer of $176 and the cost per hour of an equipment operator of $124.50. Assumption it would take 70 hours to infill the partially constructed pond.

NOTE: Ponds were not started in 2013 due to schedule and it is assumed full construction is planned for 2014.

E.2.3 Buildings and Equipment

E.2.3.1 Objective: Specialized Items at Mine Site

Disposal Mobile Equipment

Based on the Mechanical Equipment and Motors List (H349000-1000-50-144-0001), ninety nine (99) pieces of mechanical equipment (from 2013 and 2014) will be on-site during upon completion of the 2014 Work Plan relating to ERP activities.

It is assumed all the mechanical equipment listed on the Mechanical Equipment and Motors List will be disposed on-site (exact disposal location to be determined).

© Hatch 2013/10

A Project specific unit cost has been developed for disposal of mechanical equipment based on historical productivity, current 3rd party labour rates, current 3rd party equipment rates and estimated fuel costs. The 'decontaminate and dispose of 'typical' mechanical equipment' unit cost assumes 2 hours of labour charges for a person to prepare 'typical' equipment for final disposal (remove hazardous materials/fluids, prepare for safe disposal) at the blended labour rate, 1 hour of labour charges to move equipment locally to final disposal location at the blended labour rate, 2 hours of equipment work at blended equipment rate to prepare 'typical' equipment for final disposal, positions appropriately and apply cover, and 40 L/hr fuel consumption for equipment at $1.25/L fuel cost. Thus, a $650 /equipment unit cost has been applied.

E.2.3.2 Objective: Specialized Items at Milne Port

Docks and Rock Causeway

The docks and rock causeway, if any, at Milne Port will be left in place and therefore no reclamation cost has been included in the 2014 Marginal Closure and Reclamation Security Estimate.

E.2.4 Mobilization

E.2.4.1 Objective: Mobilize Heavy Equipment

Based on the Mechanical Equipment and Motors List (H349000-1000-50-144-0001), Ninety nine (99) pieces of mechanical equipment (from 2013 and 2014) will be on-site during upon completion of the 2014 Work Plan relating to ERP activities. Assuming all company owned equipment on-site will be disposed of on-site (disposal location to be determined). The 2014 Marginal Closure and Reclamation Security Estimate – ERP Activities therefore includes a cost allocation for moving all mechanical equipment located at the Milne Port and/or Tote Road to the Mine Site for disposal. Thus, equipment located at Milne port will travel a distance equivalent to the toe road (100 km) to the Mine Site, and equipment located at the Tote Road will travel a distance of 50 km. Based on these assumptions, it has been estimated that the 99 equipments on site will travel (in total) a distance of 9,900 km. The RECLAIM Model considers the mobile heavy equipment through road access, with an associated cost of 9.0936 $/km.

© Hatch 2013/10

Appendix F:
Additional Supporting Documentation

Safety • Quality • Sustainability • Innovation

© Hatch 2013/10

Supporting Documentation Index

Ref #	Document Type		Document Name		# of Pages
1	Presentation	-	Overbonding and Reclamation Guidelines Presentation, April 10, 2013	-	15 pages
2	Whitepaper	-	The Reclaim Model	-	12 pages
3	List	-	Master Building Matrix, v3	-	3 pages
4	Drawing	-	Milne Port Construction Camp Pad General Arrangement	-	1 pages
5	Drawing	-	Accommodation Camp – Milne Port	-	1 pages
6	Drawing	-	Accommodation Camp – Mine Site	-	1 pages
7	Drawing	-	Mine Site Ore Crushing & Screening Earthworks & Drainage - Plan	-	1 pages
8	Drawing	-	Mine Site Ore Crushing & Screening Earthworks & Drainage - Sections	-	1 pages
9	Drawing	-	Milne Port Ore Stockpile No. 1&2 Earthworks & Drainage - Plan	-	1 pages
10	Drawing	-	Milne Port Ore Stockpile No. 2&3 Earthworks & Drainage - Plan	-	1 pages
11	Drawing	-	Milne Port Ore Stockpile Earthworks & Drainage Sections - Sheet 1 of 2	-	1 pages
12	Drawing	-	Milne Port Ore Stockpile Earthworks & Drainage Sections - Sheet 2 of 2	-	1 pages
13	Drawing	-	Milne Port Ore Stockpile Sedimentation Ponds Earthworks & Drainage Plan & Sections	-	1 pages
14	Drawing	-	Ramp to the Beach	-	4 pages
15	Design Criteria	-	Civil	-	22 pages
16	Drawing	-	Mine Haul Road Drawing	-	1 pages
17	Drawing	-	Raw Water Intake Access Road	-	1 pages
18	Drawing	-	Milne Port Traffic Management Plan	-	1 pages
19	Drawing	-	Mine Site Treated Effluent Pond Access Road	-	1 pages
20	Drawing	-	Explosives Facility Road	-	1 pages
21	Drawing	-	Mine Site Traffic Management Plan	-	2 pages
22	List	-	Mechanical Equipment and Motors List	-	58 pages
23	List	-	3rd Party Equipment List	-	3 pages
24	Drawing	-	Q7 Quarry Drainage Plan	-	1 pages
25	Drawing	-	Q11 Quarry Drainage Plan	-	1 pages
26	Drawing	-	P1 Quarry Drainage Plan	-	1 pages
27	Drawing	-	Q19 Quarry Drainage Plan	-	1 pages
28	Drawing	-	D1Q1 Quarry Drainage Plan	-	1 pages
29	Drawing	-	D1Q2 Quarry Drainage Plan	-	1 pages
30	Drawing	-	Milne Port Fuel Tank Farm	-	1 pages
31	Calculation	-	Mary River Project 2014 Fuel Balance	-	1 pages
32	Manifests	-	Hazardous Waste Shipped Off-Site in 2013	-	9 pages
33	Photo	-	CaCl Storage at Milne Port	-	1 pages
34	Calculation	-	CaCl Inventory, Project-Wide	-	1 pages
35	Calculation	-	Mary River Project 2014 Explosives Balance	-	1 pages
36	List	-	RECLAIM Unit Rates	-	5 pages
37	Calculation	-	Project Specific Unit Rates	-	1 pages
38	List	-	3rd Party Labour & Equipment Rates	-	4 pages

© Hatch 2013/10

NWT & NUNAVUT CHAMBER OF MINES

Overbonding and Reclamation Guidelines

Presentation to the Nunavut Securities Working Group,
April 10 2013

Overview

- History of Mine Site Reclamation and RECLAIM Model in NWT & Nunavut
- Suggested path forward on closure guidelines and models
- Pros and Cons of RECLAIM
- One Plan/One Cost/One Security
- Focus should be on how to split the security to avoid double bonding

NWT & NUNAVUT CHAMBER OF MINES

History of Mine Site Reclamation and RECLAIM

- INAC led the process in updating A & R Guidelines (1997) pending diamond rush in NWT (D. Livingstone)
  - Introduction of RECLAIM model (J. Brodie) to assist in determining closure costs
- Nunavut Land Claim Agreement (1999)
  - 3 distinct jurisdictions – Kitikmeot, Kivalliq, Qikiqtani
- Mine Site Reclamation Policy for Nunavut (2002)
- NWT Mine Site Reclamation Guidelines (INAC/AANDC) (last updated 2007)

NWT & NUNAVUT CHAMBER OF MINES

History of Double Bonding for Reclamation Liability

- The Nunavut Water Board has ruled that reclamation activities cannot be separated between land and water. They are interrelated.
- Trying to isolate water related reclamation from land related reclamation activities leads to inefficient reclamation completed at much higher cost (potentially doubles project management, administration, mobilization costs, etc.)
- On large scale projects this double bonding add tens of millions of $ to the reclamation bonding requirements
- This makes development of mining projects on IOL unattractive and potentially penalizes Inuit beneficiaries without providing any improvement in protection
- This double bonding issue is unfair to industry and to Inuit and needs to be resolved by the Federal Government. The securities working group has been trying to reach some form of agreement but, to date, has not been successful in reaching a solution

NWT & NUNAVUT CHAMBER OF MINES

Suggested Path Forward on Closure Guidelines and Models

- Effective guidelines already in place
  - Mine Site Reclamation Guidelines for the NWT (January 2007)
    - provide guidance on how to develop, operate, and close mine sites in a manner that promotes effective reclamation.
  - Individual DIO's (in some cases) have developed their own guidelines
  - Industry believes RECLAIM Model remains an effective tool for developing closure costs

NWT & NUNAVUT CHAMBER OF MINES

Pros of RECLAIM

- Effective tool in breaking down costs between land and water
- Breaks mining operations into manageable components (e.g. open pit, labour, tailings etc.)
- Unit costs are broken down into low/medium/high (useful pending location of mine)
- Designed for Northern jurisdiction

NWT & NUNAVUT CHAMBER OF MINES

Pros of RECLAIM - Closure Cost Estimate

CAPITAL COSTS **SUMMARY OF COSTS**

COMPONENT TYPE	COMPONENT NAME	TOTAL COST	LAND LIABILITY	WATER LIABILITY
OPEN PIT	Mary River Mine Pit	$0	$0	$0
	Bulk Sample Pit	$0	$0	$0
	Mineral Exploration Areas	$59,589	$59,589	$0
UNDERGROUND MINE	-	$0	$0	$0
TAILINGS	-	$0	$0	$0
ROCK PILE	Mary River Stockpile	$0	$0	$0
BUILDINGS AND EQUIPMENT	Milne Site	$0	$0	$0
	Tote Road	$0	$0	$0
	Mary River Mine	$0	$0	$0
	Railway	$0	$0	$0
	Steensby Port	$0	$0	$0
	Mineral Exploration Areas	$9,326	$9,326	$0
	Remote Sites	$102,792	$102,792	$0
	Mid-Rail Camp	$136,168	$136,168	$0
	Steensby Inlet Camp	$699,141	$699,141	$0
CHEMICALS AND SOIL MANAGEMENT		$0	$0	$0
WATER MANAGEMENT		$14,808	$0	$14,808
POST-CLOSUREMONITORING AND MAINTENANCE		$0	$0	$0
	SUBTOTAL	**$1,021,824**	**$1,007,016**	**$14,808**
		PERCENTAGES	**99%**	**1%**
MOBILIZATION/DEMOBILIZATION		$0	0	0
PROJECT MANAGEMENT	5%	$51,091	$50,351	$740
Bonding	1%	$10,218	$10,070	$148
Taxes (GST on supplies) - est.	allowance	$0	$0	$0
Insurance	1%	$10,218	$10,070	$148
ENGINEERING	5%	$51,091	$50,351	$740
CONTINGENCY	10%	$102,182	$100,702	$1,481
Market Price Factor Adjustment	0%	$0	$0	$0
GRAND TOTAL - CAPITAL COSTS		**$1,246,625**	**$1,228,560**	**$18,066**

NWT & NUNAVUT CHAMBER OF MINES

Cons of RECLAIM

- If not up to date, Unit Rates can create inaccurate numbers
- Subjective – requires “judgement” calls by experienced engineers
- Requires agreement on assumptions by all parties in order to achieve acceptable number
- Model, in and of itself, will not provide a remedy to the issue of double bonding (*NO* model can achieve this)

NWT & NUNAVUT CHAMBER OF MINES

One Plan / One Cost / One Security

- There appears to be agreement from working group and industry on one plan
  - To meet requirements for NWB, AANDC, and DIO lease requirements
- One Cost to be broken down between land and water
- Outstanding issue is Security
  - How is it to be split up

NWT & NUNAVUT CHAMBER OF MINES

Focus Must be on Splitting Security and Avoiding Double Bonding

- No need to revisit guidance for creating a Closure and Reclamation Plan
  - Current INAC/AANDC Model is sound
- RECLAIM template is still valid
  - Effective mechanism for splitting bond between land and water
  - Just need to focus on the issue of how the RIO and GC share management control over the security

NWT & NUNAVUT CHAMBER OF MINES

Options for How to Hold Security

- Option 1
  - AANDC holds the full reclamation security. INAC and DIO would have an agreement covering how they could jointly manage reclamation activity if the proponent fails to meet its reclamation obligation
- Option 2
  - AANDC and DIO split security. AANDC holds water, DIO holds land (i.e., with no overlap). DIO and AANDC have an agreement that sets out how they will jointly manage reclamation. (could be one Letter of Credit that names the various beneficiaries and their share)
- Option 3
  - DIO holds the full reclamation security. AANDC and DIO would have an agreement covering how they could jointly manage reclamation activity if the proponent fails to meet its reclamation obligation.
- Option 4
  - Find a way to share bonding that indemnifies the land owner

NWT & NUNAVUT CHAMBER OF MINES

Reclamation Cost Estimating – How is it done elsewhere?

- Some other jurisdictions with reclamation cost estimating spreadsheets or specific guidance on how mine reclamation costs are to be estimated:
  - British Columbia: http://www.empr.gov.bc.ca/Mining/Permitting-Reclamation/Costing-Security/Pages/default.aspx
  - Nevada: http://www.nvbond.org/downloads.htm
  - Alaska (Pogo Mine example): http://www.google.ca/search?sourceid=navclient&ie=UTF-8&rlz=1T4AURU_enCA501CA501&q=Pogo+Mine+Reclamation+Cost+Estimate
  - California: http://www.conservation.ca.gov/omr/financial_assurances/Pages/index.aspx
  - Mine Operations on BLM Lands: http://search.usa.gov/search?affiliate=blm.gov&query=Reclamation+Cost+Estimation

NWT & NUNAVUT CHAMBER OF MINES

Reclamation Cost Estimators Used in Other Jurisdictions

Commonalities

- All are spreadsheet based;
- Assume reclamation to be conducted by a third party (regulatory agency or contractor);
- List of Reclamation Tasks to be conducted for each component of the mine;
- Estimate of amount of work to be carried out (i.e., cubic meters, hectares, person-hours, equipment-hours, lump sum costs);
- All include factors for project management, engineering, contingency allowance;
- All include post reclamation maintenance, water treatment, monitoring;
- All include mobilization/demobilization costs.

Differences

- Some include inflation allowances;
- Some include cost for bonding and insurance.

NWT & NUNAVUT CHAMBER OF MINES

Reclamation Cost Estimators Used in Other Jurisdictions – Common Principles

In most jurisdictions the amount of financial assurance is to be:

- Calculated by the mine operator using a licensed engineer or other recognized professional experienced in the reclamation of mined lands;
- Based on an analysis of the physical activities necessary to implement the approved reclamation plan;
- Based on third party contractor unit rates or unit rates supplied by lead agency for each of the described physical activities;
- The number of units required to perform each of the activities;
- A contingency allowance (most in the 10% to 15% range);
- Agreed upon administrative costs for the lead agency.

NWT & NUNAVUT CHAMBER OF MINES

Industry Position – Continue to Use RECLAIM – Don't fix what is not broken – Focus on fixing how security is shared

- In our view, there is no need to create a new Reclamation Costing Spreadsheet for Nunavut. We should work with RECLAIM and recognize its limitations and adjust accordingly;

- No model can replace professional experience and/or judgement;

- Estimates need to be prepared by licensed/experienced professionals in mine reclamation;

- Unit Costs have to be developed for each specific minesite based on actual experience for that area and with input from northern experienced contractors.

NWT & NUNAVUT CHAMBER OF MINES

THE "RECLAIM" MODEL

M. John Brodie, P. Eng.
Brodie Consulting Ltd., West Vancouver, B.C.

&

David Milburn
Department of Indian Affairs and Northern Development, Yellowknife, N.W.T.

NORTHERN LATITUDES MINING RECLAMATION WORKSHOP
Whitehorse, Yukon
October 2001

INTRODUCTION

The mining industry, historically, has been a mainstay of North American and specifically Canadian economic development and we have benefited greatly from this industrial activity. For various reasons, however, some mines close before site reclamation is complete, which can result in environmental problems and costly cleanup problems to the land owner – usually the state, provincial or federal governments. In the United States alone, it has been stated that there are over 500,000 abandoned mines that have left a legacy of 12,000 miles of polluted streams (BLM). Most of these mines did not have any or even adequate reclamation security and the liability to the state or federal governments in 32 states is in the order of $35 billion (USEPA, 2000). The situation in Canada, while not having the same magnitude as our southern neighbors presents a significant challenge to regulatory agencies. Mining Watch Canada (2000) estimates quite liberally that there may be over 10,000 abandoned mines across the country and suggests a preliminary estimate of liability to the Federal Government is over one billion dollars. It does not indicate if these properties were properly abandoned, the scale of the original activity or if there are ongoing liabilities from all sites. Interestingly, the estimated that environmental liability from abandoned mines in northern Canada ranges between one half and a billion dollars (DIAND, 2001).

The RECLAIM model was developed model was originally developed in 1992 by SRK to assist the Department of Indian Affairs and Northern Development (DIAND) to estimate first-order reclamation costs at existing or new mine sites in the Northwest Territories and Yukon and to assist regulators, mine operators and other stake-holders to better understand mine site reclamation liabilities. This spreadsheet serves as a checklist to ensure that all elements of site reclamation are included in a liability assessment.

The model has been updated three times based on feedback from a number of users. The most recent modification incorporates a data base of unit costs for reclamation activities

based on operating experience at northern sites. In addition, the model now includes sections for estimating post-closure water treatment requirements and means to estimate the net present value of long-term maintenance or water treatment.

The model has been applied to more than 20 sites in Canada, mostly in the north. It was recently applied to the Diavik Diamonds Mine Inc. site at Lac de Gras, Northwest Territories, where the estimated reclamation liability is $187 million.

LEGISLATION AND THE NEED FOR FINANCIAL ASSURANCE

The need for adequate financial assurances for operations with potential to result in liabilities to the federal, state or provincial governments in the United States and Canada has resulted in new or amended legislation to deal with this growing problem. In the United States, for example, the House of Representatives recently passed an amendment to the *Interior Appropriations Bill* requiring financial guarantees for all mining operations to ensure that companies pay the costs of reclaiming federal lands.

THE GOVERNMENT OF CANADA

At the federal level in Canada, the Treasury Board, in its recent policy on federal contaminated sites advises all federal departments to take appropriate action to ensure that parties responsible for contaminating sites are held financially liable for any damages that they may cause. The Government of Canada has signaled that it is not prepared to put the burden of cleaning up abandoned sites on the taxpayer. Through its Minerals and Metals Policy (Natural Resources Canada, 1996), the Government of Canada recognized the importance of minesite reclamation and stated "the Government will ensure that, as a condition for mine development on federal lands, comprehensive plans for the reclamation of disturbed areas are developed, including the provision of satisfactory financial assurances to cover the costs of reclamation and, where necessary, long-term maintenance," (p. 14).

The Canadian Nuclear Safety Commission, in its G-206 Regulatory Guide for Financial Guarantees for the Decommissioning of Licensed Activities (CNSC, 2000) requires credible estimates of decommissioning costs and measures to ensure costs of decommissioning will be met.

PROVINCE OF ONTARIO

Provincially, the Ontario Ministry of Environment and Energy (MOEE), through its *Environmental Protection Act* and *Ontario Water Resources Act*, and the Ministry of Northern Development and Mines through the *Mines Act* [correct name] require financial security to ensure funds are available for future cleanup and remediation for a range of licensed or permitted industrial and municipal sites. MOEE states clearly that the purpose of financial assurances is to ensure sufficient funds are available for decommissioning, cleanup rehabilitation and perpetual care at future dates from industrial and municipal activities. Although some guidance is given for cost estimation of a financial assurance, no specific methodology or models are provided to assist operators.

Its guide for financial assurance (MOEE, 1996) gives some example of areas to be covered in a calculation, but no specific methodology is provided.

PROVINCE OF BRITISH COLUMBIA

The *Mines Act* in British Columbia, for the period 1969 to 1989, required reclamation bonds with a limit of $1000 per hectare. This amount was later raised to $2,000 per hectare. However, during the 1980's, the Provincial government recognized that the actual reclamation costs were actually much higher than the cost per hectare calculation. In 1990, the *Mines Act* and the *Health, Safety, and Reclamation Code* were revised and the bonding limit removed. Cost estimates of reclamation liabilities were now to be included in the mine development permitting process. In 1995, the reclamation costing spreadsheet format was accepted and is being used the project approval processes. The Ministry of Energy and Mines, Energy and Minerals Division, Mines Branch currently uses the "Mine Reclamation Costing and Spreadsheet", version 3.5.1, dated January 2000. Additionally, a number of senior mining companies have developed reclamation estimates based on their Mine Plan and costs, on-site reclamation methodology and costs, and preferred software.

NORTHERN CANADA

DIAND has clearly recognized the need for a comprehensive mine site reclamation policy and in January 2001, released as a consultation document, its discussion paper on reclamation aimed to protect the environment and reduce the government's liability from mine closures (DIAND, 2001). The Department suggests that the cumulative value of metal and mineral production in the Northwest Territories, Yukon and Nunavut since 1977 is over $18 billion, which is offset by outstanding liabilities for mining properties of almost $439 million. Over half of this amount is from a single property in Yellowknife that went into receivership in 1999.

Water-related activities from industrial operations in the Northwest Territories, Yukon and Nunavut are governed by the *Northwest Territories Waters* Act (NWTWA) and *the Yukon Waters Act* (YWA), which were promulgated in 1992 to replace *the Northern Inland Waters Act*. By reference in the *Mackenzie Valley Resource Management Act* (MVRMA), the NWTWA provides the same authority to the Mackenzie Valley Land and Water Board (MVLWB). In the absence of water legislation in Nunavut, the security deposit provisions of the NWTWA apply to that territory. A major change in the new water legislation was the ability of the water boards to place a security deposit, or financial assurance, requirement in water licences to match anticipated reclamation costs if the operator defaulted. Accordingly, the water boards in the Northwest Territories, Nunavut and Yukon have required from licensees, primarily mine sites, security deposits. Recently, the Northwest Territories Water Board has required security deposits for oil and gas exploration activities including seismic camps, exploratory drill rigs and permanent camps. All securities are maintained with the Minister of DIAND.

RECLAIM MODEL

To better enable the Department to estimate the potential liability to the Crown from mining operations, an innovative model - RECLAIM - was developed. It addresses a number of criteria that were identified by SRK and DIAND that include the following:

- User-friendly
- Operate on standard personal computers
- Use readily available commercial software
- Comprehensive in its coverage of mining components
- Flexible to meet unusual circumstances
- Industry and regulatory agency acceptance

It was recognized that reclamation requirements for each mine site are always unique and one cost estimating model cannot cover the full range of conditions that could be encountered. However, RECLAIM is sufficiently comprehensive and flexible to provide a forecasting tool to meet most reclamation situations. It can be easily modified for the specific needs of a given project. RECLAIM was developed with a user friendly format that allows calculation of site reclamation cost with a minimum of effort.

Since 1992 it has been applied to a number of base metal, gold and diamond mines in the three territories (Table 1.) to estimate the cost of mine reclamation and to recommend amounts of security deposits to the water boards

Table 1. Completed RECLAIM Applications in the NWT, Yukon and Nunavut

SITE	TYPE & RESERVES	ARD	POST-CLOSURE ACTIVITY	ESTIMATED LIABILITY
Northwest Territory				
Con	U/G, gold	no	pending review	
Colomac	O/P, gold	no	no	<$10 million
Diavik	O/P, diamonds	yes	no	~$187 million
Tom	U/G, gold	no	no	<$0.5 million
Ekati	O/P, diamonds	minor	no	~$86 million
Yukon				
Mt. Nansen	U/G & O/P, gold	yes	yes	up to $8 million
Ketza River	U/G, gold	no	no	~$1.1 million
Brewery	O/P, heap	no	no	~$22 million

Cr.	leach gold			
Nunavut				
Lupin	U/G, gold	yes	no	~$44 million
Nanisivik	U/G, lead/zinc	no	no	~>$12 million

O/P = open pit mine; U/G = underground mine

The model is not intended to replace site reclamation planning, nor can it be used to determine the activities required for site reclamation. It is not intended to dictate to mining companies how much should be spent on reclamation, rather, it is simply intended as a tool to facilitate cost estimating and to compare costs of alternative reclamation plans. However, the model is laid out such that it serves as a checklist to ensure that all potential reclamation activities are included in the cost estimate. To use the model effectively, it is critical that a comprehensive mine closure plan should first be prepared for the site.

Version 1. of RECLAIM was prepared in 1992 as a Lotus 1-2-3 spreadsheet and has been updated several times since then. The initial responses from industry and regulatory agencies were favorable and the model proved to be an effective tool for these users. The current version has been prepared in Microsoft EXCEL in response to the comments of the industry uses.

In its most simple embodiment, RECLAIM is basically a tool to aid in the calculation and presentation of "quantity of work" multiplied by "unit cost for the work". For example, a reclamation activity may involve using a dozer to contour overburden in a disturbed area. If the quantity of soil to be dozed is 500 m3 and the unit cost is $0.75/m3, then the cost for that reclamation activity would be $375. RECLAIM is designed to assist the user in making this type of calculation for all reclamation activities for a mine site.

There are two main aspects to the RECLAIM model; the works sheets where reclamation activities are defined and cost calculated, and the unit cost table. These are described separately as follow.

RECLAIM WORKSHEETS

The model was developed to include the major components of a mine and to be readily adapted to suit any mine configuration. There are 12 reclamation costing tables, each on a separate work sheet within the spreadsheet, that are used to compute the overall cost of reclaiming a mine site:

open pit;
underground mine;
tailings impoundment;
rock pile;
buildings and equipment;
chemicals and contaminated soils;

water management;
mobilization and demobilization;
monitoring and maintenance;
post closure activities;
ongoing water treatment, and,
summary table.

An example of the open pit worksheet is shown in Figure 1. The worksheets for open pit, underground, tailings impoundment and rock piles may be duplicated for sites where there is more than one of these components.

RECLAIM lists many common reclamation activities for each costing component. These default lists will likely cover the majority of reclamation activities required for decommissioning a given mine. However, the default lists are not comprehensive because the operation of the spreadsheet would otherwise become quite cumbersome. If a desired activity is missing from the default lists, the user may modify text within this area of the spreadsheet. Being a generic spreadsheet, some of the default activities will not be applicable to the user's study, thus providing potential spaces to be overwritten by new reclamation activities.

UNIT COST TABLE

The unit cost table contains a list of all of the common reclamation activities that may be carried out at a particular mine site and the associated unit costs for each activity. A range of costs is given as defaults; however, the user can change the range or use a specified cost. To the extent achievable, all of the unit costs in the table have been derived from actual reclamation work conducted in the north.

RECLAIM has over 160 unit costs in 45 groups of typical reclamation activities. These

	Open Pit Name: *PIT 1*			Pit # *1*		
	ACTIVITY/MATERIAL	**UNITS**	**QUANTITY**	**COST CODE**	**UNIT COST**	**COST**
A	OBJECTIVE: CONTROL ACCESS					
	Fence	m		#N/A	0	$0
.	Signs	each		#N/A	0	$0
.	Ditch, mat'l A	m3		#N/A	0	$0
.	, mat'l B	m3		#N/A	0	$0
.	Berm	m3	3650	SB2H	5.43	$19,820
.	Block roads	m3	630	SB1L	2.91	$1,833
.	Other			#N/A	0	$0
B	OBJECTIVE: STABILIZE SLOPES					
.	Off-load crest, mat'l A	m3		#N/A	0	$0
.	, mat'l B	m3		#N/A	0	$0
.	buttress slope	m3		#N/A	0	$0
.	, fill mat'l A	m3		#N/A	0	$0
.	, fill mat'l B	m3		#N/A	0	$0
.		m		#N/A	0	$0
.	Pumping, pumps	each		#N/A	0	$0
.	, pipes	m		#N/A	0	$0
.	, power	kWh		#N/A	0	$0
.	Other			#N/A	0	$0
C	OBJECTIVE: COVER/CONTOUR SLOPES					
.	Fill, mat'l A	m3		#N/A	0	$0
.	, mat'l B	m3		#N/A	0	$0
.	Rip rap	m3		#N/A	0	$0
.	Vegetate	ha		#N/A	0	$0
.	Other			#N/A	0	$0
.	OBJECTIVE: SPILLWAY					
.	Excavate channel, mat'l A	m3		#N/A	0	$0
.	, mat'l B	m3		#N/A	0	$0
.	Concrete	m3		#N/A	0	$0
.	Rip rap	m3		#N/A	0	$0
.	Other			#N/A	0	$0
E	OBJECTIVE: FLOOD PIT					
.	Ditch, mat'l A	m3		#N/A	0	$0
.	, mat'l B	m3		#N/A	0	$0
.	Embankment, mat'l A	m3		#N/A	0	$0
.	, mat'l B	m3		#N/A	0	$0
.	Remove pipes etc.	each		#N/A	0	$0
.	LIme addition, kg/m3 of water	tonne		#N/A	0	$0
.	Lime, purchase and shipping	tonne		#N/A	0	$0

FIGURE 1
MODEL INPUT AREAS FOR COSTING COMPONENTS

Unit Cost Table

ITEM	Detail	COST CODE	UNITS	LOW $	HIGH $	SPECIFIED $	
1	**excavate Rock, Bulk**						COMMENTS
	drill, blast, load short haul (<500m) Dump	RB1	m3	8.5	12.75	#N/A	quarry operations for bulk fill
	RB1 + long haul, up to 1500 m	RB2	m3	9	13.25	#N/A	
	RB1 + spread and compact	RB3	m3	9	13.25	#N/A	
	RB1 + long haul + spread and compact	RB4	m3	9.5	13.75	#N/A	
	RB1 + Specified activity	RBS	m3	#N/A	#N/A	#N/A	
2	**excavate Rock, Controlled**						
	drill, blast, load short haul (<500m) Dump	RC1	m3	20	30	#N/A	spillway excavation
	RC1 + long haul, up to 1500 m	RC2	m3	9.5	13.75	#N/A	
	RC1 + spread and compact	RC3	m3	9	13.25	#N/A	
	RC1 + long haul + spread and compact	RC4	m3	10.1	14.3	#N/A	
	RC1 + Specified activity	RCS	m3	#N/A	#N/A	132	$132/M3-drift excavation
3	**excavate Soil, Bulk**						
	excavate, load short haul (<500m) dump	SB1	m3	2.91	4.4	#N/A	LOW cost: excavation of loose soil, high volume
	SB1 + long haul, up to 1500 m	SB2	m3	3.61	5.43	#N/A	LOW cost: excavation of loose soil, 1.5 km haul, high volume
	SB1 + spread and compact	SB3	m3	3.34	4.83	#N/A	
	SB1 + long haul + spread and compact	SB4	m3	4.05	8.14	#N/A	LOW cost: excavation of loose soil, 1.5 km haul, high volume, const. of simple soil cover
	SB1 + Specified activity	SBS	m3	2.1	5.8	9.95	LOW cost: rehandle waste rock dump into pit, >500,000 m3, 2 km haul SPECIFIED cost: rehandle waste rock, haul 3 km, place & compact on dam

FIGURE 2
UNIT COST TABLE

Several specific factors that should be recognized when developing a reclamation plan for a site in northern Canada are discussed below:

1. Low unit costs typically apply to work that is conducted in large volumes using appropriate equipment. Efforts to reduce mobilization costs to remote sites may result in some work being conducted with non-optimal equipment. In many cases, equipment remaining on site will be used to the maximum extent practical. This equipment may be not only less than ideal, but may also require higher maintenance because of its age. Therefore, if an accurate estimate is required, then careful consideration to the type of equipment to be used is necessary. Generally, this is less of a factor for sites with road access than for sites accessible only by air or water.

2. Some activities are best conducted in summer, such as placement and compaction of soils, while others may require winter (i.e. frozen) conditions, for trafficability reasons. Reclamation activities may need to be extended over several seasons at some northern sites.

This paper does not attempt to provide detailed instructions on the use and operation of RECLAIM. A user guide has been prepared for use with the model for this purpose. Both the model and the guide can be obtained free of charge from the contacts listed at the end of this paper.

A feature of the layout of the worksheets is that a user can readily conduct sensitivity analyses, such as the difference that may arise from a change in tailings cover thickness by simply changing the quantities of work. Similarly, changing the unit cost would show how the overall cost may be affected if some of the reclamation activities were more difficult to complete due to weather or site conditions.

TYPICAL GOVERNMENT USE

It is expected that the government would be conducting reclamation work only if the responsible parties do not carry the necessary tasks. An estimate for the cost of work under these conditions should be based upon the following assumptions:

- the company goes bankrupt or abandons the property,
- no allowance for progressive reclamation until after it is completed,
- all work is based on independent contractor rates,
- all costs are Canadian dollars,
- the cost estimate does not include revenue from recovery of assets,
- the mine is developed substantially as planned,
- the estimate does not include costs for catastrophic events such as failure of dams, dikes or dump slopes.

It is recognized that calculation of the reclamation liability without allowance for progressive reclamation is financially punitive to mine operators. However, until this work is completed it is still an outstanding liability just like any reclamation that is put off until final closure of the mine. Therefore, financial security should be established to

ensure that this work is conducted as proposed. If the company carries out progressive reclamation as proposed, then in most cases, the company's actual costs will be much lower than the estimated cost. Once the work is completed, the company could apply for a reduction in the reclamation security.

In addition to the above points, DIAND will include in the reclamation liability estimate the following considerations:

- an allowance to manage poorly or optimistically designed elements of the mine plan,
- an allowance for site access,
- an allowance for engineering and project management,
- an allowance for reclamation research,
- a contingency allowance which reflects risk associated with uncertainties and the degree of confidence in the mine plan.

In cases where long-term active care is expected at a site, DIAND will estimate the net present value of the future series of costs using a real rate of return of about 3% per annum. This will have the effect of making the net present value of the future costs equal to approximately 33 times the annual cost. The determination of the future series of costs will include all parameters, including: site access, monitoring, labour, fuel, and all reagents and supplies.

INDUSTRY USE

RECLAIM can also be used by industry. Corporations may wish to develop their own estimate for security purposes. More commonly, industry users will wish to use RECLAIM to estimate the cost of reclamation for the case where they: operate the mine as planned, carry out progressive reclamation wherever practical, carry out reclamation research as needed, and modify the mine plan throughout operation in order to minimize the ultimate reclamation liability and particularly post-closure liabilities.

Corporations who are evaluating potential acquisitions, particularly current or past–producing sites, should use RECLAIM so that the liabilities associated with and acquisition is quantified.

CONCLUSIONS

- The use of RECLAIM requires a good reclamation plan. Ideally, the plan should be based upon detailed engineering, comprehensive site characterization and the performance of site specific progressive reclamation activities.
- RECLAIM users should make a clear statement of their assumptions so that others may understand the perspective upon which the estimate was based. Industry in-house costs for self-managed reclamation are likely to be lower than government managed contractor based reclamation.
- The degree of confidence in the estimate depends upon the quality of the reclamation plan and the knowledge regarding suitability of proposed reclamation measures

The RECLAIM model can be obtained free of charge from the INAC website: http://www.ainc-inac.gc.ca/nt/wrd/rred_e.html. or Brodie Consulting Ltd., email; mjohnbrodie@home.com.

REFERENCES

DIAND, RECLAIM Model Version 4.1 and Users Guide, 2001, prepared by Brodie Consulting Ltd.

DIAND, RECLAIM Model Version 1.1 and Users Guide, 1992, prepared by SRK Canada Ltd.

Bureau of Land Management News, 2001, BLM to Retain Financial Guarantee Rule for Hardrock Mining, News Release, June 14, 2001.

Canadian Nuclear Commission, 2000, Financial Guarantees for the Decommissioning of Licensed Activities, Regulatory Guide G-206, Ottawa, Ontario.

Department of Indian Affairs and Northern Development, 2001, Towards a Mine Reclamation policy for the Northwest Territories, Minerals Directorate, DIAND, Ottawa.

Mining Watch Canada, 2000, Mining's Toxic Orphans: A Plan for Action on Federal Contaminated Mine Sites, Report submitted to eight federal government ministers.

Ministry of Environment and Energy, 1996, Financial Assurance (Part XII - Ontario Environmental Protection Act) A Guide, Economic Services Branch, Ontario Ministry of Environment and Energy.

Natural Resources Canada, 1996, The Minerals and Metals Policy of the Government of Canada, Partnerships for Sustainable Development, Ottawa, Ontario.

United States Environmental Protection Agency, Liquid Assets, America's Water Resources at a Turning Point, Office of Water, Report EPA-840-B-00-001.

ABSTRACT

The mining industry, historically, has been a mainstay of Canadian economic development and we have benefited greatly from this industrial activity. For various reasons, however, some mines close before site reclamation is complete, which can result in environmental problems and costly cleanup problems to the land owner – usually the provincial or federal governments. It has been estimated that environmental liability from abandoned mines in northern Canada ranges between one half and a billion dollars. To better understand mine site reclamation liabilities, the RECLAIM model was developed to assist regulators, mine operators and other stake-holders in estimating the cost of mine site reclamation. This spreadsheet model was originally written in 1992. It serves as a checklist to ensure that all elements of a site reclamation are included. The most recent modification incorporates a data base of unit costs for reclamation activities based on experience at northern sites. In addition, the model now includes sections for estimating post-closure water treatment requirements and means to estimate the net present value of long-term maintenance or water treatment. The model has been applied to more than 20 sites in Canada, mostly in the north. It was recently applied to the Diavik Diamonds Mine Inc. site, Northwest Territories, where the estimated reclamation liability is $187 million.

Changes Since Last Issue	Building Location, Number and Name								Procurement	Building Size & Footprint Area								Building Structure			Contained Facilities					Building Services																		
	FBS Number	Location	Area	Facility	Sequence Number	Building/Equipment Number	Building Name	Comments	Building Supply Package	No. of Storeys	Occupancy	Width (ft) *Out to Out of Cladding*	Length (ft) *Out to Out of Cladding*	Bldg. Ht. (ft) *Grade to Ridge*	Building Footprint (ft^2)	Floor Area (ft²) *(All Storeys)*	Occupancy Classification	Building Type *(See Legend)*	Foundation Type *(See Legend)*	Floor Finish *(See Legend)*	Offices & Similar Facilities (Furnished)	Washroom(s)	Dining / Lunchrooms / Kitchen (Furnished)	Dormitory Rooms (Furnished)	Special Rooms / Functions (Furnished)	Temperature *A:Ambient/Unheated or Temp in deg C*	Heating *E:Electric, D:Diesel, M:Mobile heaters*	Mechanical Ventilation	Air Conditioning	Raw Water *T:Tank or P:Piped supply*	Potable Water *B:Bottled or P:Piped Supply*	Sanitary Sewage *T:Local tank or P:Pumped and piped*	Fire Water Sprinkler System *L:Local system or P:Piped service*	Other Fire Supression *(HP-CO2 etc.)*	Addressable Fire Detection & Alarm System	Smoke Alarm (no signal sent)	Electrical Service *D:Distribution system, L:Local Genset*	Data Service/External Distribution *F:Fibre optic, C:Cat6 cable M: microwave X: Coaxial Cable*	IT Connectivity for Construction *F:Fibre Optic, C:Ethernet Cable M:Local microwave*	Satellite TV Service
	2110	Milne Port	General	Communication and IT Infrastructure	001	2110-BLD-001	Communication Shed		PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
	2223	Milne Port	Marine	Ore Dock	001	2223-BLD-001	Dock Office	Re-use/relocate construction trailer(s)	-	1		12.0	40.0	8.0	480	480		TS	GB	RA	●	●	-	-	▬	22	E	▬	-	T	B	T	-	-	●		D	M	-	-
●	2342	Milne Port	Material Handling	Stockpile	001	2342-BLD-001	Shiploading E-House		PM002	1	-	-	-	-	-	-		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	●	-	D	M	-	-
	2351	Milne Port	Material Handling	Ship Loading	001	2351-SL-001	Shiploader E-House #1	Located on Shiploader #1	PM002	1	-	tbd	tbd	tbd	tbd	tbd		tbd	tbd	tbd	-	-	-	-	-												-	-	-
	2351	Milne Port	Material Handling	Ship Loading	002	2351-SL-002	Shiploader E-House #2	Located on Shiploader #2	PM002	1	-	tbd	tbd	tbd	tbd	tbd		tbd	tbd	tbd	-	-	-	-	-												-	-	-
	2511	Milne Port	Non Process Facilities	Accommodations Area	001	2511-BLD-001	Accommodation Service Core		TX001	1	-	60.0	249.0	13.0	14,940	14,940		SM	GB	RA	●	●	●	-	●	22	D	●	●	-	P	P	P	●	●	-	D	F / F	M	●
	2511	Milne Port	Non Process Facilities	Accommodations Area	002	2511-BLD-002	Accommodation Office		TX001	1	33	60.0	60.0	13.0	3,600	3,600		SM	GB	RA	●	●	-	-	●	22	D	●	-	-	P	P	-	-	●	-	D	C	C	-
	2511	Milne Port	Non Process Facilities	Accommodations Area	003	2511-BLD-003	Accommodation Laundry		TX001	1	5	60.0	76.0	13.0	4,560	4,560		SM	GB	RA	●	●	-	-	●	22	D	●	-	-	P	P	-	-	●	-	D	C	C	-
●	2512	Milne Port	Non Process Facilities	Accommodations Area	001	2512-BLD-001	Accommodation Wing BA		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	2512	Milne Port	Non Process Facilities	Accommodations Area	002	2512-BLD-002	Accommodation Wing BB		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	2512	Milne Port	Non Process Facilities	Accommodations Area	003	2512-BLD-003	Accommodation Wing BC		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	2512	Milne Port	Non Process Facilities	Accommodations Area	004	2512-BLD-004	Accommodation Wing BD		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
	2513	Milne Port	Non Process Facilities	Accommodations Area	001	2513-BLD-001	Emergency Response Office		PX001	1	18	24.0	40.0	8.0	960	960	D	TM	CB	RA	●	●	-	-	●	22	E	-	-	T	B	T	-	-	●	-	D	F	M/C	-
	2513	Milne Port	Non Process Facilities	Accommodations Area	002	2513-BLD-002	Emergency Response Garage		PX002	1	5	50.0	60.0	20.0	3,000	3,000	F-3	FO	PF	SOGD	-	-	-	-	-	5	D	●	-	-	-	-	-	-	●	-	D	F	C	-
	2521	Milne Port	Non Process Facilities	Services Area	001	2521-BLD-001	Maintenance Building		PX002	1	10	60.0	160.0	25.0	9,600	9,600	F-2	FO	PF	SOGD	-	-	-	-	-	22	D	●	-	T	-	-	-	-	●	-	D	F	-	-
	2521	Milne Port	Non Process Facilities	Services Area	002	2521-BLD-002	Welding Shop Building		PX002	1	5	40.0	40.0	25.0	1,600	1,600	F-2	FO	PF	SOG	-	-	-	-	-	22	D	●	-	-	-	-	-	-	●	-	D	F	-	-
	2521	Milne Port	Non Process Facilities	Services Area	003	2521-BLD-003	Workshop Office Building		PX001	1	32	48.0	60.0	8.0	2,880	2,880	D	TM	CB	RA	●	-	●	-	●	22	E	-	-	-	B	-	-	-	●	-	D	F	M	-
	2521	Milne Port	Non Process Facilities	Services Area	004	2521-BLD-004	Workshop Office Washcar		PX001	1	9	12.0	32.0	8.0	384	384	F-3	TS	CB	RA	-	●	-	-	-	22	E	-	-	T	-	T	-	-	-	●	D	-	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	001	2530-BLD-001	Power Generation Module #1		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	002	2530-BLD-002	Power Generation Module #2		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	003	2530-BLD-003	Power Generation Module #3		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	004	2530-BLD-004	Power Generation Module #4		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	005	2530-BLD-005	Power Generation Module #5		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	006	2530-BLD-006	Power Generation Module #6		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	007	2530-BLD-007	Power Generation Module #7		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	008	2530-BLD-008	Power Generation Module #8	Future Provision	PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	009	2530-BLD-009	Power Generation E-House #1		PE001	1	-	18.0	45.0	12.0	810	810		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	F/C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	010	2530-BLD-010	Power Generation E-House #2		PE001	1	-	18.0	45.0	12.0	810	810		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	F/C	-	-
	2530	Milne Port	Non Process Facilities	Power Generation	011	2530-BLD-011	Power Generation Stores		PE001	1	-	8.0	40.0	10.0	320	320		SC	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	-	-	-	D	-	-	-
	2540	Milne Port	Non Process Facilities	Waste Management	001	2540-BLD-001	Waste Management Building		PX002	1	2	60.0	80.0	20.0	4,800	4,800	F-1	FO	PF	SOGD	-	-	-	-	-	5	D	●	-	-	-	-	-	-	●	-	D	F/C	-	-
●	2540	Milne Port	Non Process Facilities	Waste Management	002	2540-VP-001	Waste Incinerators	3 - 20' ISO Containers	TX001	1	-	20.0	28.0	10.0	560	560		TM	GB	RA	-	-	-	-	-	5	E										D	C	-	-
●	2613	Milne Port	Fuel Systems	Fuel Dispensing Module	001	2613-FD-013	Diesel Fuel Dispensing Module	Existing	-	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-												F	-	-
	2613	Milne Port	Fuel Systems	Fuel Dispensing Module	002	2613-FD-014	Diesel Fuel Dispensing Module		PM004	1	-	8.0	40.0	8.0	320	320		SC	GB	RA	-	-	-	-	-												F	-	-
	2614	Milne Port	Fuel Systems	Fuel Dispensing Module	001	2614-FD-011	Jet-A1 Fuel Dispensing Module		PM004	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-												F	-	-
	2615	Milne Port	Fuel Systems	Marine Equipment Facility	001	2615-BLD-001	Marine Manifold Building		TM001	1	-	17.0	20.0	8.0	340	340		FO	PF	RA	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2720	Milne Port	Spare	Water Systems	001	2720-BLD-001	Water Building		PX002	1	2	60.0	70.0	20.0	4,200	4,200	F-3	FO	PF	G	-	-	-	-	-	5	D	●	-	P	-	-	-	-	●	-	D	F	-	-
	2731	Milne Port	Spare	Sewage System	001	2731-BLD-001	Sewage Chemical Storage Container		PM009	1	-	8.0	40.0	8.0	320	320		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	●	-	D	-	-	-
	2731	Milne Port	Spare	Sewage System	005	2731-VP-005	Sewage Treatment Plant		PM009	1	-	24.0	80.0	10.0	1,920	1,920		TM	GB	RA	-	-	-	-	-			●	-	-	-	-	-	-	-	-	-	C	-	-
	2732	Milne Port	Spare	Sewage System	001	2732-BLD-001	Sewage Truck Building		PX002	1	2	20.0	30.0	20.0	600	600	F-3	FO	PF	G	-	-	-	-	-	5	D	●	-	-	-	P	-	-	●	-	D	F/C	-	-
	2750	Milne Port	Spare	Power Distribution System	001	2750-BLD-001	Accomodation Area E-House #1		PE003	1	-	16.0	40.0	11.0	640	640		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	F	-	-
	2750	Milne Port	Spare	Power Distribution System	002	2750-BLD-002	Accomodation Area E-House #2		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	F	-	-
	2750	Milne Port	Spare	Power Distribution System	003	2750-BLD-003	Services Area E-House #1		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	F	-	-
	2750	Milne Port	Spare	Power Distribution System	004	2750-BLD-004	Services Area E-House #2		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	F	-	-
	2750	Milne Port	Spare	Power Distribution System	005	2750-BLD-005	Fuel Tank Farm E-House		PE003	1	-	-	25.0	-	25	25		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	●	-	-	D	F	-	-
	7231	Construction	Milne Port	Buildings, Shops & Warehouses	001	7231-BLD-001	Construction Office		PX001	1	17	48.0	60.0	8.0	2,880	2,880	D	TM	GB	RA	●	-	●	-	●	22	E	-	-	-	B	-	-	-	-	●	L	M	M	-
	7231	Construction	Milne Port	Buildings, Shops & Warehouses	002	7231-BLD-002	Aerodrome Office		PX001	1	19	12.0	60.0	8.0	720	720	A-2 / D	TS	CB	RA	●	●	-	-	●	22	E	-	-	T	B	T	-	-	●	-	L	-	M	-

Changes Since Last Issue	Building Location, Number and Name								Procurement	Building Size & Footprint Area								Building Structure			Contained Facilities					Building Services																		
	FBS Number	Location	Area	Facility	Sequence Number	Building/Equipment Number	Building Name	Comments	Building Supply Package	No. of Storeys	Occupancy	Width (ft) *Out to Out of Cladding*	Length (ft) *Out to Out of Cladding*	Bldg. Ht. (ft) *Grade to Ridge*	Building Footprint (ft²)	Floor Area (ft²) *(All Storeys)*	Occupancy Classification	Building Type *(See Legend)*	Foundation Type *(See Legend)*	Floor Finish *(See Legend)*	Offices & Similar Facilities (Furnished)	Washroom(s)	Dining / Lunchrooms / Kitchen (Furnished)	Dormitory Rooms (Furnished)	Special Rooms / Functions (Furnished)	Temperature *A:Ambient/Unheated or Temp in deg C*	Heating *E:Electric, D:Diesel, M:Mobile heaters*	Mechanical Ventilation	Air Conditioning	Raw Water *T:Tank or P:Piped supply*	Potable Water *B:Bottled or P:Piped Supply*	Sanitary Sewage *T:Local tank or P:Pumped and piped*	Fire Water Sprinkler System *L:Local system or P:Piped service*	Other Fire Supression *(HP-CO2 etc.)*	Addressable Fire Detection & Alarm System	Smoke Alarm (no signal sent)	Electrical Service *D:Distribution system, L:Local Genset*	Data Service/External Distribution *F:Fibre optic, C:Ethernet Cable M: microwave X: Coaxial Cable*	IT Connectivity for Construction *F:Fibre Optic, C:Ethernet Cable M:Local microwave*	Satellite TV Service
	~~7232~~	~~Construction~~	~~Milne Port~~	~~Buildings, Shops & Warehouses~~	~~001~~	~~7232-BLD-001~~	~~Quarry Lunchroom~~	Nuna Demob. Sept (TBC)	-	1					-	-		TS	GB	RA																	-	-	-
	~~7232~~	~~Construction~~	~~Milne Port~~	~~Buildings, Shops & Warehouses~~	~~002~~	~~7232-BLD-002~~	~~Quarry Washcar~~	Nuna Demob. Sept (TBC)	-	1					-	-		TS	GB	RA																	-	-	-
	7232	Construction	Milne Port	Buildings, Shops & Warehouses	003	7232-BLD-003	Batch Plant Office-Lunchroom-W/C	Also used for sealift offload	PX001	1	13	12.0	60.0	8.0	720	720	A-2 / D	TS	CB	RA	●	●	●	-	-	22	E	-	-	T	B	T	-	-	-	●	L	-	M	-
	~~7232~~	~~Construction~~	~~Milne Port~~	~~Buildings, Shops & Warehouses~~	~~005~~	~~7232-BLD-005~~	~~Fuel Systems Office~~	Nuna Demob. Sept (TBC)	-	1		12.0	40.0		480	480		TS	GB	RA																	-	-	-
	~~7232~~	~~Construction~~	~~Milne Port~~	~~Buildings, Shops & Warehouses~~	~~006~~	~~7232-BLD-006~~	~~Fuel Systems Lunchroom~~	Nuna Demob. Sept (TBC)	-	1		12.0	40.0		480	480		TS	GB	RA																	-	-	-
	7232	Construction	Milne Port	Buildings, Shops & Warehouses	007	7232-BLD-007	Site Services Lunchroom #1		PX001	1	30	12.0	60.0	8.0	720	720	A-2	TS	CB	RA	-	-	●	-	-	22	E	-	-	-	B	-	-	-	●	L	-	-	-
	7232	Construction	Milne Port	Buildings, Shops & Warehouses	008	7232-BLD-008	Site Services Lunchroom #2		PX001	1	30	12.0	60.0	8.0	720	720	A-2	TS	CB	RA	-	-	●	-	-	22	E	-	-	-	B	-	-	-	●	L	-	-	-
	7232	Construction	Milne Port	Buildings, Shops & Warehouses	009	7232-BLD-009	Site Services Washcar #1		PX001	1	9	12.0	32.0	8.0	384	384	F-3	TS	CB	RA	-	●	-	-	-	22	E	-	-	T	-	T	-	-	-	●	L	-	-	-
	7232	Construction	Milne Port	Buildings, Shops & Warehouses	010	7232-BLD-010	Site Services Washcar #2		PX001	1	9	12.0	32.0	8.0	384	384	F-3	TS	CB	RA	-	●	-	-	-	22	E	-	-	T	-	T	-	-	-	●	L	-	-	-
	7232	Construction	Milne Port	Buildings, Shops & Warehouses	011	7232-BLD-011	Smoke Shack		PX001	1	10	8.0	20.0	8.0	160	160	A-2	SC	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	-	-	L	-	-	-
●	7234	Construction	Milne Port	Buildings, Shops & Warehouses	001	7234-BLD-001	Toromont Britespan Workshop		TMNT	1	tbd							FA	GB	G																						
●	7234	Construction	Milne Port	Buildings, Shops & Warehouses	002	7234-BLD-002	Construction Workshop	Existing Coverall bldg in storage at Mine Site	-	1	tbd							FA	GB	G																						
●	7235	Construction	Milne Port	Buildings, Shops & Warehouses	001	7235-BLD-001	Construction Equipment Building	Existing on-site.	YX001	1		40.0	60.0		2,400	2,400		FA	PF	G																	-					
	7235	Construction	Milne Port	Buildings, Shops & Warehouses	002	7235-BLD-002	Site Services Heated Warehouse		PX004	1	5	40.0	100.0	25.0	4,000	4,000	F-3	FO	PF	G	-	-	-	-	-	22	M	●	-	-	-	-	-	-	●	D	-	M	-
	7235	Construction	Milne Port	Buildings, Shops & Warehouses	003	7235-BLD-003	Site Services Unheated Warehouse		PX004	1	2	40.0	100.0	25.0	4,000	4,000	F-3	FO	PF	G	-	-	-	-	-	A	-	-	-	-	-	-	-	-	●	D	-	-	-
	7251	Construction	Milne Port	Construction Facilities	001	7251-BLD-001	Concrete Batch Plant Building		PX004	1	5	60.0	120.0	20.0	7,200	7,200	F-3	FO	PF	G	-	-	-	-	-	22	M	●	-	-	-	-	-	-	●	L	-	-	-
	3111	Tote Road	General	Communication and IT Infrastructure	001	3111-BLD-001	Communication Shed No. 1		PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
	3111	Tote Road	General	Communication and IT Infrastructure	002	3111-BLD-002	Communication Shed No. 2		PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
	3111	Tote Road	General	Communication and IT Infrastructure	003	3111-BLD-003	Communication Shed No. 3		PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
●	3111	Tote Road	General	Communication and IT Infrastructure	004	3111-BLD-004	Communication Shed No. 4	With emergency shelter	PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
●	3112	Tote Road	General	Communication and IT Infrastructure	001	3112-BLD-001	Communication Shed No. 5	Existing tower	PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
●	3112	Tote Road	General	Communication and IT Infrastructure	002	3112-BLD-002	Communication Shed No. 6	With emergency shelter	PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
	3112	Tote Road	General	Communication and IT Infrastructure	003	3112-BLD-003	Communication Shed No. 7		PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
	3112	Tote Road	General	Communication and IT Infrastructure	004	3112-BLD-004	Communication Shed No. 8		PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
●	3113	Tote Road	General	Communication and IT Infrastructure	001	3113-BLD-001	Communication Shed No. 9	With emergency shelter	PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
	3113	Tote Road	General	Communication and IT Infrastructure	002	3113-BLD-002	Communication Shed No. 10		PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
●	3113	Tote Road	General	Communication and IT Infrastructure	003	3113-BLD-003	Communication Shed No. 11	Existing tower. With emergency shelter.	PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
●	3160	Tote Road	General	Emergency Shelters	001	3160-BLD-001	Emergency Shelter No. 1	Located at Comms Shed No. 4	PX001	1	2	8.0	20.0	8.0	160	160	A-2	SC	CB	RA	-	-	-	●	-	22	E	-	-	-	-	-	-	-	●	L	-	-	-
●	3160	Tote Road	General	Emergency Shelters	002	3160-BLD-002	Emergency Shelter No. 2	Located at Comms Shed No. 6	PX001	1	2	8.0	20.0	8.0	160	160	A-2	SC	CB	RA	-	-	-	●	-	22	E	-	-	-	-	-	-	-	●	L	-	-	-
●	3160	Tote Road	General	Emergency Shelters	003	3160-BLD-003	Emergency Shelter No. 3	Located at Comms Shed No. 9	PX001	1	2	8.0	20.0	8.0	160	160	A-2	SC	CB	RA	-	-	-	●	-	22	E	-	-	-	-	-	-	-	●	L	-	-	-
●	3160	Tote Road	General	Emergency Shelters	004	3160-BLD-004	Emergency Shelter No. 4	Located at Comms Shed No. 11	PX001	1	2	8.0	20.0	8.0	160	160	A-2	SC	CB	RA	-	-	-	●	-	22	E	-	-	-	-	-	-	-	●	L	-	-	-
●	4110	Mine Site	General	Communication and IT Infrastructure	001	4110-BLD-001	Communication Shed No. 1	Front of mountain	PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
●	4110	Mine Site	General	Communication and IT Infrastructure	002	4110-BLD-002	Communication Shed No. 2	Back of mountain - on haul road	PT002	1	-	8.0	20.0	8.0	160	160		SC	GB	RA	-	-	-	-	-	5	E	●	-	-	-	-	-	-	●	L	M,C,X	-	-
	4211	Mine Site	Mine	Explosives Facility	001	4211-BLD-001	Explosives Plant Building		SX001	1	-	40.0	92.0	10.0	3,680	3,680		TM	GB	RA																	L	M	M	-
	4212	Mine Site	Mine	Explosives Facility	001	4212-BLD-001	Explosives Shop		SX001	1	-	40.0	100.0	18.0	4,000	4,000		FO	GB	SOGD																	L	-	-	-
	4213	Mine Site	Mine	Explosives Facility	001	4213-BLD-001	Explosives Magazines		SX001	1	-	12.0	30.0	10.0	360	360		TS	GB	RA																	-	-	-	-
	4281	Mine Site	Mine	Mine Support Facilities	001	4281-BLD-001	Pit Office Building		PX001	1	28	48.0	60.0	8.0	2,880	2,880	D	TM	CB	RA	●	-	●	-	●	22	E	-	-	-	B	-	-	-	●	-	D	F	M	-
●	4281	Mine Site	Mine	Mine Support Facilities	002	4281-BLD-002	Pit Office Washcar	Relocate 7432-BLD-008	PX001	1	9	12.0	40.0	8.0	480	480	F-3	TS	GB	RA	-	●	-	-	-	22	E	-	-	T	-	T	-	-	-	●	D	-	-	-
	4381	Mine Site	Material Handling	Power Generation	001	4381-BLD-001	Crushing & Screening Electrical Trailer		PM002	1	-	8.0	53.0	14.0	424	424		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	-	?	?	?	D	C	-	-
	4382	Mine Site	Material Handling	Crushing and Screening	001	4382-BLD-001	Truck Weigh Building		PX004	1	1	30.0	120.0	20.0	3,600	3,600	F-3	FO	PF	G	-	-	-	-	-		-	-	-	-	-	-	-	-	●	-	D	F	-	-
	4431	Mine Site	Aerodrome	Aerodrome Facilities	001	4431-BLD-001	Aerodrome Office		PX001	1	19	12.0	60.0	8.0	720	720	A-2 / D	TS	CB	RA	●	●	-	-	●	22	E	-	-	T	B	T	-	-	●	-	D	M	M	-
	~~4432~~	~~Mine Site~~	~~Aerodrome~~	~~Aerodrome Facilities~~	~~001~~	~~4432-BLD-001~~	~~Aerodrome Equipment Building~~	HOLD - delete or re-use constr'n bldg	-						-	-																						-	-	-
	4435	Mine Site	Aerodrome	Aerodrome Facilities	001	4435-BLD-001	Aerodrome Field Electrical Centre		PE004	1	-	8.0	20.0	10.0	160	160		SM	GB	RA	-	-	-	-	-	22	E	●	-	-	-	-	●	●	●	-	D	F	-	-
	4511	Mine Site	Non Process Facilities	Accommodations Area	001	4511-BLD-001	Accommodation Service Core		TX001	1	-	60.0	333.0	13.0	19,980	19,980		SM	GB	RA	●	●	●	-	●	22	D	●	●	-	P	P	P	●	●	-	D	F/F	M	●
	4511	Mine Site	Non Process Facilities	Accommodations Area	002	4511-BLD-002	Accommodation Office		TX001	1	71	60.0	109.0	13.0	6,540	6,540		SM	GB	RA	●	●	-	-	●	22	D	●	-	-	P	P	-	-	●	-	D	C	C	●
	4511	Mine Site	Non Process Facilities	Accommodations Area	003	4511-BLD-003	Accommodation Laundry		TX001	1	5	60.0	76.0	13.0	4,560	4,560		SM	GB	RA	●	●	-	-	●	22	D	●	-	-	P	P	-	-	●	-	D	C	C	-
	4511	Mine Site	Non Process Facilities	Accommodations Area	004	4511-BLD-004	Accommodation Laboratory		TX001	1	5	56.0	60.0	13.0	3,360	3,360		SM	GB	RA	●	●	-	-	●	22	D	●	-	-	P	P	-	-	●	-	D	C	C	-
●	4512	Mine Site	Non Process Facilities	Accommodations Area	001	4512-BLD-001	Accommodation Wing AA		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	4512	Mine Site	Non Process Facilities	Accommodations Area	002	4512-BLD-002	Accommodation Wing AB		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	4512	Mine Site	Non Process Facilities	Accommodations Area	003	4512-BLD-003	Accommodation Wing AC		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	4512	Mine Site	Non Process Facilities	Accommodations Area	004	4512-BLD-004	Accommodation Wing AD		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	4512	Mine Site	Non Process Facilities	Accommodations Area	005	4512-BLD-005	Accommodation Wing AE		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	4512	Mine Site	Non Process Facilities	Accommodations Area	006	4512-BLD-006	Accommodation Wing AF		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
●	4512	Mine Site	Non Process Facilities	Accommodations Area	007	4512-BLD-007	Accommodation Wing AG		TX001	1	30	29.0	227.0	13.0	6,583	6,583		SM	GB	RA	-	●	-	●	●	22	E/D	●	-	-	P	P	P	-	●	-	D	C	C	●
	4513	Mine Site	Non Process Facilities	Accommodations Area	001	4513-BLD-001	Emergency Response Office		PX001	1	18	24.0	40.0	8.0	960	960	D	TM	CB	RA	●	●	-	-	●	22	E	-	-	T	B	T	-	-	●	-	D	F	M/C	-

Changes Since Last Issue	Building Location, Number and Name								Procurement	Building Size & Footprint Area							Building Structure			Contained Facilities					Building Services																	
	FBS Number	Location	Area	Facility	Sequence Number	Building/Equipment Number	Building Name	Comments	Building Supply Package	No. of Storeys	Occupancy	Width (ft) Out to Out of Cladding	Length (ft) Out to Out of Cladding	Bldg. Ht. (ft) Grade to Ridge	Building Footprint (ft²)	Floor Area (ft²) (All Storeys)	Occupancy Classification	Building Type (See Legend)	Foundation Type (See Legend)	Floor Finish (See Legend)	Offices & Similiar Facilities (Furnished)	Washroom(s)	Dining / Lunchrooms / Kitchen (Furnished)	Dormitory Rooms (Furnished)	Special Rooms / Functions (Furnished)	Temperature A:Ambient/Unheated or Temp in deg C	Heating E:Electric, D:Diesel, M:Mobile heaters	Mechanical Ventilation	Air Conditioning	Raw Water T:Tank or P:Piped supply	Potable Water B:Bottled or P:Piped Supply	Sanitary Sewage T:Local tank or P:Pumped and piped	Fire Water Sprinkler System L:Local system or P:Piped service	Other Fire Supression (HP-CO2 etc.)	Addressable Fire Detection & Alarm System	Smoke Alarm (no signal sent)	Electrical Service D:Distribution system, L:Local Genset	Data Service/External Distribution F:Fibre Optic C:Ethernet Cable M: microwave X: Coaxial Cable	IT Connectivity for Construction F:Fibre Optic C:Ethernet Cable M:Local microwave	Satellite TV Service
	4513	Mine Site	Non Process Facilities	Accommodations Area	002	4513-BLD-002	Emergency Response Garage		PX002	1	5	50.0	60.0	20.0	3,000	3,000	F-3	FO	PF	SOGD	-	-	-	-	-	5	D	•	-	-	-	-	-	-	•	-	D	F	C	-
	4521	Mine Site	Non Process Facilities	Services Area	001	4521-BLD-001	Maintenance Building		PX004	1	20	100.0	260.0	35.0	26,000	26,000	F-2	FO	PF	SOGD	-	-	-	-	-	22	D	•	-	T	-	-	-	-	•	-	D	F	M	-
	4521	Mine Site	Non Process Facilities	Services Area	002	4521-BLD-002	Warehouse		PX004	1	5	60.0	160.0	25.0	9,600	9,600	F-3	FO	PF	SOGD	-	-	-	-	-	22	D	•	-	-	-	-	-	-	•	-	D	F	M	-
	4521	Mine Site	Non Process Facilities	Services Area	003	4521-BLD-003	Welding Shop Building		PX002	1	5	60.0	70.0	25.0	4,200	4,200	F-2	FO	PF	SOGD	-	-	-	-	-	22	D	•	-	-	-	-	-	-	•	-	D	F	-	-
	4521	Mine Site	Non Process Facilities	Services Area	004	4521-BLD-004	Workshop Office Building		PX001	1	31	48.0	60.0	8.0	2,880	2,880	D	TM	CB	RA	•	-	•	-	•	22	E	-	-	-	B	-	-	-	•	-	D	F	M	-
	4521	Mine Site	Non Process Facilities	Services Area	005	4521-BLD-005	Workshop Office Washcar		PX001	1	9	12.0	32.0	8.0	384	384	F-3	TS	CB	RA	-	•	-	-	-	22	E	-	-	T	-	T	-	-	-	•	D	-	-	-
	4523	Mine Site	Non Process Facilities	Services Area	001	4523-BLD-001	Truck Wash Building		PX004	1	2	60.0	180.0	25.0	10,800	10,800	F-3	FO	PF	G	-	-	-	-	-	22	D	•	-	-	-	-	-	-	•	-	D	F	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	001	4530-BLD-001	Power Generation Module #1		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	C	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	002	4530-BLD-002	Power Generation Module #2		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	C	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	003	4530-BLD-003	Power Generation Module #3		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	C	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	004	4530-BLD-004	Power Generation Module #4		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	C	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	005	4530-BLD-005	Power Generation Module #5		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	C	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	006	4530-BLD-006	Power Generation Module #6		PE001	1	-	13.0	43.0	14.0	559	559		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	C	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	007	4530-BLD-007	Power Generation E-House #1		PE001	1	-	16.0	45.0	10.0	720	720		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	F/C	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	008	4530-BLD-008	Power Generation E-House #2		PE001	1	-	16.0	45.0	10.0	720	720		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	F/C	-	-
	4530	Mine Site	Non Process Facilities	Power Generation	009	4530-BLD-009	Power Generation Stores		PE001	1	-	8.0	40.0	10.0	320	320		SC	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	-	-	-	D	-	-	-
	4540	Mine Site	Non Process Facilities	Waste Management	001	4540-BLD-001	Waste Management Building		PX002	1	2	60.0	80.0	20.0	4,800	4,800	F-1	FO	PF	SOGD	-	-	-	-	-	5	D	•	-	-	-	-	-	•	-	-	D	F/C	-	-
	4540	Mine Site	Non Process Facilities	Waste Management	002	4540-VP-001	Waste Incinerators	3 - 20' ISO Containers	TX001	1	-	20.0	28.0	10.0	560	560		TM	GB	RA	-	-	-	-	-	5	E										D	C	-	-
	4613	Mine Site	Fuel Systems	Fuel Dispensing Module	001	4613-FD-013	Diesel Fuel Dispensing Module		PM004	1	-	8.0	40.0	8.0	320	320		SC	GB	RA	-	-	-	-	-															F	-	-
	4712	Mine Site	Site Utilities	Raw Water Intake	001	4712-BLD-001	Raw Water Pumphouse		PM003	1	-	8.0	20.0	8.0	160	160		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	D	M	-	-
	4720	Mine Site	Site Utilities	Water Systems	001	4720-BLD-001	Water Building		PX002	1	2	60.0	70.0	20.0	4,200	4,200	F-3	FO	PF	G	-	-	-	-	-	5	D	•	-	P	-	-	-	•	-	D	F	M	-
	4731	Mine Site	Site Utilities	Sewage System	001	4731-BLD-001	Sewage Chemical Storage Container		PM009	1	-	8.0	40.0	8.0	320	320		SC	GB	RA	-	-	-	-	-	5	E	•	-	-	-	-	-	•	-	D	-	-	-
	4731	Mine Site	Site Utilities	Sewage System	005	4731-VP-005	Sewage Treatment Plant		PM009	1	-	24.0	80.0	10.0	1,920	1,920		TM	GB	RA	-	-	-	-	-			•	-									C	-	-
	4732	Mine Site	Site Utilities	Sewage System	001	4732-BLD-001	Sewage Truck Building		PX002	1	2	20.0	30.0	20.0	600	600	F-3	FO	PF	G	-	-	-	-	-	5	D	•	-	-	P	-	-	•	-	D	F/C	-	-
	4750	Mine Site	Site Utilities	Power Distribution System	001	4750-BLD-001	Accomodation Area E-House #1		PE003	1	-	16.0	40.0	11.0	640	640		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	F	-	-
	4750	Mine Site	Site Utilities	Power Distribution System	002	4750-BLD-002	Accomodation Area E-House #2		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	F	-	-
	4750	Mine Site	Site Utilities	Power Distribution System	003	4750-BLD-003	Services Area E-House #1		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	F	-	-
	4750	Mine Site	Site Utilities	Power Distribution System	004	4750-BLD-004	Services Area E-House #2		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	F	-	-
	4750	Mine Site	Site Utilities	Power Distribution System	005	4750-BLD-005	Fuel Tank Farm E-House		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	F	-	-
	4750	Mine Site	Site Utilities	Power Distribution System	006	4750-BLD-006	Aerodrome Area E-House		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	-	-	-
	4750	Mine Site	Site Utilities	Power Distribution System	007	4750-BLD-007	Raw Water Supply E-House		PE003	1	-	16.0	25.0	11.0	400	400		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	-	-	-
	4750	Mine Site	Site Utilities	Power Distribution System	008	4750-BLD-008	Crushing & Screening E-House		PE003	1	-	16.0	40.0	11.0	640	640		SM	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	•	-	-	D	F	-	-
	7432	Construction	Mine Site	Buildings, Shops & Warehouses	001	7432-BLD-001	Batch Plant Office-Lunchroom-W/C		PX001	1	13	12.0	60.0	8.0	720	720	A-2/D	TS	CB	RA	•	•	•	-	-	22	E	-	-	T	B	T	-	-	-	•	L	-	-	-
	7432	Construction	Mine Site	Buildings, Shops & Warehouses	003	7432-BLD-003	Fuel Systems Lunchroom		PX001	1	30	12.0	60.0	8.0	720	720	A-2	TS	CB	RA	-	-	•	-	-	22	E	-	-	-	B	-	-	-	-	•	L	-	-	-
	7432	Construction	Mine Site	Buildings, Shops & Warehouses	004	7432-BLD-004	Fuel Systems Washcar		PX001	1	9	12.0	32.0	8.0	384	384	F-3	TS	CB	RA	-	•	-	-	-	22	E	-	-	T	-	T	-	-	-	•	L	-	-	-
	7432	Construction	Mine Site	Buildings, Shops & Warehouses	005	7432-BLD-005	Site Services Lunchroom #1		PX001	1	30	12.0	60.0	8.0	720	720	A-2	TS	CB	RA	-	-	•	-	-	22	E	-	-	-	B	-	-	-	-	•	L	-	-	-
	7432	Construction	Mine Site	Buildings, Shops & Warehouses	006	7432-BLD-006	Site Services Lunchroom #2		PX001	1	30	12.0	60.0	8.0	720	720	A-2	TS	CB	RA	-	-	•	-	-	22	E	-	-	-	B	-	-	-	-	•	L	-	-	-
	7432	Construction	Mine Site	Buildings, Shops & Warehouses	007	7432-BLD-007	Site Services Washcar #1		PX001	1	9	12.0	32.0	8.0	384	384	F-3	TS	CB	RA	-	•	-	-	-	22	E	-	-	T	-	T	-	-	-	•	L	-	-	-
	7432	Construction	Mine Site	Buildings, Shops & Warehouses	008	7432-BLD-008	Site Services Washcar #2	Relocate to 4281-BLD-002	PX001	1	9	12.0	32.0	8.0	384	384	F-3	TS	CB	RA	-	•	-	-	-	22	E	-	-	T	-	T	-	-	-	•	L	-	-	-
	7432	Construction	Mine Site	Buildings, Shops & Warehouses	009	7432-BLD-009	Smoke Shack		PX001	1	10	8.0	20.0	8.0	160	160	A-2	SC	GB	RA	-	-	-	-	-	22	E	•	-	-	-	-	-	-	-	-	L	-	-	-
•	7434	Construction	Mine Site	Buildings, Shops & Warehouses	001	7434-BLD-001	Toromont Britespan Workshop		TMNT	1	tbd							FA	GB	G																				
	7451	Construction	Mine Site	Construction Facilities	001	7451-BLD-001	Concrete Batch Plant Building		PX004	1	5	60.0	120.0	20.0	7,200	7,200	F-3	FO	PF	G	-	-	-	-	-	22	M	•	-	-	-	-	-	-	•	L	-	-	-

Date	Rev	Status	Prepared By	Checked By	Approved By	Approved By
03/09/2013	3	Approved for Use	S. Carnegie	J. Cleland	S. Perry	D. Matthews
22/07/2013	2	Approved for Use	K. Imai	J. Cleland	S. Perry	D. Matthews
10/07/2013	1	Approved for Use	K. Imai	J. Cleland	S. Perry	D. Matthews
10/04/2013	0	Approved for Use	K. Imai	J. Lemay	S. Perry	D. Matthews

NOTES

1. Occupancy for washcars is number of male water closets/urinals. Ratio of male to female water closets is 5:1.
2. Buiding supply package "TMNT" is Toromont CAT supply arranged by Baffinland.

BUILDING TYPE	
FO	Fold-away Building (Steel)
FA	Fabric w/ Sea Can Walls
SC	ISO Shipping Contianer
TS	Trailer - Single
TM	Trailer - Modular (2 or more modul
SM	Special Modular / Prefabricated

FOUNDATION TYPE	
GB	Gravel Base - Skidded Building
PP	Precast Piers
PF	Precast Footing (Perimeter Beam)
CB	Timber Cribbing to Elevate Building

FLOOR FINISH	
SOG	Slab on grade
SOGD	Slab on grade C/W Drainage
G	Gravel
RA	Raised Steel or Wooden Floor
-	Not Applicable

DWG. NO. H349000-7200-50-014-0001

PLANT NORTH

10

62250

10

11

STEP PAD AS REQUIRED

18411

0.5%

11

4M WIDE VEHICLE ACCESS RAMPS BETWEEN PADS

11

41118

0.5%

11.5

STEP PAD AS REQUIRED

1.5H/1.0V SLOPE TYPICAL BETWEEN LEVELS

11.5

12

26169

0.5%

12.5

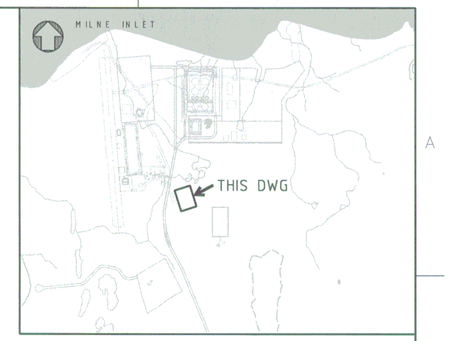
12.5

N 7 975 691.80
E 503 525.40

13

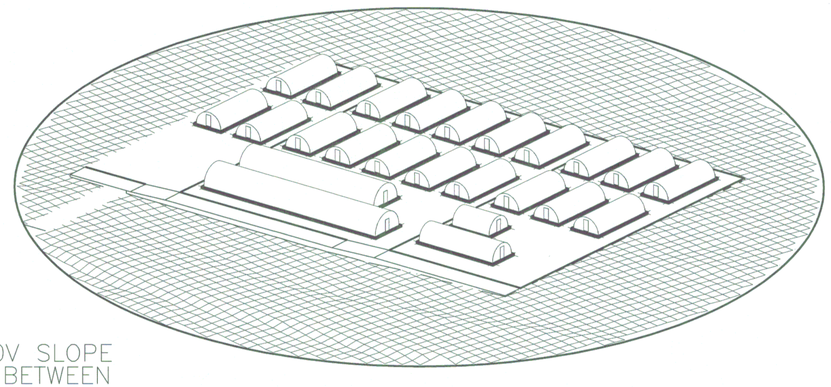
13

N 7 975 708.17
E 503 585.39



KEY PLAN

XX.X – CONTOUR ELEVATION LABEL



ISOMETRIC VIEW

NOTES:

1. ALL ELEVATIONS TO BE FIELD VERIFIED, MINIMUM PAD THICKNESS TO BE 100mm ABOVE EXISTING GRADE.
2. BUILDING LAYOUT BY CAMP SUPPLY AND INSTALL CONTRACTOR.
3. ACCESS ROAD SHALL ALLOW STORM WATER FLOW OVER AS DIRECTED BY COMPANY REPRESENTITIVE.
4. CONSTRUCT SAFE PEDESTRIAN ACCESS BETWEEN LEVELS AS DIRECTED BY COMPANY REPRESENTITIVE.

0 3 6 9 12 15
SCALE IN METRES

DRAWING NO.	DRAWING TITLE
REFERENCE DRAWINGS	

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION (CLIENT) AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH. UNLESS OTHERWISE AGREED TO IN WRITING BY HATCH, NEITHER CLIENT NOR ANY THIRD PARTY IS ENTITLED TO RELY ON THIS DRAWING. (a) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY CLIENT OR ANY THIRD PARTY, (b) MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT AND (c) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
REVISIONS					

REGISTERED PROFESSIONAL ENGINEER
J. J. LEMAY
LICENSED
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	FOR CONSTRUCTION	JC	TT	13/06/07
ISSUE AUTHORIZATION			

HATCH™

DESIGNED BY	DRAWN BY
T. THERRIEN	T. THERRIEN
DATE 2013-06-07	DATE 2013-06-06
CHECKED BY	DISCIP. ENGR.
J. CLELAND	J. CLELAND
DATE 2013-06-07	DATE 2013-06-07
PROJ. ENGRG.	PROJ. ENGR.
T. THERRIEN	J. CLELAND
DATE 2013-06-07	DATE 2013-06-07
PROJ. MGR.	
S. PERRY	
DATE 2013-06-07	

Baffinland
Iron Mines Corporation

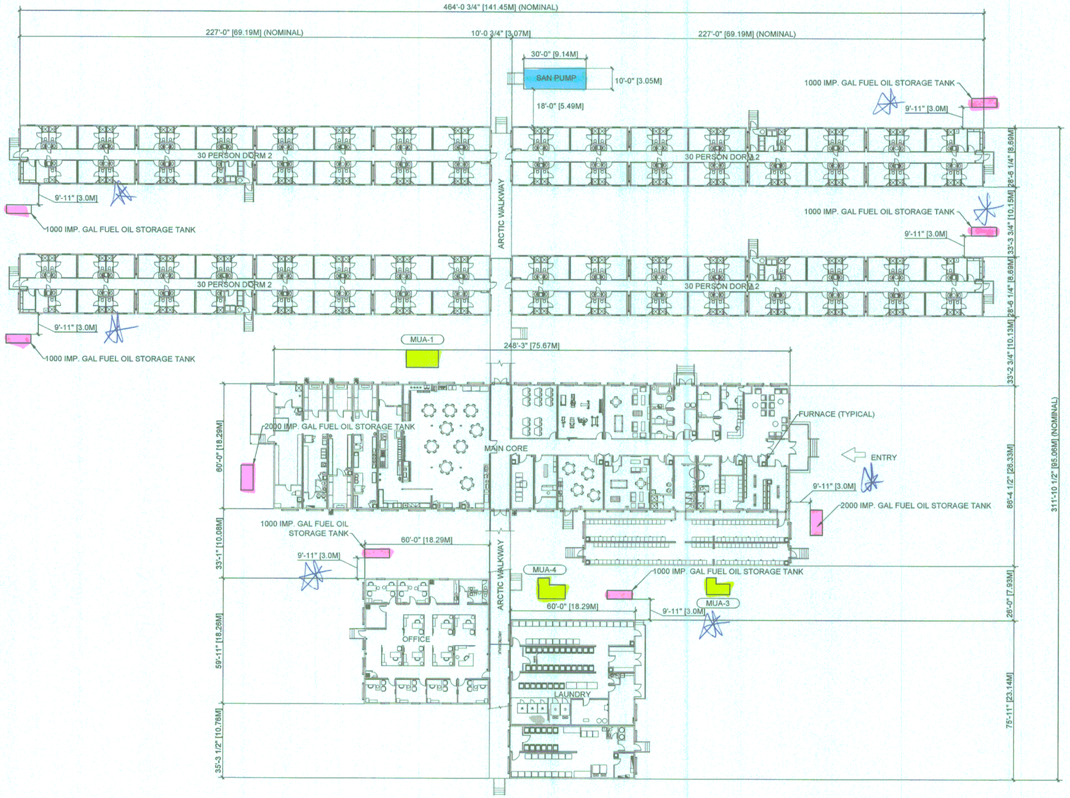
MARY RIVER PROJECT

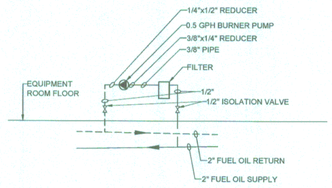
MILNE PORT
CONSTRUCTION CAMP PAD
GENERAL ARRANGEMENT

SCALE	DWG. NO.	REV.
AS NOTED	H349000-7200-50-014-0001	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

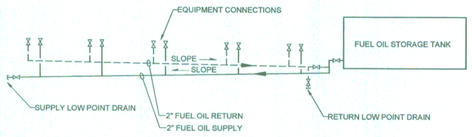
C:\Projectwise\therd100\dms74927\H349000-7200-50-014-0001.dgn
06 Jun 2013 4:38:55 PM
therd100





2 / M001 EQUIPMENT FUEL OIL CONNECTION
N.T.S.

A Move Tanks Closer To Buildings if Permitted By Code.



1 / M001 SITE MECHANICAL
1/32" = 1'-0"

3 / M001 FUEL OIL DISTRIBUTION
N.T.S.

HATCH VENDOR DATA REVIEW

Doc Number	E349000-TX001-50-014-0003	Sub	01
Date Received	31 JULY 13		

Review Grade	Next Submittal Status
☐ C1 – Proceed to next submission & status	☐ Internal Review ☑ Certified Final ☐ Final ☐ As-Built
☑ C2 – Proceed with exceptions as noted to next submission & status	Next Submittal Date: 12 AUG 13
☐ C3 – Do not proceed, revise as noted & resubmit	
☐ C4 - No further submission required - Complete / Cancelled / Superseded	☐ ☐ ☐

Package Coordinator: Name, signature and Date:
M BLUNK 2 AUG 13

REVIEWED ONLY FOR GENERAL CONFORMITY WITH THE SPECIFICATIONS. ACCEPTANCE BY THE ENGINEER DOES NOT WARRANT OR REPRESENT THAT THE INFORMATION CONTAINED ON THIS DRAWING/DOCUMENT IS EITHER ACCURATE OR COMPLETE. THE SOLE RESPONSIBILTY FOR CORRECT DESIGN, DETAILS & DIMENSIONS SHALL REMAIN WITH THE PARTY SUBMITTING THE DRAWING/DOCUMENT.

THESE DRAWINGS AND DESIGNS ARE THE SOLE PROPERTY OF NORTHERN TRAILER AND MAY NOT BE REPRODUCED OR SUBMITTED TO OUTSIDE PARTIES WITHOUT THE EXPRESSED WRITTEN CONSENT OF NORTHERN TRAILER

No.	DATE	DESCRIPTION	BY	CHKD

REVISIONS

PRELIMINARY

HORIZON NORTH Logistics Inc
1600, 505-3rd Street S.W. Calgary, AB. T2P 3E6 (403) 517-4654 1-888-366-5558

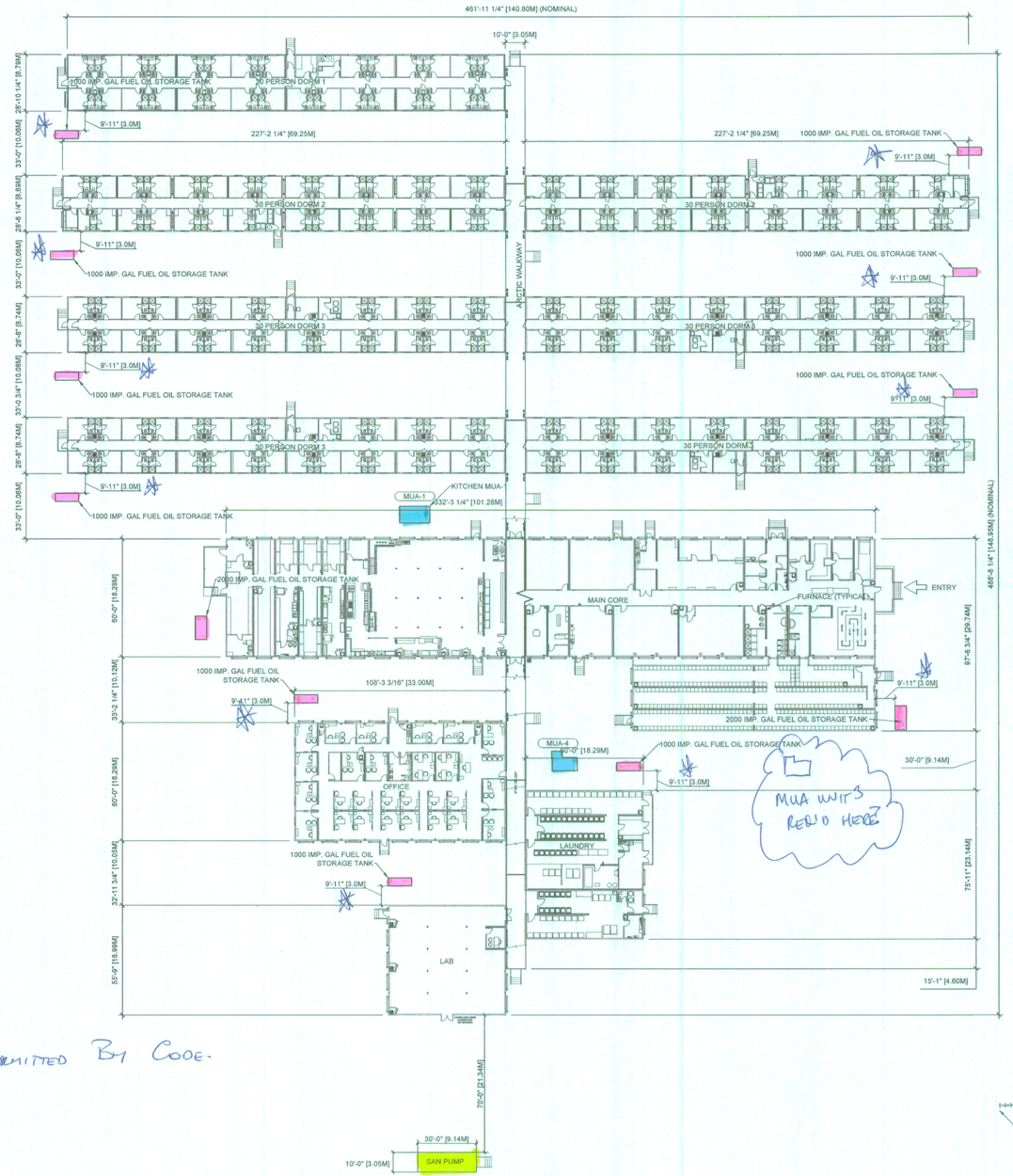
HATCH Baffinland

DATE :	13.04.15
ROP # :	21163
JOB # :	21163
TN # :	TN –
SCALE :	AS NOTED
DRAWN BY :	MF
CHECKED :	CC

HATCH BAFFINLAND
MILNE PORT
BAFFIN ISLAND, NUNAVUT
FUEL OIL DISTRIBUTION

DWG No.: M001

Thu, 25 Jul 2013 - 9:46am Drawing name: J:\Jobs\21000 Series\21063 Hatch Baffinland 25K-NSBP Camps-Ph1\Fire Port Camp Proj\acad\Xrefs\M\Ph1Fire Hall.dwg



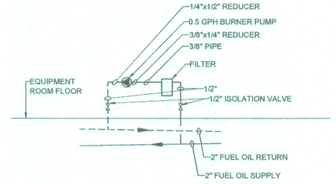
1 M001 SITE MECHANICAL
1/32" = 1'-0"

HATCH	VENDOR DATA REVIEW		
Doc Number	E349000-TX001-50-014-0002	Sub	01
Date Received	31 JULY 13		

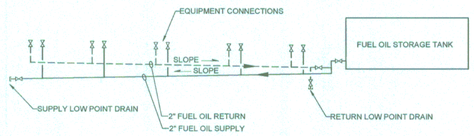
Review Grade	Next Submittal Status
☐ C1 – Proceed to next submission & status	☐ Internal Review ☑ Certified Final ☐ Final ☐ As-Built
☑ C2 – Proceed with exceptions as noted to next submission & status	**Next Submittal Date:**
☐ C3 – Do not proceed, revise as noted & resubmit	12 AUG 13
☐ C4 - No further submission required - Complete / Cancelled / Superseded	☐

Package Coordinator: Name, signature and Date:
M BLUHKE 2 AUG 13

REVIEWED ONLY FOR GENERAL CONFORMITY WITH THE SPECIFICATIONS. ACCEPTANCE BY THE ENGINEER DOES NOT WARRANT OR REPRESENT THAT THE INFORMATION CONTAINED ON THIS DRAWING/DOCUMENT IS EITHER ACCURATE OR COMPLETE. THE SOLE RESPONSIBILITY FOR CORRECT DESIGN, DETAILS & DIMENSIONS SHALL REMAIN WITH THE PARTY SUBMITTING THE DRAWING/DOCUMENT.



2 M001 EQUIPMENT FUEL OIL CONNECTION
N.T.S.



3 M001 FUEL OIL DISTRIBUTION
N.T.S.

* MOVE TANKS CLOSER TO BUILDINGS IF PERMITTED BY CODE.

THESE DRAWINGS AND DESIGNS ARE THE SOLE PROPERTY OF NORTHERN TRAILER AND MAY NOT BE REPRODUCED OR SUBMITTED TO OUTSIDE PARTIES WITHOUT THE EXPRESSED WRITTEN CONSENT OF NORTHERN TRAILER

No.	DATE	DESCRIPTION	BY	CHKD

REVISIONS

PRELIMINARY

HORIZON NORTH
1600, 505-3rd Street S.W. Calgary, AB. T2P 3E6 (403) 517-4654 1-888-366-5558

HATCH Baffinland

DATE :	13.04.15
PROP # :	21163
JOB # :	21163
TN # :	TN --
SCALE :	AS NOTED
DRAWN BY :	MF
CHECKED :	CC

MARY RIVER MINE SITE
BAFFIN ISLAND, NUNAVUT
FUEL OIL DISTRIBUTION

DWG No.: M001

Th, 25 Jul 2013 - \\Baffin Drawing index - J:\Jobs\21600 Series\21663 - Mary River\Project Data\Baffin Island ISO-20GP Cargo Fuhe Bag Project\Views\BAFFIN Base Sheet.dwg

DWG. NO. H349000-4133-10-035-0001

SETOUT POINTS FOR PLATEAU

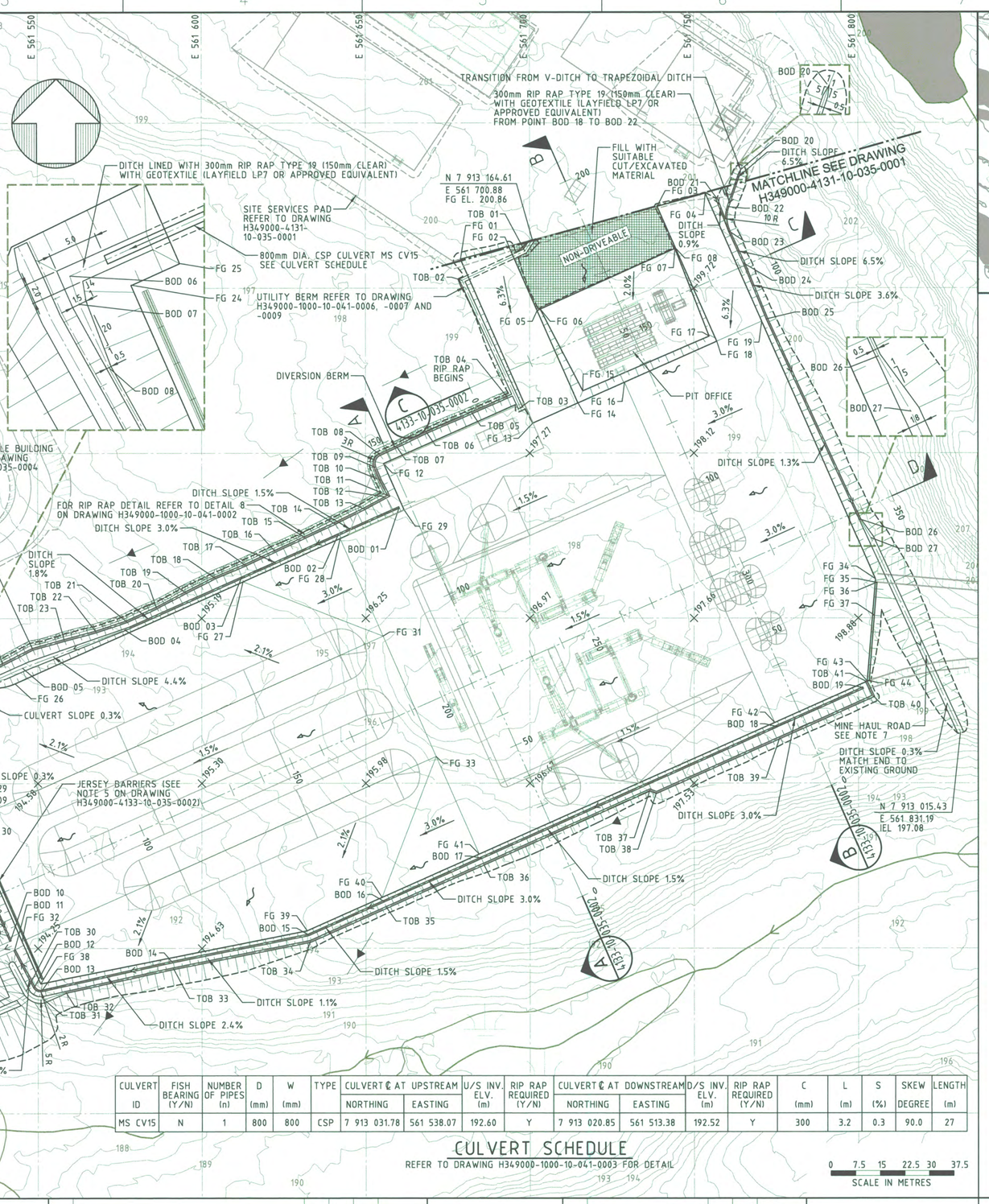
POINT No.	NORTHING	EASTING	EL.
FG 01	N 7 913 158.77	E 561 678.97	200.62
FG 02	N 7 913 162.68	E 561 693.65	200.78
FG 03	N 7 913 174.75	E 561 738.87	201.25
FG 04	N 7 913 178.80	E 561 753.50	201.41
FG 05	N 7 913 143.18	E 561 702.29	199.46
FG 06	N 7 913 143.64	E 561 703.24	199.95
FG 07	N 7 913 161.98	E 561 744.33	200.34
FG 08	N 7 913 162.04	E 561 744.51	200.46
FG 09	N 7 913 029.48	E 561 500.52	193.56
FG 10	N 7 913 036.00	E 561 514.03	193.59
FG 11	N 7 913 039.70	E 561 522.46	193.68
FG 12	N 7 913 096.89	E 561 655.49	196.64
FG 13	N 7 913 109.10	E 561 700.97	197.34
FG 14	N 7 913 115.18	E 561 714.72	197.57
FG 15	N 7 913 118.87	E 561 716.19	199.46
FG 16	N 7 913 121.47	E 561 728.93	197.80
FG 17	N 7 913 135.47	E 561 754.69	199.82
FG 18	N 7 913 133.90	E 561 757.01	198.72
FG 19	N 7 913 139.96	E 561 770.69	199.17
FG 20	N 7 913 025.80	E 561 502.14	193.62
FG 21	N 7 913 022.16	E 561 503.74	193.68
FG 22	N 7 913 028.68	E 561 517.24	193.71
FG 23	N 7 913 037.91	E 561 523.24	193.71
FG 24	N 7 913 018.25	E 561 515.91	193.77
FG 25	N 7 913 020.44	E 561 520.85	193.85
FG 26	N 7 913 030.25	E 561 543.03	194.21
FG 27	N 7 913 061.05	E 561 612.61	195.35
FG 28	N 7 913 074.15	E 561 642.20	196.32
FG 29	N 7 913 082.79	E 561 661.73	196.65
FG 30	N 7 912 988.65	E 561 529.01	194.25
FG 31	N 7 913 044.54	E 561 655.30	196.32
FG 32	N 7 912 952.23	E 561 545.10	194.25
FG 33	N 7 913 008.14	E 561 671.41	196.32
FG 34	N 7 913 061.83	E 561 805.26	199.17
FG 35	N 7 913 060.82	E 561 805.18	199.16
FG 36	N 7 913 060.78	E 561 805.73	198.70
FG 37	N 7 913 050.82	E 561 804.92	199.00
FG 38	N 7 912 939.32	E 561 550.82	194.04
FG 39	N 7 912 955.31	E 561 632.07	194.98
FG 40	N 7 912 965.42	E 561 654.91	195.35
FG 41	N 7 912 978.53	E 561 684.52	196.32
FG 42	N 7 913 018.38	E 561 774.55	197.80
FG 43	N 7 913 030.83	E 561 802.75	198.73
FG 44	N 7 913 031.05	E 561 803.32	198.41

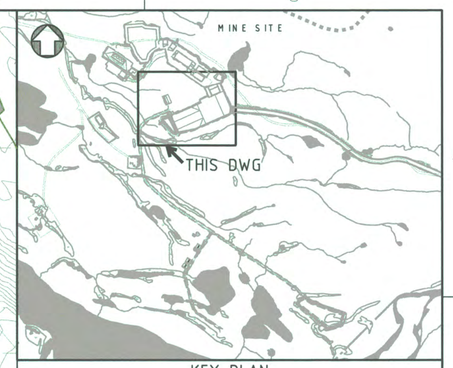
SETOUT POINTS FOR BOTTOM OF DITCH

POINT No.	NORTHING	EASTING	EL.
BOD 01	N 7 913 083.55	E 561 660.24	195.93
BOD 02	N 7 913 075.34	E 561 641.68	195.57
BOD 03	N 7 913 062.24	E 561 612.08	194.76
BOD 04	N 7 913 046.51	E 561 576.55	194.05
BOD 05	N 7 913 034.99	E 561 545.34	192.62
BOD 06	N 7 913 019.21	E 561 509.67	192.50
BOD 07	N 7 913 016.36	E 561 510.66	192.50
BOD 08	N 7 913 009.98	E 561 513.65	192.47
BOD 09	N 7 912 987.40	E 561 526.23	192.39
BOD 10	N 7 912 952.31	E 561 541.56	192.28
BOD 11	N 7 912 949.56	E 561 542.81	192.27
BOD 12	N 7 912 938.24	E 561 548.87	192.72
BOD 13	N 7 912 937.25	E 561 551.16	192.80
BOD 14	N 7 912 945.89	E 561 590.91	193.80
BOD 15	N 7 912 954.07	E 561 632.43	194.28
BOD 16	N 7 912 964.23	E 561 655.43	194.66
BOD 17	N 7 912 977.34	E 561 685.05	195.63
BOD 18	N 7 913 017.19	E 561 775.07	197.10
BOD 19	N 7 913 028.86	E 561 801.50	197.97
BOD 20	N 7 913 185.80	E 561 764.30	200.81
BOD 21	N 7 913 177.30	E 561 756.92	199.75
BOD 22	N 7 913 174.61	E 561 760.46	200.05
BOD 23	N 7 913 167.19	E 561 760.85	199.53
BOD 24	N 7 913 157.40	E 561 765.39	198.84
BOD 25	N 7 913 140.67	E 561 772.29	198.19
BOD 26	N 7 913 079.83	E 561 800.56	197.35
BOD 27	N 7 913 074.25	E 561 803.87	197.27

SETOUT POINTS FOR TOP OF BERM

POINT No.	NORTHING	EASTING	EL.
TOB 01	N 7 913 161.17	E 561 698.57	200.59
TOB 02	N 7 913 152.36	E 561 679.42	199.23
TOB 03	N 7 913 113.70	E 561 697.18	197.93
TOB 04	N 7 913 116.91	E 561 693.17	199.12
TOB 05	N 7 913 112.20	E 561 682.34	199.00
TOB 06	N 7 913 106.28	E 561 668.57	198.88
TOB 07	N 7 913 101.95	E 561 659.48	198.54
TOB 08	N 7 913 099.55	E 561 654.30	198.39
TOB 09	N 7 913 095.77	E 561 652.85	198.35
TOB 10	N 7 913 091.83	E 561 654.54	198.38
TOB 11	N 7 913 087.08	E 561 657.02	198.16
TOB 12	N 7 913 086.67	E 561 656.27	198.48
TOB 13	N 7 913 083.08	E 561 649.51	197.97
TOB 14	N 7 913 078.66	E 561 640.54	197.49
TOB 15	N 7 913 074.47	E 561 631.45	197.18
TOB 16	N 7 913 070.28	E 561 622.37	196.88
TOB 17	N 7 913 066.09	E 561 613.29	196.57
TOB 18	N 7 913 062.26	E 561 604.05	196.52
TOB 19	N 7 913 057.78	E 561 595.10	196.01
TOB 20	N 7 913 053.15	E 561 586.21	195.38
TOB 21	N 7 913 049.00	E 561 577.11	195.10
TOB 22	N 7 913 045.92	E 561 567.76	194.87
TOB 23	N 7 913 043.34	E 561 558.08	194.91
TOB 24	N 7 913 040.70	E 561 548.41	194.90
TOB 25	N 7 913 036.07	E 561 539.23	194.05
TOB 26	N 7 913 031.31	E 561 528.92	193.89
TOB 27	N 7 913 022.19	E 561 504.42	193.49
TOB 28	N 7 913 014.99	E 561 507.71	193.49
TOB 29	N 7 912 986.17	E 561 523.77	193.39
TOB 30	N 7 912 937.10	E 561 546.36	193.71
TOB 31	N 7 912 934.58	E 561 551.82	193.89
TOB 32	N 7 912 936.75	E 561 558.54	194.00
TOB 33	N 7 912 943.88	E 561 591.32	194.81
TOB 34	N 7 912 952.12	E 561 633.07	195.29
TOB 35	N 7 912 962.36	E 561 656.26	195.66
TOB 36	N 7 912 975.47	E 561 685.88	196.64
TOB 37	N 7 912 997.90	E 561 736.56	197.47
TOB 38	N 7 912 997.13	E 561 738.54	198.50
TOB 39	N 7 913 013.74	E 561 776.06	199.12
TOB 40	N 7 913 026.34	E 561 804.58	200.04
TOB 41	N 7 913 030.70	E 561 802.48	198.73





KEY PLAN

LEGEND:

204	EXISTING GROUND CONTOURS
	EXISTING STREAM
	FILL SLOPE
	CUT SLOPE
	TOE OF SLOPE
%	GRADING SLOPE
	CENTERLINE OF DITCH
	EXTERNAL FLOW DIRECTION
	FLOW DIRECTION
	SLOPE BREAKLINE
	RIP RAP
	LOCALIZED FILL
	CULVERT
197.66	FG EL. AT 50m x 50m GRID
IEL	INVERT ELEVATION
FG	FINISHED GRADE
BOD	BOTTOM OF DITCH
TOB	TOP OF BERM
CSP	CORRUGATED STEEL PIPE
FISH BEARING	(P=POTENTIAL, Y=YES, N=NO)
FG 28	SETOUT POINT NUMBER
100	CROSS SECTION DISTANCE

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 0.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR TYPICAL EARTHWORK DETAILS REFER TO DRAWINGS H349000-1000-10-041-0001 AND H349000-1000-10-041-0002.
6. ALL DITCH SECTIONS ARE TRAPEZOIDAL WITH 0.5m BOTTOM WIDTH AND 1.5H:1V SIDE SLOPES, EXCEPT 3H:1V SIDE SLOPE FACING POND BERM.
7. CULVERT SHALL REPLACE DITCH WHEN HAUL ROAD IS CONSTRUCTED. FOR CULVERT DETAIL SEE HAUL ROAD DRAWING H349000-4221-10-012-0001

FOR CONSTRUCTION

CULVERT SCHEDULE

REFER TO DRAWING H349000-1000-10-041-0003 FOR DETAIL

CULVERT ID	FISH BEARING (Y/N)	NUMBER OF PIPES (n)	D (mm)	W (mm)	TYPE	CULVERT ℄ AT UPSTREAM NORTHING	CULVERT ℄ AT UPSTREAM EASTING	U/S INV. ELV. (m)	RIP RAP REQUIRED (Y/N)	CULVERT ℄ AT DOWNSTREAM NORTHING	CULVERT ℄ AT DOWNSTREAM EASTING	D/S INV. ELV. (m)	RIP RAP REQUIRED (Y/N)	C (mm)	L (m)	S (%)	SKEW DEGREE	LENGTH (m)
MS CV15	N	1	800	800	CSP	7 913 031.78	561 538.07	192.60	Y	7 913 020.85	561 513.38	192.52	Y	300	3.2	0.3	90.0	27

0 7.5 15 22.5 30 37.5
SCALE IN METRES

PERMIT TO PRACTICE HATCH LTD.
Signature
Date 29 Aug. 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

REGISTERED PROFESSIONAL ENGINEER M. M. S. HASSAN LICENSEE 7831 NT/NU

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
0	CONSTRUCTION	SH	MM		2013-08-29

REV.	ISSUE FOR	AUTH. BY	DATE

DESIGNED BY M. MCDOUGALD DATE 2013-05-28
DRAWN BY M. MCDOUGALD DATE 2013-05-28
CHECKED BY A. MOHEBBIANI DATE 2013-08-29
DISCIP. ENGR. S. HASSAN DATE 2013-08-29
PROJ. DES. COORD. T. THEVENOT DATE 2013-08-29
PROJ. ENGR. J. CLELAND DATE 2013-08-29
PROJ. MGR. S. PERRY DATE 2013-08-29

Baffinland

MARY RIVER PROJECT

MINE SITE
ORE CRUSHING & SCREENING
EARTHWORKS & DRAINAGE – PLAN

SCALE	DWG. NO.	REV.
1:750 OR AS NOTED	H349000-4133-10-035-0001	0

DRAWING NO.	DRAWING TITLE
H349000-4000-00-014-0003	MINE SITE – INFRASTRUCTURE LAYOUT

REFERENCE DRAWINGS

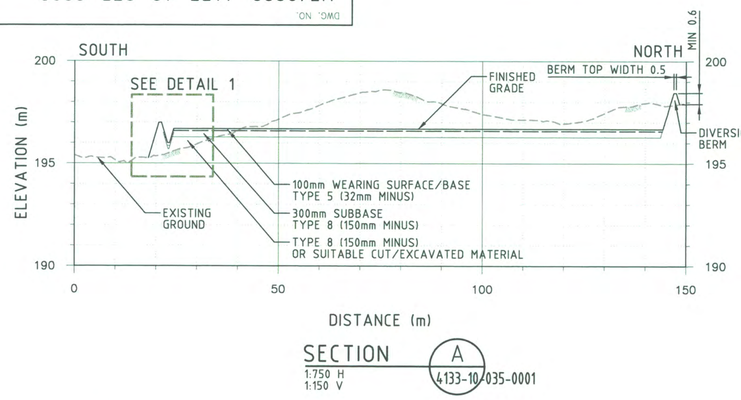
REVISIONS

ISSUE AUTHORIZATION

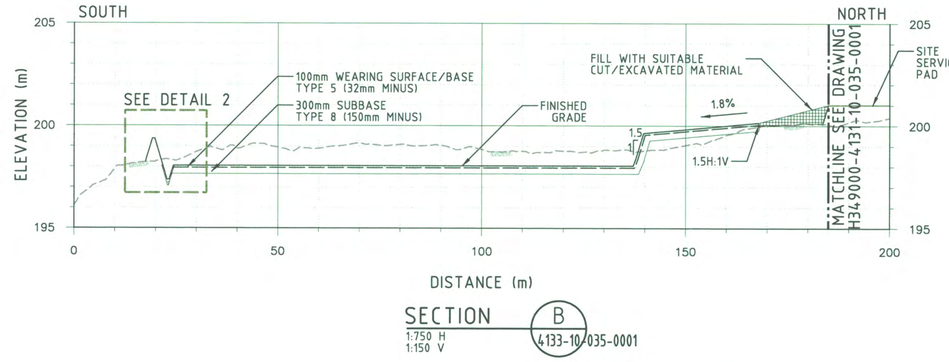
THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON ORE CORPORATION (CLIENT) AND WAS ISSUED PURSUANT TO A CONTRACT BETWEEN CLIENT AND HATCH. UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR EXPRESSED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

mcdo64322 29/08/2013, 11:12:43 AM c:\prj\projectwise\mcdo64322\dms74793\H349000-4133-10-035-0001.dgn

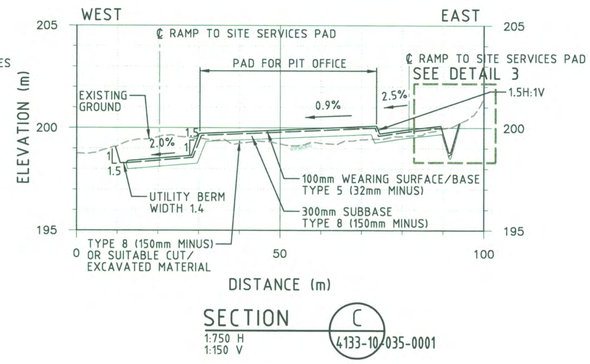
DWG. NO. H349000-4133-10-035-0002



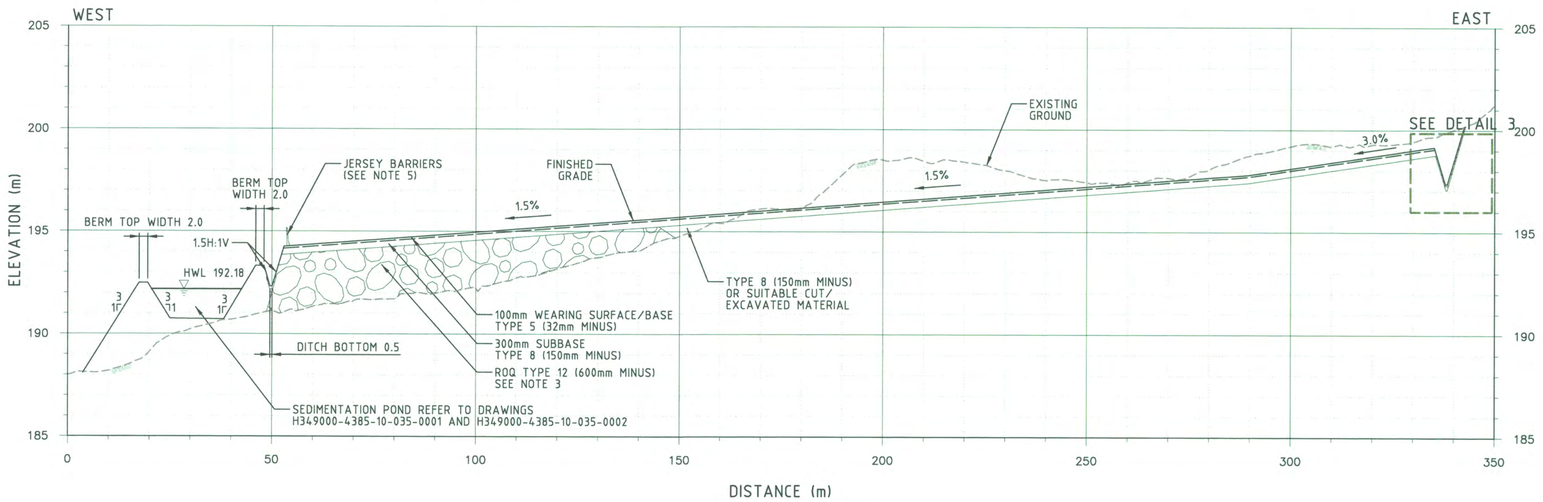
SECTION A
1:750 H
1:150 V
4133-10-035-0001



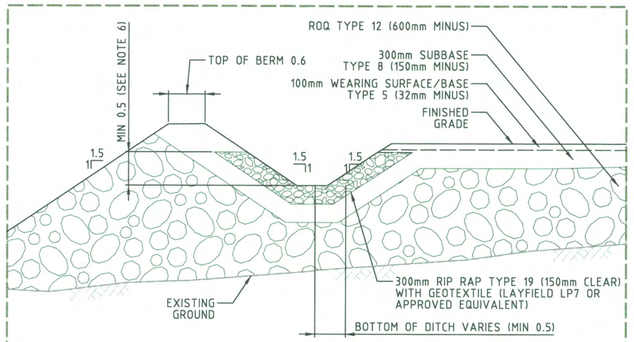
SECTION B
1:750 H
1:150 V
4133-10-035-0001



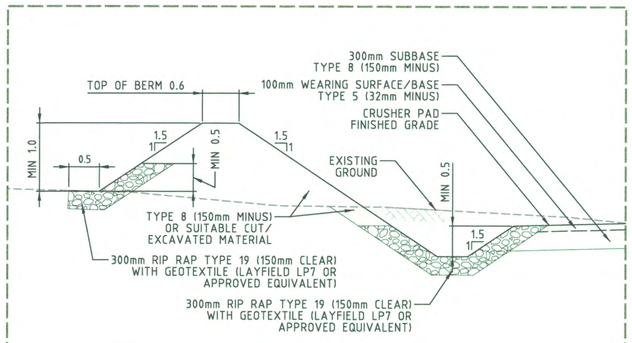
SECTION C
1:750 H
1:150 V
4133-10-035-0001



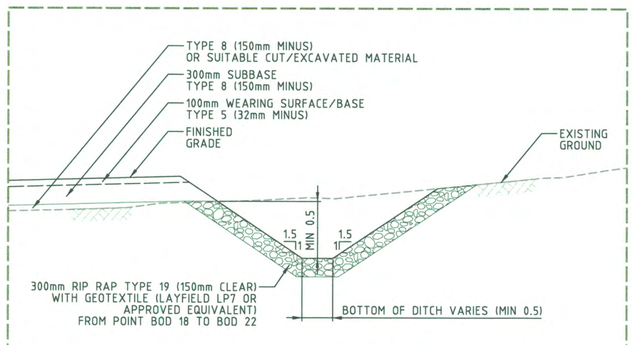
SECTION D
1:750 H
1:150 V
4133-10-035-0001



TYPICAL DETAIL - DITCH IN FILL 1
1:50



TYPICAL DETAIL - DITCH IN CUT 2
1:50



TYPICAL DETAIL - DIVERSION DITCH 3
1:50

LEGEND:

HWL	HIGH WATER LEVEL
ROQ	RUN OF QUARRY
	RUN OF QUARRY MATERIAL TYPE 12 (600mm MINUS) (FOR TOTAL FILL DEPTH > 1.0m)
	RIP RAP TYPE 19 (150mm CLEAR)
	LOCALIZED FILL

NOTES:

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
3. FOR STANDARD EARTHWORK DETAILS REFER TO DRAWINGS H349000-1000-10-041-0001 AND H349000-1000-10-041-0002.
4. FOR RIP RAP DETAIL REFER TO DETAIL 8 ON DRAWING H349000-1000-10-041-0002.
5. JERSEY BARRIER: HY-GRADE PRECAST CONCRETE J-J HOOK CONCRETE BARRIER, LENGTH 4.000m x HEIGHT 0.900m, OR EQUIVALENT.
6. DEPTH VARIES ALONG DITCH. FOR TOP OF BERM ELEVATION SEE TABLE "SETOUT POINTS FOR TOP OF BERM" ON DRAWING H349000-4133-10-035-0001.
7. POND MAXIMUM CAPACITY IS 2730m3 WITH 0.3m FREEBOARD AND HIGH WATER LEVEL (HWL) EL. 192.18m.

FOR CONSTRUCTION

REFERENCE DRAWINGS

DRAWING NO. | DRAWING TITLE

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 29 AUG 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT ANY RESPONSIBILITY OR LIABILITY FOR ANY USE OF THIS DRAWING FOR ANY PURPOSE OTHER THAN THE PURPOSE FOR WHICH IT WAS PREPARED, AND ANY MODIFICATION OR REUSE OF THIS DRAWING BY CLIENT OR ANY THIRD PARTY FOR ANY PURPOSE OTHER THAN THE PURPOSE FOR WHICH IT WAS PREPARED, AND ANY MODIFICATION OR REUSE OF THIS DRAWING BY CLIENT AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
29 Aug 13
NT/NU

REVISIONS

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

ISSUE AUTHORIZATION

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH MM	2013-08-29

HATCH™

DESIGNED BY	M. MCDOUGALD	DATE 2013-05-28
DRAWN BY	M. MCDOUGALD	DATE 2013-05-28
CHECKED BY	A. MOTAMEDHANI	DATE 2013-08-29
DISCIP. ENGR.	S. HASSAN	DATE 2013-08-29
PROJ. DES. COORD.	T. THERIEN	DATE 2013-08-29
PROJ. ENGR.	J. CLELAND	DATE 2013-08-29
PROJ. MGR.	S. PERRY	DATE 2013-08-29

Baffinland

MARY RIVER PROJECT

MINE SITE
ORE CRUSHING & SCREENING
EARTHWORKS & DRAINAGE – SECTIONS

SCALE 1:750 OR AS NOTED
DWG. NO. H349000-4133-10-035-0002
REV. 0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

mcdo64322
29/08/2013 2:28:46 PM
c:\pr1\projectwise\mcdo64322\dms74793\H349000-4133-10-035-0002.dgn

DWG. NO. H349000-2133-10-035-0001

SETOUT POINTS FOR ORE STOCKPILE PAD

POINT No.	NORTHING	EASTING	EL.
001	N 7 976 443.58	E 503 232.75	7.55
002	N 7 976 445.32	E 503 280.96	7.55
003	N 7 976 427.12	E 503 275.61	7.60
004	N 7 976 427.34	E 503 281.61	7.60
005	N 7 976 390.55	E 503 234.66	7.71
006	N 7 976 391.97	E 503 274.50	7.71
007	N 7 976 387.23	E 503 234.78	9.93
008	N 7 976 388.75	E 503 277.00	9.90
009	N 7 976 388.97	E 503 283.00	9.89
010	N 7 976 381.84	E 503 251.73	10.76
011	N 7 976 345.24	E 503 161.98	9.74
012	N 7 976 345.81	E 503 177.78	9.81
013	N 7 976 347.84	E 503 235.90	9.53
014	N 7 976 342.49	E 503 162.09	10.25
015	N 7 976 343.06	E 503 177.88	10.32
016	N 7 976 345.17	E 503 236.30	10.03
017	N 7 976 351.02	E 503 285.84	9.03
018	N 7 976 349.25	E 503 285.92	9.03
019	N 7 976 349.32	E 503 287.62	9.03
020	N 7 976 347.69	E 503 284.48	10.03
021	N 7 976 349.27	E 503 328.15	10.25
022	N 7 976 350.04	E 503 349.68	10.14
023	N 7 976 327.50	E 503 162.63	10.32
024	N 7 976 328.15	E 503 178.42	10.40
025	N 7 976 329.85	E 503 225.58	10.16
026	N 7 976 332.36	E 503 281.19	10.09
027	N 7 976 334.07	E 503 328.7	10.33
028	N 7 976 334.85	E 503 350.24	10.22
029	N 7 976 319.51	E 503 162.97	10.14
030	N 7 976 320.22	E 503 178.71	10.24
031	N 7 976 321.59	E 503 216.77	10.05
032	N 7 976 325.14	E 503 288.95	9.98
033	N 7 976 326.15	E 503 328.98	10.16
034	N 7 976 326.92	E 503 350.48	10.06
035	N 7 976 310.32	E 503 095.05	9.56
036	N 7 976 308.81	E 503 097.35	10.07
037	N 7 976 314.81	E 503 418.90	9.99
038	N 7 976 314.81	E 503 441.25	10.22
039	N 7 976 293.75	E 503 082.57	9.58
040	N 7 976 295.03	E 503 086.93	10.09
041	N 7 976 299.77	E 503 109.32	10.18
042	N 7 976 294.92	E 503 115.68	10.02
043	N 7 976 296.84	E 503 441.25	9.86
044	N 7 976 285.99	E 503 098.90	10.19
045	N 7 976 281.20	E 503 105.30	10.03
046	N 7 976 240.24	E 503 065.95	9.75
047	N 7 976 240.70	E 503 069.79	10.26
048	N 7 976 241.24	E 503 084.78	10.33
049	N 7 976 241.45	E 503 092.77	10.17
050	N 7 976 271.90	E 503 409.61	10.06
051	N 7 976 272.23	E 503 417.54	10.22
052	N 7 976 275.04	E 503 432.41	10.13
053	N 7 976 276.96	E 503 435.54	9.58
054	N 7 976 160.64	E 503 068.72	10.14
055	N 7 976 160.78	E 503 072.67	10.66
056	N 7 976 161.32	E 503 087.66	10.73
057	N 7 976 161.61	E 503 095.55	10.57
058	N 7 976 164.81	E 503 184.31	11.01
059	N 7 976 166.24	E 503 223.78	10.82
060	N 7 976 166.52	E 503 231.48	10.98
061	N 7 976 167.40	E 503 255.90	10.87
062	N 7 976 158.99	E 503 263.43	10.85
063	N 7 976 159.85	E 503 287.41	10.95
064	N 7 976 160.14	E 503 295.34	10.79
065	N 7 976 161.57	E 503 334.92	10.99
066	N 7 976 164.40	E 503 413.57	10.59
067	N 7 976 164.69	E 503 421.42	10.76
068	N 7 976 165.23	E 503 436.40	10.68
069	N 7 976 165.44	E 503 439.85	10.17
070	N 7 976 075.22	E 503 072.51	9.72
071	N 7 976 075.33	E 503 075.75	10.23
072	N 7 976 075.88	E 503 090.74	10.23
073	N 7 976 077.51	E 503 095.14	10.14
074	N 7 976 078.44	E 503 422.34	10.03
075	N 7 976 077.66	E 503 424.55	10.08
076	N 7 976 078.20	E 503 439.54	10.08
077	N 7 976 078.30	E 503 442.29	9.57

SETOUT POINTS FOR UTILITY BERM

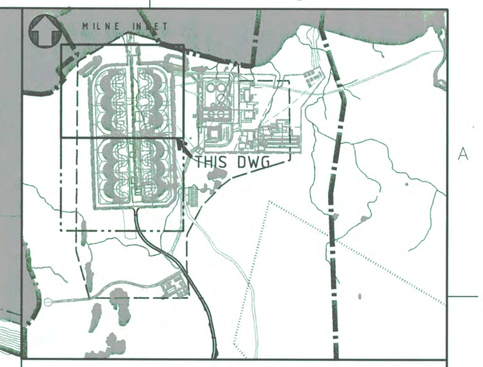
POINT No.	NORTHING	EASTING	EL.
UB 01	N 7 976 437.03	E 503 284.76	8.57
UB 02	N 7 976 427.46	E 503 285.11	8.60
UB 03	N 7 976 389.33	E 503 286.48	10.87
UB 04	N 7 976 359.37	E 503 287.73	11.10
UB 05	N 7 976 351.62	E 503 295.95	11.10
UB 06	N 7 976 352.54	E 503 328.03	11.11
UB 07	N 7 976 353.48	E 503 349.56	11.11
UB 08	N 7 976 318.42	E 503 420.86	11.10
UB 09	N 7 976 317.70	E 503 441.39	11.21

SETOUT POINTS FOR DRAINAGE BERM

POINT No.	NORTHING	EASTING	EL.
TOB 01	N 7 976 351.70	E 503 235.44	9.60
TOB 02	N 7 976 350.57	E 503 177.64	9.60
TOB 03	N 7 976 349.89	E 503 159.01	9.60
TOB 04	N 7 976 315.76	E 503 092.68	9.60
TOB 05	N 7 976 304.19	E 503 083.75	9.60
TOB 06	N 7 976 300.65	E 503 078.77	9.06
TOB 07	N 7 976 287.60	E 503 057.68	7.50
TOB 08	N 7 976 273.38	E 503 056.47	8.65
TOB 09	N 7 976 238.86	E 503 056.81	9.26
TOB 10	N 7 976 213.85	E 503 057.30	9.54
TOB 11	N 7 976 173.85	E 503 058.45	9.74
TOB 12	N 7 976 143.78	E 503 059.84	9.81
TOB 13	N 7 976 079.27	E 503 063.73	9.84
TOB 14	N 7 976 359.12	E 503 296.62	9.97
TOB 15	N 7 976 360.13	E 503 327.75	9.89
TOB 16	N 7 976 362.41	E 503 375.99	9.75
TOB 17	N 7 976 293.01	E 503 446.70	12.10
TOB 18	N 7 976 277.42	E 503 448.06	12.64
TOB 19	N 7 976 198.59	E 503 450.28	12.15
TOB 20	N 7 976 120.19	E 503 452.44	12.50
TOB 21	N 7 976 078.40	E 503 452.81	12.50

SETOUT POINTS FOR DRAINAGE DITCH

POINT No.	NORTHING	EASTING	EL.
BOD 01	N 7 976 349.58	E 503 233.91	8.54
BOD 02	N 7 976 348.23	E 503 177.70	8.37
BOD 03	N 7 976 347.47	E 503 159.11	8.32
BOD 04	N 7 976 314.08	E 503 094.84	8.11
BOD 05	N 7 976 302.46	E 503 085.95	8.07
BOD 06	N 7 976 298.63	E 503 079.05	8.05
BOD 07	N 7 976 287.63	E 503 059.61	6.55
BOD 08	N 7 976 268.70	E 503 060.21	6.60
BOD 09	N 7 976 160.42	E 503 063.66	6.93
BOD 10	N 7 976 075.04	E 503 068.47	7.19
BOD 11	N 7 976 357.07	E 503 296.70	8.97
BOD 12	N 7 976 358.08	E 503 327.83	8.89
BOD 13	N 7 976 362.15	E 503 414.06	8.63
BOD 14	N 7 976 349.82	E 503 436.53	6.97
BOD 15	N 7 976 326.93	E 503 437.43	7.04
BOD 16	N 7 976 284.96	E 503 439.07	7.16
BOD 17	N 7 976 277.10	E 503 439.38	7.19
BOD 18	N 7 976 165.56	E 503 444.07	7.52
BOD 19	N 7 976 078.40	E 503 445.23	7.78



KEY PLAN

LEGEND

- EXISTING GROUND CONTOURS
- EXISTING WATERBODY
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- PROJECT DEVELOPMENT AREA (PDA)
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- SLOPE BREAKLINE
- GRADING SLOPE
- CENTERLINE OF DITCH
- CULVERT
- FG EL. AT 50m x 50m GRID
- HP HIGH POINT
- 01 SETOUT POINT NUMBER
- CSP CORRUGATED STEEL PIPE
- CROSS SECTION DISTANCE

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 0.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR SEDIMENTATION PONDS PLAN AND DETAIL REFER TO DRAWING H349000-2345-10- 035-0001.
6. FOR UTILITY BERM TYPICAL DETAILS REFER TO DRAWINGS H349000-1000-10-041-0006, -0007 AND -0009

FOR CONSTRUCTION

0 10 20 30 40 50
SCALE IN METRES

REFERENCE DRAWINGS

H349000-2345-10-035-0001	MILNE PORT-ORE STOCKPILE SEDIMENTATION PONDS-EARTHWORKS & DRAINAGE
H349000-2000-00-014-0001	MILNE PORT-SITE LAYOUT
DRAWING NO.	DRAWING TITLE

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 30 Aug 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION (CLIENT) AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING BY HATCH, NEITHER ANY USE OF THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR REUSE OF THIS DRAWING BY CLIENT AND BY THIS THIRD PARTY, WITHOUT LIMITATION, SHALL BE AT THEIR SOLE RISK. ALL INFORMATION EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

REVISIONS

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
0	CONSTRUCTION	SH	MM		2013-08-30
REV.	ISSUE FOR	AUTH. BY			DATE

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY K FALLAH DATE 2013-08-23	DRAWN BY M. MCDOUGALD DATE 2013-08-23
CHECKED A. MOHEBKHANI DATE 2013-08-30	DISCIP. ENGR. S. HASSAN DATE 2013-08-30
PROJ. DES. COORD. T. THERTELL DATE 2013-08-30	PROJ. ENGR. S. PERRY DATE 2013-08-30
PROJ. MGR. J. CLELAND DATE 2013-08-30	

Baffinland

MARY RIVER PROJECT

MILNE PORT
ORE STOCKPILES NO. 1 & 2
EARTHWORKS & DRAINAGE – PLAN

SCALE	DWG. NO.	REV.
1:1000 OR AS NOTED	H349000-2133-10-035-0001	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

mcdo64322 30/08/2013 11:07:20 AM c:\prj\projectwise\mcdo64322\dms74793\H349000-2133-10-035-0001.dgn

DWG. NO. H349000-2133-10-035-0002

SETOUT POINTS FOR ORE STOCKPILE PAD

POINT No.	NORTHING	EASTING	EL.
078	N 7 976 037.17	E 503 232.90	10.16
079	N 7 976 036.30	E 503 236.18	10.23
080	N 7 976 037.02	E 503 256.17	10.23
081	N 7 976 044.13	E 503 271.58	10.37
082	N 7 976 044.85	E 503 291.57	10.37
083	N 7 976 046.68	E 503 297.69	10.24
084	N 7 976 017.25	E 503 075.10	8.56
085	N 7 976 017.35	E 503 077.85	9.07
086	N 7 976 017.89	E 503 092.84	9.15
087	N 7 976 026.32	E 503 130.29	10.04
088	N 7 976 025.67	E 503 229.56	10.11
089	N 7 976 023.09	E 503 236.66	9.86
090	N 7 976 023.81	E 503 256.64	9.96
091	N 7 976 024.57	E 503 272.29	9.98
092	N 7 976 025.30	E 503 292.27	9.88
093	N 7 976 028.74	E 503 301.33	10.14
094	N 7 976 035.91	E 503 387.89	10.11
095	N 7 976 030.14	E 503 426.28	9.21
096	N 7 976 030.68	E 503 441.26	9.13
097	N 7 976 030.78	E 503 444.00	8.62
098	N 7 976 012.18	E 503 130.79	10.04
099	N 7 976 019.79	E 503 228.36	10.12
100	N 7 976 022.58	E 503 301.29	10.13
101	N 7 976 021.68	E 503 388.71	10.10
102	N 7 975 995.84	E 503 229.48	10.31
103	N 7 975 998.37	E 503 237.55	10.46
104	N 7 975 999.09	E 503 257.54	10.46
105	N 7 976 005.19	E 503 272.99	10.36
106	N 7 976 005.91	E 503 292.98	10.36
107	N 7 976 010.70	E 503 302.71	10.13
108	N 7 975 959.28	E 503 077.19	9.72
109	N 7 975 959.38	E 503 079.94	10.23
110	N 7 975 959.92	E 503 094.93	10.23
111	N 7 975 958.61	E 503 099.43	10.14
112	N 7 975 967.87	E 503 420.05	10.17
113	N 7 975 970.11	E 503 428.43	10.33
114	N 7 975 970.65	E 503 443.42	10.33
115	N 7 975 970.75	E 503 446.17	9.82
116	N 7 975 852.57	E 503 081.04	10.25
117	N 7 975 852.67	E 503 083.79	10.76
118	N 7 975 853.22	E 503 098.78	10.84
119	N 7 975 853.50	E 503 106.70	10.68
120	N 7 975 856.71	E 503 195.43	11.12
121	N 7 975 858.12	E 503 234.68	10.93
122	N 7 975 858.41	E 503 242.61	11.09
123	N 7 975 859.25	E 503 265.96	10.99
124	N 7 975 859.59	E 503 275.21	10.98
125	N 7 975 860.42	E 503 298.23	11.10
126	N 7 975 860.72	E 503 306.38	10.93
127	N 7 975 862.14	E 503 345.72	11.13
128	N 7 975 864.96	E 503 424.06	10.74
129	N 7 975 865.26	E 503 432.22	10.90
130	N 7 975 865.80	E 503 447.21	10.83
131	N 7 975 865.90	E 503 449.95	10.32
132	N 7 975 780.61	E 503 273.42	11.66
133	N 7 975 738.81	E 503 239.09	10.33
134	N 7 975 731.22	E 503 247.19	10.45
135	N 7 975 733.23	E 503 302.82	10.47
136	N 7 975 741.69	E 503 310.68	10.34
137	N 7 975 748.40	E 503 426.64	10.17
138	N 7 975 753.12	E 503 428.21	10.18
139	N 7 975 754.09	E 503 436.23	10.35
140	N 7 975 754.63	E 503 451.22	10.27
141	N 7 975 755.68	E 503 453.93	9.77
142	N 7 975 726.03	E 503 103.37	10.20
143	N 7 975 726.40	E 503 111.28	10.04
144	N 7 975 719.50	E 503 118.70	10.04
145	N 7 975 722.45	E 503 200.28	10.45
146	N 7 975 723.28	E 503 224.62	10.33
147	N 7 975 727.24	E 503 326.21	10.34
148	N 7 975 728.12	E 503 350.56	10.47
149	N 7 975 730.03	E 503 406.72	10.18
150	N 7 975 731.93	E 503 411.32	10.17
151	N 7 975 743.33	E 503 432.22	10.32
152	N 7 975 733.11	E 503 443.20	10.21
153	N 7 975 731.24	E 503 445.22	9.70
154	N 7 975 711.58	E 503 118.90	10.20
155	N 7 975 714.52	E 503 200.56	10.61
156	N 7 975 715.68	E 503 232.75	10.45
157	N 7 975 718.78	E 503 318.35	10.47
158	N 7 975 719.95	E 503 350.85	10.63
159	N 7 975 721.96	E 503 406.34	10.35
160	N 7 975 726.73	E 503 416.78	10.32
161	N 7 975 716.51	E 503 427.76	10.21
162	N 7 975 714.61	E 503 429.75	9.70
163	N 7 975 695.25	E 503 086.72	9.47
164	N 7 975 695.35	E 503 089.47	9.98
165	N 7 975 699.38	E 503 201.11	10.54
166	N 7 975 701.81	E 503 268.26	10.20

MATCHLINE REFER TO DRAWING H349000-2133-10-035-0001

ORE STOCKPILE No.3

ORE STOCKPILE No.4

B 2133-10-035-0003

C 2133-10-035-0003

D 2133-10-035-0003

E 2133-10-035-0004

INFRASTRUCTURE PAD ACCESS ROAD REFER TO DRAWING H349000-2139-10-012-0001

TOTE ROAD

SETOUT POINTS FOR ORE STOCKPILE PAD

POINT No.	NORTHING	EASTING	EL.
167	N 7 975 702.17	E 503 276.09	10.21
168	N 7 975 704.97	E 503 351.40	10.55
169	N 7 975 707.00	E 503 407.55	10.27
170	N 7 975 692.60	E 503 089.48	9.47
171	N 7 975 696.63	E 503 201.21	10.03
172	N 7 975 698.38	E 503 249.66	9.78
173	N 7 975 700.19	E 503 296.90	9.79
174	N 7 975 702.22	E 503 351.50	10.04
175	N 7 975 704.25	E 503 407.65	9.76
176	N 7 976 028.26	E 503 183.94	10.31
177	N 7 976 014.32	E 503 189.53	10.33
178	N 7 976 034.25	E 503 341.98	10.34
179	N 7 976 020.01	E 503 342.50	10.34

SETOUT POINTS FOR BOTTOM OF DITCH

POINT No.	NORTHING	EASTING	EL.
BOD 20	N 7 976 017.16	E 503 073.05	7.36
BOD 21	N 7 975 958.85	E 503 073.67	7.53
BOD 22	N 7 975 852.44	E 503 077.19	7.85
BOD 23	N 7 975 693.68	E 503 084.82	8.30
BOD 24	N 7 975 690.59	E 503 088.17	8.32
BOD 25	N 7 975 694.33	E 503 201.29	8.66

SETOUT POINTS FOR BOTTOM OF DITCH

POINT No.	NORTHING	EASTING	EL.
BOD 26	N 7 975 696.68	E 503 250.09	8.81
BOD 27	N 7 976 030.82	E 503 445.30	7.92
BOD 28	N 7 975 970.78	E 503 447.02	8.10
BOD 29	N 7 975 866.02	E 503 453.06	8.41
BOD 30	N 7 975 753.57	E 503 455.69	8.75
BOD 31	N 7 975 730.65	E 503 446.87	8.83
BOD 32	N 7 975 713.19	E 503 430.36	8.90
BOD 33	N 7 975 702.82	E 503 407.50	8.98
BOD 34	N 7 975 700.63	E 503 351.56	9.15
BOD 35	N 7 975 699.21	E 503 296.48	9.32

SETOUT POINTS FOR DRAINAGE BERM

POINT No.	NORTHING	EASTING	EL.
TOB 22	N 7 976 017.50	E 503 068.71	9.93
TOB 23	N 7 975 964.33	E 503 069.27	10.07
TOB 24	N 7 975 848.27	E 503 073.37	10.20
TOB 25	N 7 975 794.32	E 503 075.69	10.53
TOB 26	N 7 975 701.29	E 503 081.47	10.00
TOB 27	N 7 975 691.41	E 503 082.09	9.94
TOB 28	N 7 975 687.56	E 503 086.36	9.94
TOB 29	N 7 975 692.11	E 503 221.81	10.53

SETOUT POINTS FOR DRAINAGE BERM

POINT No.	NORTHING	EASTING	EL.
TOB 30	N 7 975 693.64	E 503 257.79	10.77
TOB 31	N 7 975 980.14	E 503 450.88	10.49
TOB 32	N 7 975 869.25	E 503 458.09	11.56
TOB 33	N 7 975 790.17	E 503 459.29	11.27
TOB 34	N 7 975 751.71	E 503 459.07	10.63
TOB 35	N 7 975 730.58	E 503 450.59	10.42
TOB 36	N 7 975 709.86	E 503 430.99	10.43
TOB 37	N 7 975 700.21	E 503 410.17	10.55
TOB 38	N 7 975 698.21	E 503 373.74	10.94
TOB 39	N 7 975 696.35	E 503 291.20	10.79

0 10 20 30 40 50
SCALE IN METRES

MILNE INLET

THIS DWG

KEY PLAN

LEGEND

- EXISTING GROUND CONTOURS
- EXISTING WATERBODY
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- PROJECT DEVELOPMENT AREA (PDA)
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- SLOPE BREAKLINE
- % GRADING SLOPE
- CENTERLINE OF SWALE/DITCH
- FG EL. AT 50m x 50m GRID
- HP HIGH POINT
- SETOUT POINT NUMBER
- CROSS SECTION DISTANCE

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 0.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.

FOR CONSTRUCTION

DRAWING NO.	DRAWING TITLE
H349000-3000-10-012-0001	TOTE ROAD – PLAN AND PROFILE
H349000-2000-10-014-0001	MILNE PORT – SITE LAYOUT

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 30 Aug 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION (CLIENT) AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, HATCH ACCEPTS NO RESPONSIBILITY FOR THE USE AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER M. M. S. HASSAN LICENSEE NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH MM	2013-08-30

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY	DRAWN BY
K. FALLAHI	M. MCDOUGALD
DATE 2013-08-23	DATE 2013-08-23
CHECKED	DISCIP. ENGR.
A. MOHEBKHANI	S. HASSAN
DATE 2013-08-30	DATE 2013-08-30
PROJ. DES. COORD.	PROJ. ENGR.
T. THERTELL	S. PERRY
DATE 2013-08-30	DATE 2013-08-30
PROJ. MGR.	
J. CLELAND	
DATE 2013-08-30	

Baffinland

MARY RIVER PROJECT

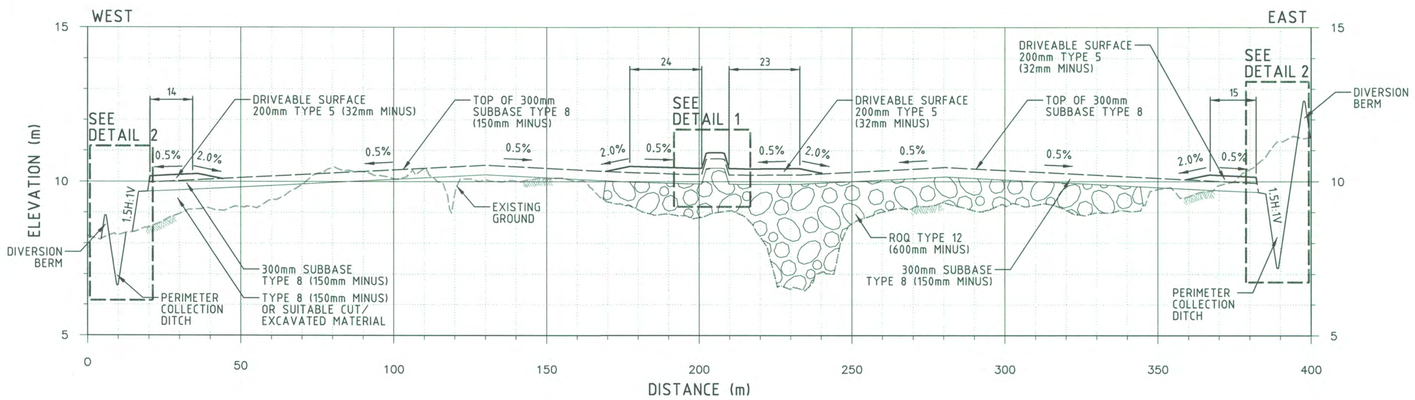
MILNE PORT
ORE STOCKPILES NO. 3 & 4
EARTHWORKS & DRAINAGE – PLAN

SCALE	DWG. NO.	REV.
1:1000 OR AS NOTED	H349000-2133-10-035-0002	0

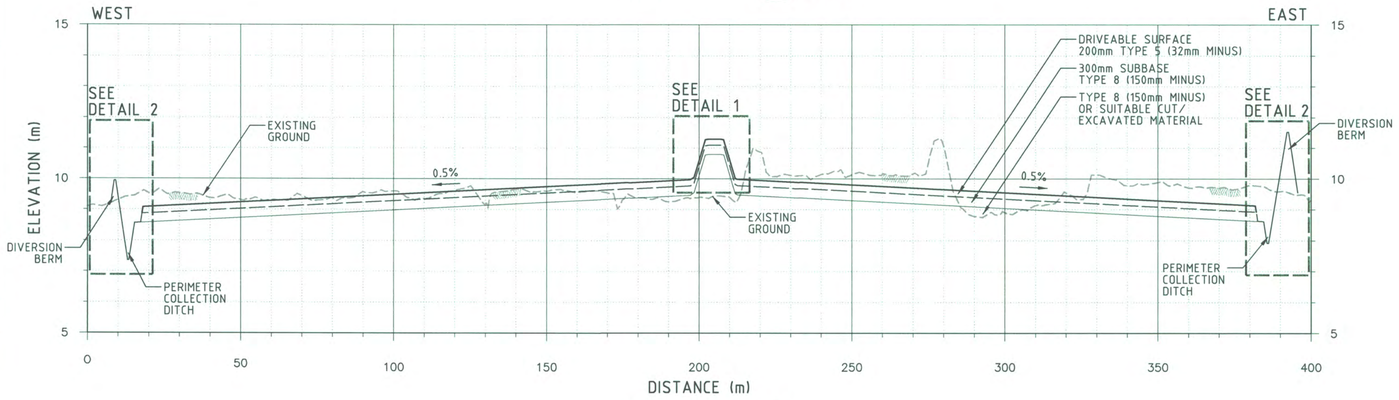
ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

mcdo64322 30/08/2013 11:25:37 AM
C:\prj\projectwise\mcdo64322\dms74793\H349000-2133-10-035-0002.dgn

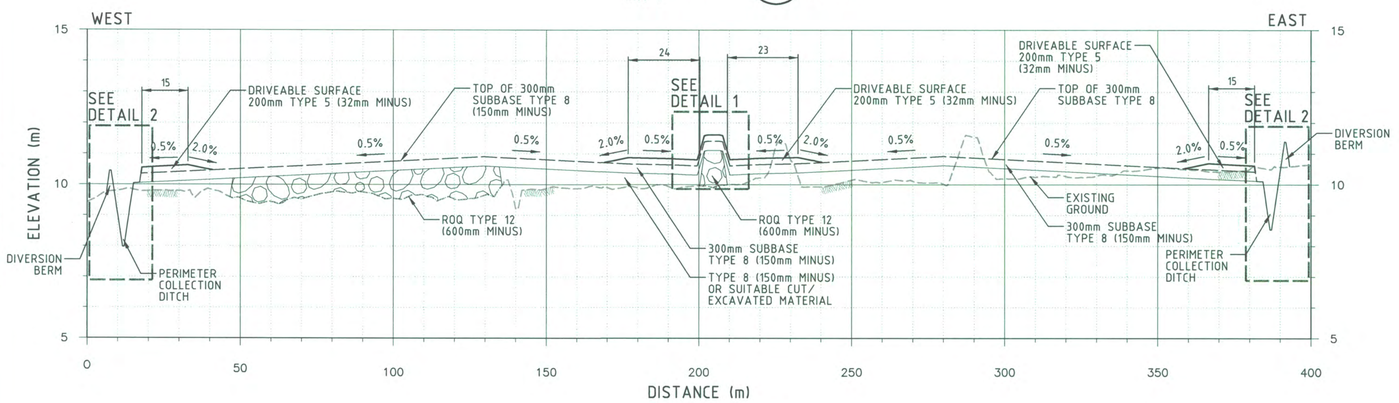
DWG. NO. H349000-2133-10-035-0003



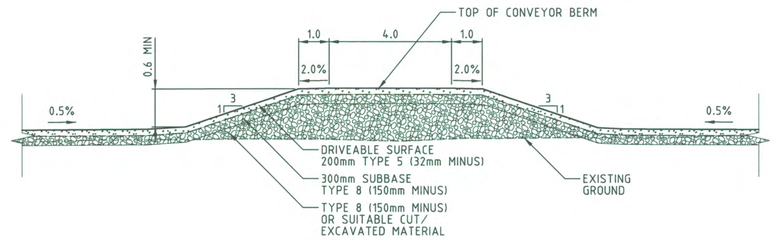
SECTION A
1:1000 H
1:100 V
2133-10-035-0001



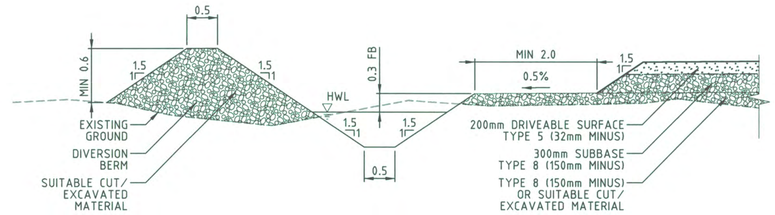
SECTION B
1:1000 H
1:100 V
2133-10-035-0002



SECTION C
1:1000 H
1:100 V
2133-10-035-0002



CONVEYOR BERM DETAIL 1
NTS



PERIMETER DITCH DETAIL 2
NTS

LEGEND:

HWL	HIGH WATER LEVEL
FB	FREE BOARD
ROQ	RUN OF QUARRY
	RUN OF QUARRY MATERIAL TYPE 12 (600mm MINUS) (FOR TOTAL FILL DEPTH > 1.0m)

NOTES:

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
3. FOR STANDARD EARTHWORK DETAILS REFER TO DRAWINGS H349000-1000-10-041-0001 AND -0002.

FOR CONSTRUCTION

DRAWING NO.	DRAWING TITLE
	REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 29 Aug 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO CONTRACT NO. 2133-10-035-0001 BETWEEN HATCH AND CLIENT. UNLESS OTHERWISE AGREED TO IN WRITING BY HATCH, HATCH HAS NO LIABILITY TO ANY PARTY, INCLUDING CLIENT, FOR ANY USE OF, OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR REVISION TO THIS DRAWING BY CLIENT OR (B) THIS DRAWING BY ANY THIRD PARTY. ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
	REVISIONS				

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH MM	2013-08-29
	ISSUE AUTHORIZATION		

HATCH™

DESIGNED BY K. FALLAHI DATE 2013-08-23	DRAWN BY M. MCDOUGALD DATE 2013-08-23
CHECKED BY A. MOHEBKHANI DATE 2013-08-29	DISCIP. ENGR. S. HASSAN DATE 2013-08-29
PROJ. DES. COORD. T. THERTELL DATE 2013-08-29	PROJ. ENGR. J. CLELAND DATE 2013-08-29
PROJ. MGR. S. PERRY DATE 2013-08-29	

Baffinland

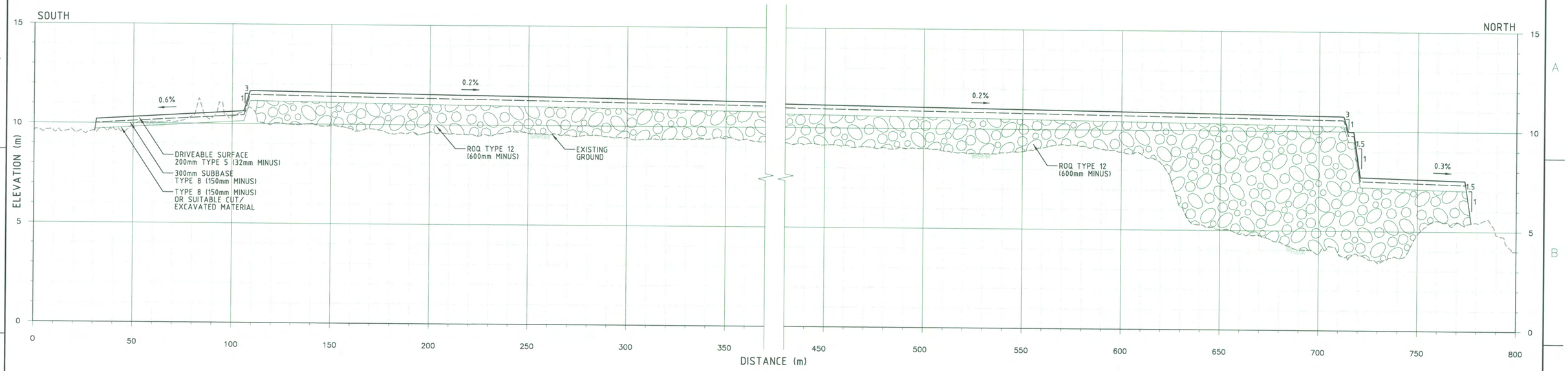
MARY RIVER PROJECT

MILNE PORT
ORE STOCKPILES
EARTHWORKS & DRAINAGE–SECTIONS SHEET 1 OF 2

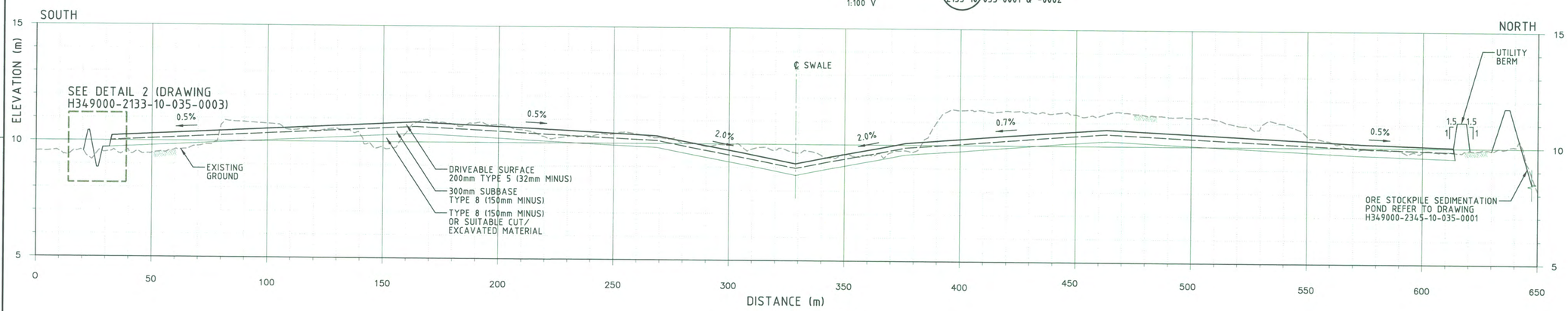
SCALE	DWG. NO.	REV.
1:1000 OR AS NOTED	H349000-2133-10-035-0003	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

mcdo64322 29/08/2013 2:52:32 PM c:\prj\projectwise\mcdo64322\dms74793\H349000-2133-10-035-0003.dgn



SECTION D
1:1000 H
1:100 V
2133-10-035-0001 & -0002



SECTION E
1:1000 H
1:100 V
2133-10-035-0001 & -0002

FOR CONSTRUCTION

CULVERT ID	FISH BEARING (P/Y/N)	NUMBER OF PIPES (n)	D (mm)	W (mm)	TYPE	CULVERT ℄ AT UPSTREAM NORTHING	CULVERT ℄ AT UPSTREAM EASTING	U/S INV. ELV. (m)	RIP RAP REQUIRED (Y/N)	CULVERT ℄ AT DOWNSTREAM NORTHING	CULVERT ℄ AT DOWNSTREAM EASTING	D/S INV. ELV. (m)	RIP RAP REQUIRED (Y/N)	C (mm)	L (m)	S (%)	SKEW DEGREE	LENGTH (m)
MP CV7	N	1	1000	1000	CSP	7 976 284.96	503 439.07	7.16	Y	7 976 326.93	503 437.43	7.04	Y	500	4.2	0.3	92.3	42
MP CV8	N	1	500	500	CSP	7 976 349.79	503 286.98	9.03	Y	7 976 357.01	503 296.57	8.97	Y	300	2.0	.5	-	12

CULVERT SCHEDULE

REFER TO DRAWING H349000-1000-10-041-0003 FOR DETAIL.

LEGEND:

HWL	HIGH WATER LEVEL
ROQ	RUN OF QUARRY
CSP	CORRUGATED STEEL PIPE
FISH BEARING	(P=POTENTIAL, Y=YES, N=NO)
	RUN OF QUARRY MATERIAL TYPE 12 (600mm MINUS) (FOR TOTAL FILL DEPTH > 1.0m)

NOTES:

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.

DRAWING NO. | DRAWING TITLE
REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 29 Aug 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED TO IN WRITING BY HATCH, NO OTHER PERSON MAY USE THIS DRAWING. (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY, OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING AND THE INFORMATION, DESIGNS AND INSTRUCTIONS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO. | DESCRIPTION | BY | CHK'D | APP'D | DATE
REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
NT/NU

0 | CONSTRUCTION | SH | MM | 2013-08-29
REV. | ISSUE FOR | AUTH. BY | DATE
ISSUE AUTHORIZATION

HATCH

DESIGNED BY K. FALLAHI DATE 2013-08-23	DRAWN BY M. MCDOUGALD DATE 2013-08-23
CHECKED BY A. MOHEBKHANI DATE 2013-08-29	DISCIP. ENGR. S. HASSAN DATE 2013-08-29
PROJ. DES. COORD. T. VERTEFEUILLE DATE 2013-08-29	PROJ. ENGR. J. CLELAND DATE 2013-08-29
PROJ. MGR. S. PERRY DATE 2013-08-29	

Baffinland

MARY RIVER PROJECT

MILNE PORT
ORE STOCKPILES
EARTHWORKS & DRAINAGE–SECTIONS SHEET 2 OF 2

SCALE 1:1000 OR AS NOTED
DWG. NO. H349000-2133-10-035-0004
REV. 0

c:\prj\projectwise\mcdo64322\dms74793\H349000-2133-10-035-0004.dgn 4:03:23 PM 29/08/2013 mcdo64322

DWG. NO. H349000-2345-10-035-0001

SETOUT POINTS FOR SEDIMENTATION POND No.1

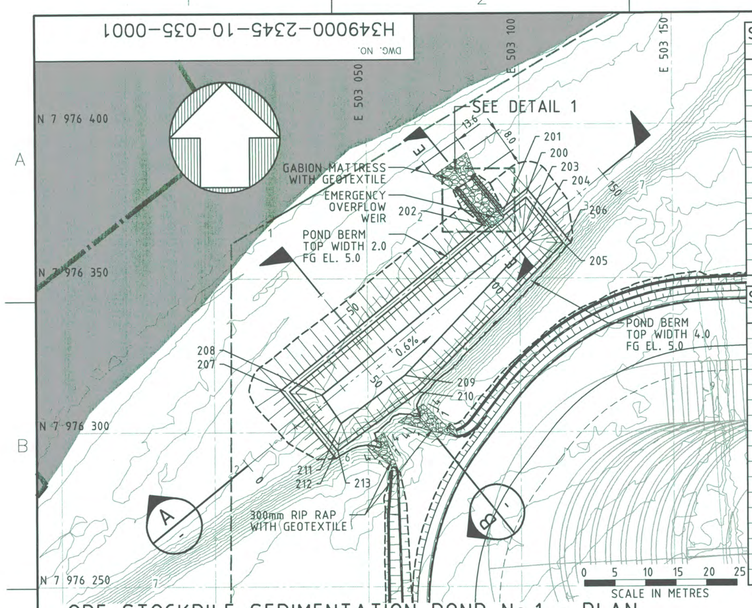
POINT No.	NORTHING	EASTING	EL.
200	N 7 976 377.64	E 503 102.31	5.00
201	N 7 976 371.41	E 503 094.61	5.00
202	N 7 976 366.89	E 503 089.01	5.00
203	N 7 976 364.63	E 503 100.93	2.25
204	N 7 976 361.86	E 503 103.36	2.25
205	N 7 976 361.33	E 503 114.21	5.00
206	N 7 976 361.95	E 503 114.99	5.00
207	N 7 976 313.51	E 503 022.99	5.00
208	N 7 976 312.24	E 503 034.94	2.79
209	N 7 976 318.62	E 503 062.13	2.63
210	N 7 976 313.20	E 503 066.70	5.00
211	N 7 976 302.99	E 503 041.27	2.80
212	N 7 976 293.35	E 503 039.29	5.00
213	N 7 976 293.98	E 503 040.06	5.00

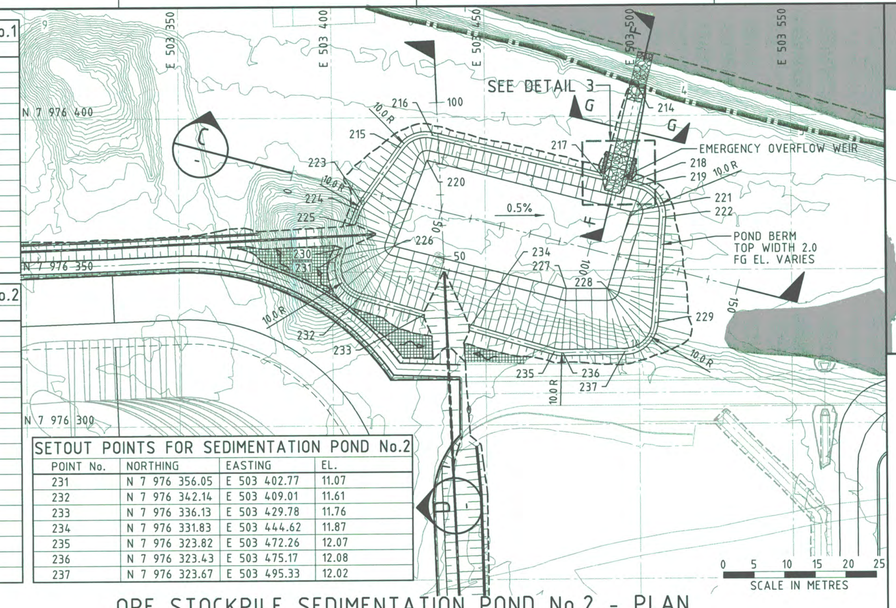
SETOUT POINTS FOR SEDIMENTATION POND No.2

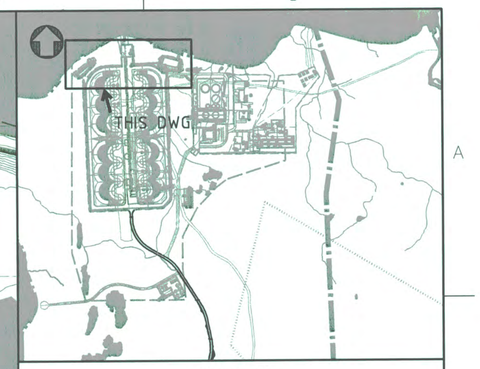
POINT No.	NORTHING	EASTING	EL.
214	N 7 976 409.68	E 503 500.08	6.07
215	N 7 976 390.21	E 503 422.54	8.77
216	N 7 976 394.12	E 503 433.11	8.07
217	N 7 976 380.46	E 503 488.20	8.05
218	N 7 976 378.30	E 503 496.93	8.04
219	N 7 976 377.45	E 503 500.36	8.04
220	N 7 976 386.08	E 503 431.12	5.71
221	N 7 976 368.82	E 503 497.44	5.43
222	N 7 976 366.96	E 503 507.93	8.70
223	N 7 976 372.22	E 503 409.69	10.55
224	N 7 976 370.09	E 503 408.52	10.67
225	N 7 976 365.29	E 503 406.55	10.79
226	N 7 976 358.23	E 503 420.17	5.76
227	N 7 976 344.14	E 503 476.36	5.48
228	N 7 976 344.09	E 503 489.80	5.48
229	N 7 976 332.84	E 503 505.17	11.32
230	N 7 976 357.62	E 503 403.41	11.02

SETOUT POINTS FOR SEDIMENTATION POND No.2

POINT No.	NORTHING	EASTING	EL.
231	N 7 976 356.05	E 503 402.77	11.07
232	N 7 976 342.14	E 503 409.01	11.61
233	N 7 976 336.13	E 503 429.78	11.76
234	N 7 976 331.83	E 503 444.62	11.87
235	N 7 976 323.82	E 503 472.26	12.07
236	N 7 976 323.43	E 503 475.17	12.08
237	N 7 976 323.67	E 503 495.33	12.02







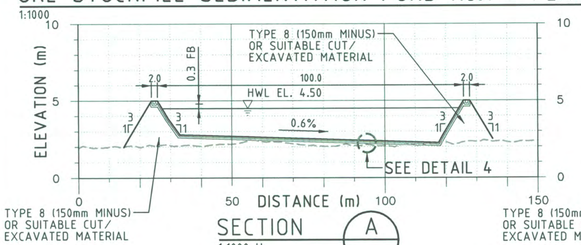
KEY PLAN

LEGEND:

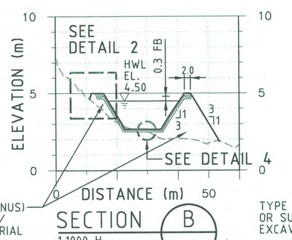
- 188 — EXISTING GROUND CONTOURS
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- % — GRADING SLOPE
- 100 — CROSS SECTION DISTANCE
- FG EL. — FINISHED GRADE ELEVATION
- HWL — HIGH WATER LEVEL
- HAT — HIGHEST ASTRONOMICAL TIDE
- FB — FREEBOARD
- GRADE TO FLOW TOWARDS DITCH TO AVOID LOCAL PONDING

ORE STOCKPILE SEDIMENTATION POND No.1 - PLAN

1:1000



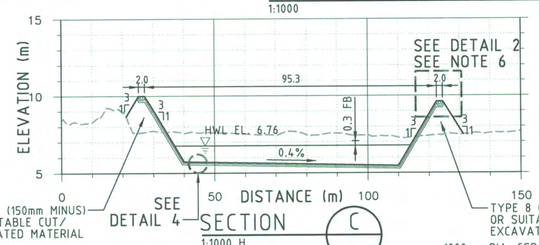
SECTION A — 1:1000 H, 1:200 V



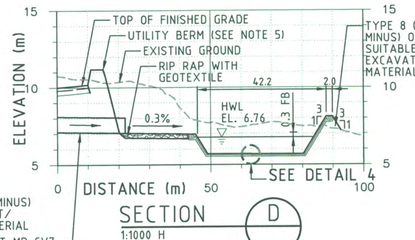
SECTION B — 1:1000 H, 1:200 V

ORE STOCKPILE SEDIMENTATION POND No.2 - PLAN

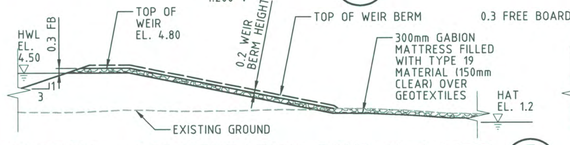
1:1000



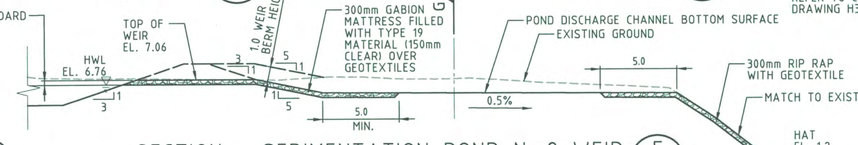
SECTION C — 1:1000 H, 1:200 V



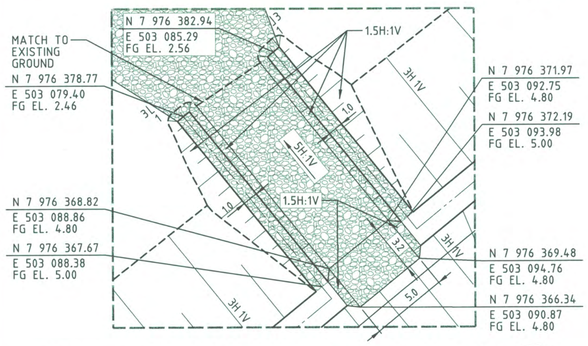
SECTION D — 1:1000 H, 1:200 V



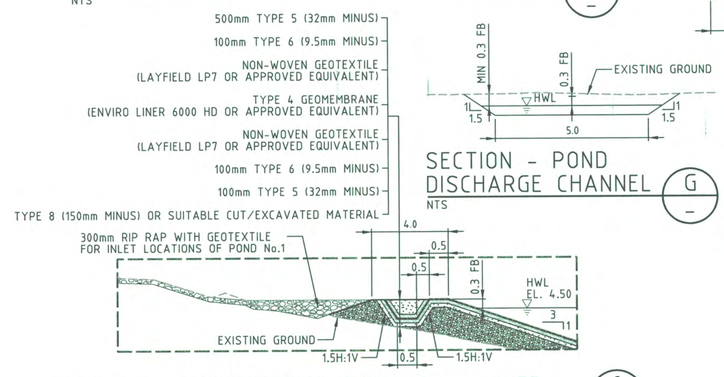
SECTION - SEDIMENTATION POND No.1 WEIR E — NTS



SECTION - SEDIMENTATION POND No.2 WEIR F — NTS

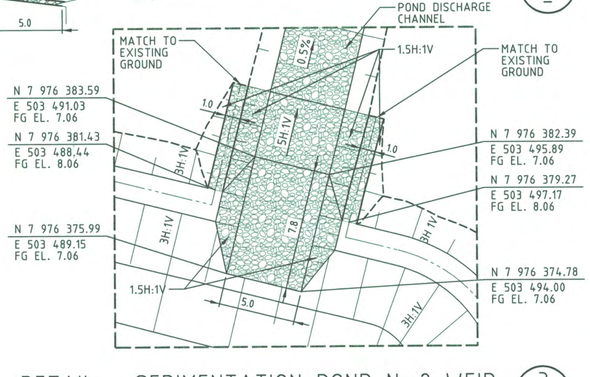


DETAIL - SEDIMENTATION POND No.1 WEIR 1 — 1:200



SECTION - POND DISCHARGE CHANNEL G — NTS

DETAIL - SEDIMENTATION POND BERM LINER 2 — 1:100



DETAIL - POND LINER MATERIAL 4 — NTS

DETAIL - SEDIMENTATION POND No.2 WEIR 3 — 1:200

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 2.0m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR UTILITY BERM TYPICAL DETAILS REFER TO DRAWINGS H349000-1000-10-041-0006, -0007 AND -0009.
6. APPLY SAME LINER DETAIL AT ALL LOCATIONS.
7. POND No.1 MAXIMUM CAPACITY IS 2,660m3 WITH 0.3m FREEBOARD AND HIGH WATER LEVEL (HWL) EL. 4.50m.
8. POND No.2 MAXIMUM CAPACITY IS 2,800m3 WITH 0.3m FREEBOARD AND HIGH WATER LEVEL (HWL) EL. 6.76m.

FOR CONSTRUCTION

DRAWING NO.	DRAWING TITLE
H349000-2133-10-035-0001	MILNE PORT-ORE STOCKPILES No.1&2-EARTHWORKS & DRAINAGE-PLAN

REFERENCE DRAWINGS

PERMIT TO PRACTICE HATCH LTD. Signature ____ Date 30 Aug 13 PERMIT NUMBER: P 512 The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

REGISTERED PROFESSIONAL ENGINEER M. M. S. HASSAN LICENSEE NT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT, OR SPECIFIED ON THIS DRAWING, (a) HATCH DOES NOT WARRANT FOR ANY PURPOSE OR USE THE INFORMATION ON THIS DRAWING, AND (b) HATCH DISCLAIMS ANY AND ALL LIABILITY ARISING FROM ANY RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (b) THIS DRAWING, ITS CONTENTION, AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH MM	2013-08-30

ISSUE AUTHORIZATION

HATCH

DESIGNED BY K. FALLAHI DATE 2013-08-27	DRAWN BY M MCDOUGALD DATE 2013-08-27
CHECKED BY A. MOHEBKHANI DATE 2013-08-30	DISCIP. ENGR. S. HASSAN DATE 2013-08-30
PROJ. DES. COORD. T. THERTELL DATE 2013-08-30	PROJ. ENGR. J. CLELAND DATE 2013-08-30
PROJ. MGR. S. PERRY DATE 2013-08-30	

Baffinland

MARY RIVER PROJECT

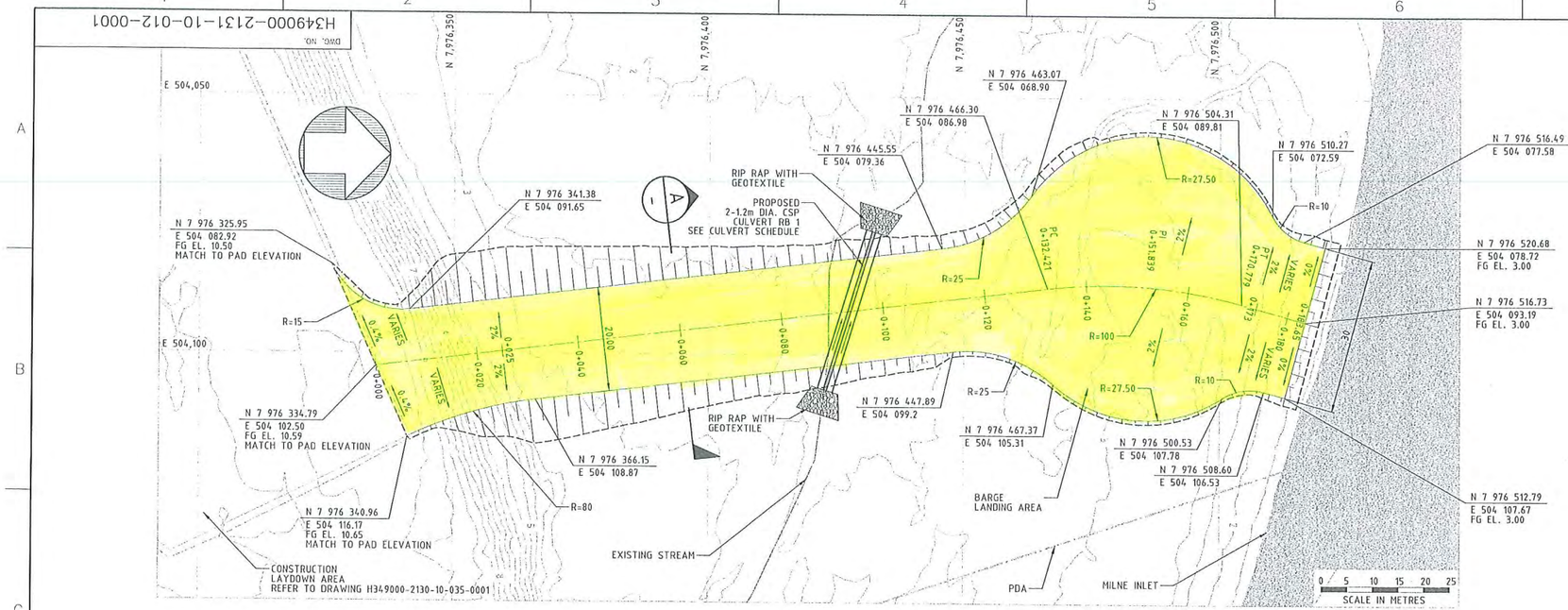
MILNE PORT
ORE STOCKPILE SEDIMENTATION PONDS
EARTHWORKS & DRAINAGE-PLAN & SECTIONS

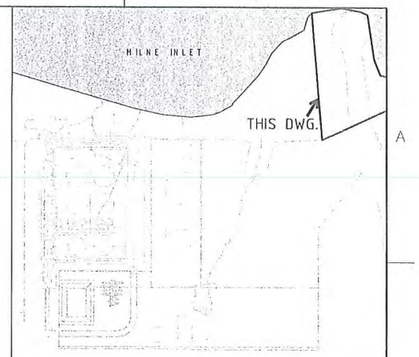
SCALE	DWG. NO.	REV.
1:1000 OR AS NOTED	H349000-2345-10-035-0001	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

mcdo64322 30/08/2013 12:00:07 PM C:\prj\projectwise\mcdo64322\dms747831\H349000-2345-10-035-0001.dgn

DWG. NO. H349000-2131-10-012-0001





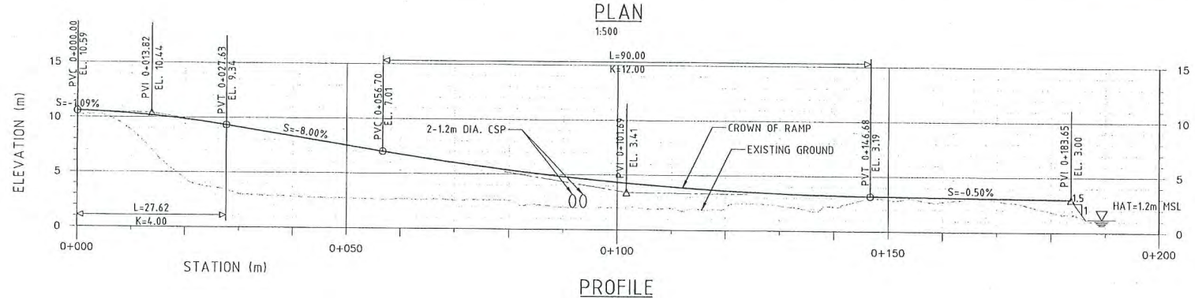
KEY PLAN

LEGEND:

- EXISTING WATERBODY
- EXISTING STREAM
- PROJECT DEVELOPMENT BOUNDARY (PDA)
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- % GRADING SLOPE
- EXISTING GROUND CONTOURS
- PT POINT OF TANGENT
- PC POINT OF CURVE
- PI POINT OF INTERSECTION
- POE POINT OF END
- PVC POINT OF VERTICAL CURVE
- PVI POINT OF VERTICAL INTERSECTION
- PVT POINT OF VERTICAL TANGENT
- ROQ RUN OF QUARRY
- HAT HIGHEST ASTRONOMICAL TIDE
- MSL MEAN SEA LEVEL
- K RATE OF VERTICAL CURVATURE

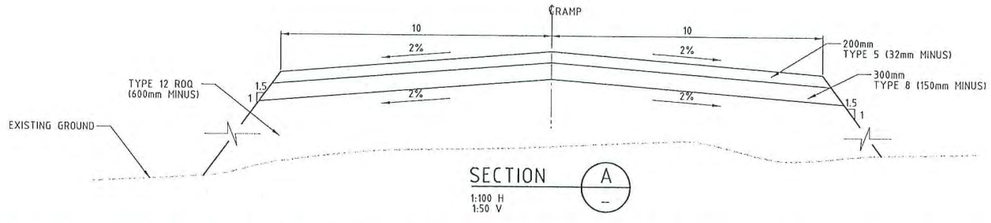
PLAN

1:500



PROFILE

1:500 H
1:250 V



SECTION A

1:100 H
1:50 V

CULVERT SCHEDULE

REFER TO DRAWING H349000-1000-10-041-0003 FOR DETAIL

CULVERT ID	FISH BEARING (Y/N)	NUMBER OF PIPES	D (mm)	W (mm)	TYPE	CULVERT AT UPSTREAM NORTHING	CULVERT AT UPSTREAM EASTING	U/S INV. ELV. (m)	CULVERT AT DOWNSTREAM NORTHING	CULVERT AT DOWNSTREAM EASTING	D/S INV. ELV. (m)	C (mm)	L (m)	S (%)	SKEW (DEGREE)	LENGTH (m)
RB 1	N	2	1200	2900	CSP	7 976 422.78	504 106.74	2.20	7 976 432.21	504 076.17	1.88	500	4.8	1.00	113.85	32

DRAWING NO.	DRAWING TITLE

REFERENCE DRAWINGS

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND AND ASSOCIATED AGENCIES AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WHATSOEVER WITHOUT THE WRITTEN AUTHORITY OF HATCH. ANY USE OF THESE DRAWINGS AND DESIGNS FOR ANY AND ALL EXTENSIONS OF THIS PROJECT, WHETHER BY HATCH OR BY OTHERS, OR ANY USE OF THESE DRAWINGS FOR ANY OTHER PROJECT WHATSOEVER, SHALL BE AT THE SOLE RISK OF THE PERSON OR ENTITY WHO DOES SUCH USE OR MODIFICATION. BY USING OF THIS DRAWING BY OTHERS, WHO DO THIS CONSENT TO AND AGREE TO INDEMNIFY AND HOLD HATCH HARMLESS FROM AND AGAINST ANY AND ALL LOSSES, DAMAGES, CLAIMS, SUITS, COSTS, EXPENSES AND LIABILITIES ARISING OUT OF OR RESULTING THEREFROM. HATCH DOES NOT WARRANT THE SUITABILITY OF THIS DRAWING FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS PREPARED AND ACCEPTS NO RESPONSIBILITY FOR ANY USE OF THE INFORMATION CONTAINED ON THE

DWG. NO. H349000-4133-10-035-0001

SETOUT POINTS FOR PLATEAU

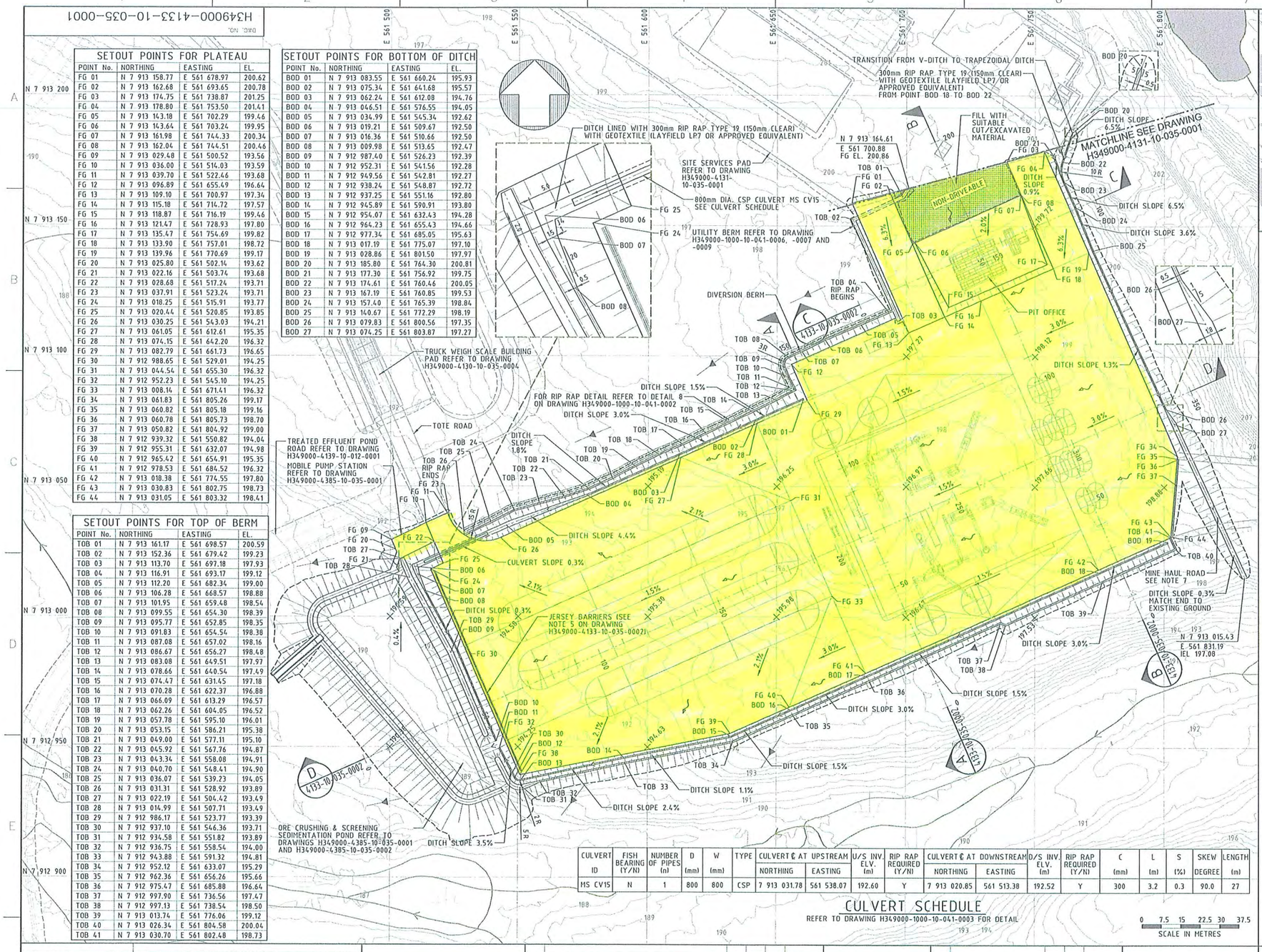
POINT No.	NORTHING	EASTING	EL.
FG 01	N 7 913 158.77	E 561 678.97	200.62
FG 02	N 7 913 162.68	E 561 693.65	200.78
FG 03	N 7 913 174.75	E 561 738.87	201.25
FG 04	N 7 913 178.80	E 561 753.50	201.41
FG 05	N 7 913 143.18	E 561 702.29	199.46
FG 06	N 7 913 143.64	E 561 703.24	199.95
FG 07	N 7 913 161.98	E 561 744.33	200.34
FG 08	N 7 913 162.04	E 561 744.51	200.46
FG 09	N 7 913 029.48	E 561 500.52	193.56
FG 10	N 7 913 036.00	E 561 514.03	193.59
FG 11	N 7 913 039.70	E 561 522.46	193.68
FG 12	N 7 913 096.89	E 561 655.49	196.64
FG 13	N 7 913 109.10	E 561 700.97	197.34
FG 14	N 7 913 115.18	E 561 714.72	197.57
FG 15	N 7 913 118.87	E 561 716.19	199.46
FG 16	N 7 913 121.47	E 561 728.93	197.80
FG 17	N 7 913 135.47	E 561 754.69	199.82
FG 18	N 7 913 133.90	E 561 757.01	198.72
FG 19	N 7 913 139.96	E 561 770.69	199.17
FG 20	N 7 913 025.80	E 561 502.14	193.62
FG 21	N 7 913 022.16	E 561 503.74	193.68
FG 22	N 7 913 028.68	E 561 517.24	193.71
FG 23	N 7 913 037.91	E 561 523.24	193.71
FG 24	N 7 913 018.25	E 561 515.91	193.77
FG 25	N 7 913 020.44	E 561 520.85	193.85
FG 26	N 7 913 030.25	E 561 543.03	194.21
FG 27	N 7 913 061.05	E 561 612.61	195.35
FG 28	N 7 913 074.15	E 561 642.20	196.32
FG 29	N 7 913 082.79	E 561 661.73	196.65
FG 30	N 7 912 988.65	E 561 529.01	194.25
FG 31	N 7 913 044.54	E 561 655.30	196.32
FG 32	N 7 912 952.23	E 561 545.10	194.25
FG 33	N 7 913 008.14	E 561 671.61	196.32
FG 34	N 7 913 061.83	E 561 805.26	199.17
FG 35	N 7 913 060.82	E 561 805.18	199.16
FG 36	N 7 913 060.78	E 561 805.73	198.70
FG 37	N 7 913 050.82	E 561 804.92	199.00
FG 38	N 7 912 939.32	E 561 550.82	194.04
FG 39	N 7 912 955.31	E 561 632.07	194.98
FG 40	N 7 912 965.42	E 561 654.91	195.35
FG 41	N 7 912 978.53	E 561 684.52	196.32
FG 42	N 7 913 018.38	E 561 774.55	197.80
FG 43	N 7 913 030.83	E 561 802.75	198.73
FG 44	N 7 913 031.05	E 561 803.32	198.41

SETOUT POINTS FOR BOTTOM OF DITCH

POINT No.	NORTHING	EASTING	EL.
BOD 01	N 7 913 083.55	E 561 660.24	195.93
BOD 02	N 7 913 075.34	E 561 641.68	195.57
BOD 03	N 7 913 062.24	E 561 612.08	194.76
BOD 04	N 7 913 046.51	E 561 576.55	194.05
BOD 05	N 7 913 034.99	E 561 545.34	192.62
BOD 06	N 7 913 019.21	E 561 509.67	192.50
BOD 07	N 7 913 016.36	E 561 510.66	192.50
BOD 08	N 7 913 009.98	E 561 513.65	192.47
BOD 09	N 7 912 987.40	E 561 526.23	192.39
BOD 10	N 7 912 952.31	E 561 541.56	192.28
BOD 11	N 7 912 949.56	E 561 542.81	192.27
BOD 12	N 7 912 938.24	E 561 548.87	192.72
BOD 13	N 7 912 937.25	E 561 551.16	192.80
BOD 14	N 7 912 945.89	E 561 590.91	193.80
BOD 15	N 7 912 954.07	E 561 632.43	194.28
BOD 16	N 7 912 964.23	E 561 655.43	194.66
BOD 17	N 7 912 977.34	E 561 685.05	195.63
BOD 18	N 7 913 017.19	E 561 775.07	197.10
BOD 19	N 7 913 028.86	E 561 801.50	197.97
BOD 20	N 7 913 185.80	E 561 764.30	200.81
BOD 21	N 7 913 177.30	E 561 756.92	199.75
BOD 22	N 7 913 174.61	E 561 760.46	200.05
BOD 23	N 7 913 167.19	E 561 760.85	199.53
BOD 24	N 7 913 157.40	E 561 765.39	198.84
BOD 25	N 7 913 140.67	E 561 772.29	198.19
BOD 26	N 7 913 079.83	E 561 800.56	197.35
BOD 27	N 7 913 074.25	E 561 803.87	197.27

SETOUT POINTS FOR TOP OF BERM

POINT No.	NORTHING	EASTING	EL.
TOB 01	N 7 913 161.17	E 561 698.57	200.59
TOB 02	N 7 913 152.36	E 561 679.42	199.23
TOB 03	N 7 913 113.70	E 561 697.18	197.93
TOB 04	N 7 913 116.91	E 561 693.17	199.12
TOB 05	N 7 913 112.20	E 561 682.34	199.00
TOB 06	N 7 913 106.28	E 561 668.57	198.88
TOB 07	N 7 913 101.95	E 561 659.48	198.54
TOB 08	N 7 913 099.55	E 561 654.30	198.39
TOB 09	N 7 913 095.77	E 561 652.85	198.35
TOB 10	N 7 913 091.83	E 561 654.54	198.38
TOB 11	N 7 913 087.08	E 561 657.02	198.16
TOB 12	N 7 913 086.67	E 561 656.27	198.48
TOB 13	N 7 913 083.08	E 561 649.51	197.97
TOB 14	N 7 913 078.66	E 561 640.54	197.49
TOB 15	N 7 913 074.47	E 561 631.45	197.18
TOB 16	N 7 913 070.28	E 561 622.37	196.88
TOB 17	N 7 913 066.09	E 561 613.29	196.57
TOB 18	N 7 913 062.26	E 561 604.05	196.52
TOB 19	N 7 913 057.78	E 561 595.10	196.01
TOB 20	N 7 913 053.15	E 561 586.21	195.38
TOB 21	N 7 913 049.00	E 561 577.11	195.10
TOB 22	N 7 913 045.92	E 561 567.76	194.87
TOB 23	N 7 913 043.34	E 561 558.08	194.91
TOB 24	N 7 913 040.70	E 561 548.41	194.90
TOB 25	N 7 913 036.07	E 561 539.23	194.05
TOB 26	N 7 913 031.31	E 561 528.92	193.89
TOB 27	N 7 913 022.19	E 561 504.42	193.49
TOB 28	N 7 913 014.99	E 561 507.71	193.49
TOB 29	N 7 912 986.17	E 561 523.77	193.39
TOB 30	N 7 912 937.10	E 561 546.36	193.71
TOB 31	N 7 912 934.58	E 561 551.82	193.89
TOB 32	N 7 912 936.75	E 561 558.54	194.00
TOB 33	N 7 912 943.88	E 561 591.32	194.81
TOB 34	N 7 912 952.12	E 561 633.07	195.29
TOB 35	N 7 912 962.36	E 561 656.26	195.66
TOB 36	N 7 912 975.47	E 561 685.88	196.64
TOB 37	N 7 912 997.90	E 561 736.56	197.47
TOB 38	N 7 912 997.13	E 561 738.54	198.50
TOB 39	N 7 913 013.74	E 561 776.06	199.12
TOB 40	N 7 913 026.34	E 561 804.58	200.04
TOB 41	N 7 913 030.70	E 561 802.48	198.73

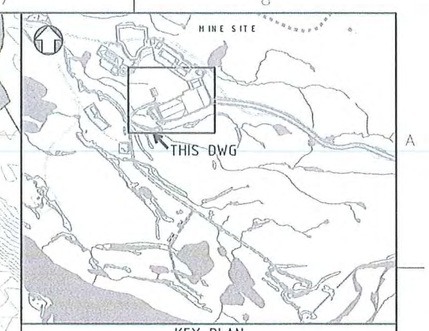


CULVERT ID	FISH BEARING (Y/N)	NUMBER OF PIPES (n)	D (mm)	W (mm)	TYPE	CULVERT ℄ AT UPSTREAM NORTHING	CULVERT ℄ AT UPSTREAM EASTING	U/S INV. ELV. (m)	RIP RAP REQUIRED (Y/N)	CULVERT ℄ AT DOWNSTREAM NORTHING	CULVERT ℄ AT DOWNSTREAM EASTING	D/S INV. ELV. (m)	RIP RAP REQUIRED (Y/N)	C (mm)	L (m)	S (%)	SKEW DEGREE	LENGTH (m)
MS CV15	N	1	800	800	CSP	7 913 031.78	561 538.07	192.60	Y	7 913 020.85	561 538.38	192.52	Y	300	3.2	0.3	90.0	27

CULVERT SCHEDULE

REFER TO DRAWING H349000-1000-10-041-0003 FOR DETAIL

0 7.5 15 22.5 30 37.5
SCALE IN METRES



KEY PLAN

LEGEND:

- EXISTING GROUND CONTOURS
- EXISTING STREAM
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- GRADING SLOPE
- CENTERLINE OF DITCH
- EXTERNAL FLOW DIRECTION
- FLOW DIRECTION
- SLOPE BREAKLINE
- RIP RAP
- LOCALIZED FILL
- CULVERT
- FG EL. AT 50m x 50m GRID
- IEL — INVERT ELEVATION
- FG — FINISHED GRADE
- BOD — BOTTOM OF DITCH
- TOB — TOP OF BERM
- CSP — CORRUGATED STEEL PIPE
- FISH BEARING — IP=POTENTIAL, Y=YES, N=NO
- FG 28 — SETOUT POINT NUMBER
- 100 — CROSS SECTION DISTANCE

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 0.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR TYPICAL EARTHWORK DETAILS REFER TO DRAWINGS H349000-1000-10-041-0001 AND H349000-1000-10-041-0002.
6. ALL DITCH SECTIONS ARE TRAPEZOIDAL WITH 0.5m BOTTOM WIDTH AND 1.5H:1V SIDE SLOPES, EXCEPT 3H:1V SIDE SLOPE FACING POND BERM.
7. CULVERT SHALL REPLACE DITCH WHEN HAUL ROAD IS CONSTRUCTED. FOR CULVERT DETAIL SEE HAUL ROAD DRAWING H349000-4221-10-012-0001

FOR CONSTRUCTION

REFERENCE DRAWINGS

DRAWING NO.	DRAWING TITLE
H349000-4000-90-014-0003	MINE SITE – INFRASTRUCTURE LAYOUT

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 29/8/13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND FOR THE PROJECT DESCRIBED HEREIN. ANY REUSE OF THIS DRAWING FOR ANY OTHER PURPOSE, WITHOUT THE EXPRESS WRITTEN CONSENT OF HATCH, IS PROHIBITED. HATCH ACCEPTS NO RESPONSIBILITY FOR ANY DAMAGE OR LIABILITY WHATSOEVER ARISING OUT OF ANY UNAUTHORIZED REUSE OF THIS DRAWING BY ANY PARTY FOR ANY APPLICATION OR REUSE OF THIS DRAWING BY THIRD PARTIES OR FOR ANY MISUSE OR MISINTERPRETATION THEREOF. THIS DRAWING IS THE PROPERTY OF HATCH.

REVISIONS

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REGISTERED PROFESSIONAL ENGINEER — M. M. S. HASSAN — LICENSEE — BASIS — NT/NU

ISSUE AUTHORIZATION

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH MM	2013-08-29

HATCH™

DESIGNED BY	M. MCDOUGALD
DATE	2013-05-28
CHECKED BY	A. MOHSENIAN
DATE	2013-08-29
PROJ. DES. MGR.	T. THEYER
DATE	2013-08-29
PROJ. MGR.	S. PERRY
DATE	2013-08-29
DRAWN BY	M. MCDOUGALD
DATE	2013-05-28
DISCIP. ENGR.	S. HASSAN
DATE	2013-08-29
PROJ. ENGR.	J. CLELAND
DATE	2013-08-29

Baffinland

MARY RIVER PROJECT

MINE SITE
ORE CRUSHING & SCREENING
EARTHWORKS & DRAINAGE – PLAN

SCALE	DWG. NO.	REV.
1:750 OR AS NOTED	H349000-4133-10-035-0001	0

mcdougald 2013-08-29 11:12:43 AM
C:\pm\projects\mine\mcdougald\322\dms74793\H349000-4133-10-035-0001.dgn

DWG. NO. H349000-2133-10-035-0001

SETOUT POINTS FOR ORE STOCKPILE PAD

POINT No.	NORTHING	EASTING	EL.
001	N 7 976 443.58	E 503 232.75	7.55
002	N 7 976 445.32	E 503 280.96	7.55
003	N 7 976 427.12	E 503 275.61	7.60
004	N 7 976 427.34	E 503 281.61	7.60
005	N 7 976 390.55	E 503 234.66	7.71
006	N 7 976 391.97	E 503 274.50	7.71
007	N 7 976 387.23	E 503 234.78	9.93
008	N 7 976 388.75	E 503 277.00	9.90
009	N 7 976 388.97	E 503 283.00	9.89
010	N 7 976 381.84	E 503 251.73	10.76
011	N 7 976 345.24	E 503 161.98	9.74
012	N 7 976 345.81	E 503 177.78	9.81
013	N 7 976 347.84	E 503 235.90	9.53
014	N 7 976 342.49	E 503 162.09	10.25
015	N 7 976 343.06	E 503 177.88	10.32
016	N 7 976 345.17	E 503 236.30	10.03
017	N 7 976 351.02	E 503 285.84	9.03
018	N 7 976 349.25	E 503 285.92	9.03
019	N 7 976 349.32	E 503 287.62	9.03
020	N 7 976 347.69	E 503 284.48	10.03
021	N 7 976 349.27	E 503 328.15	10.25
022	N 7 976 350.04	E 503 349.68	10.14
023	N 7 976 327.50	E 503 162.63	10.32
024	N 7 976 328.15	E 503 178.42	10.40
025	N 7 976 329.85	E 503 225.58	10.16
026	N 7 976 332.36	E 503 281.19	10.09
027	N 7 976 334.07	E 503 328.7	10.33
028	N 7 976 334.85	E 503 350.24	10.22
029	N 7 976 319.51	E 503 162.97	10.14
030	N 7 976 320.22	E 503 178.71	10.24
031	N 7 976 321.59	E 503 216.77	10.05
032	N 7 976 325.14	E 503 288.95	9.98
033	N 7 976 326.15	E 503 328.98	10.16
034	N 7 976 326.92	E 503 350.48	10.06
035	N 7 976 310.32	E 503 095.05	9.56
036	N 7 976 308.81	E 503 097.35	10.07
037	N 7 976 314.81	E 503 418.90	9.99
038	N 7 976 314.81	E 503 441.25	10.22
039	N 7 976 293.75	E 503 082.57	9.58
040	N 7 976 295.03	E 503 086.93	10.09
041	N 7 976 299.77	E 503 109.32	10.18
042	N 7 976 294.92	E 503 115.68	10.02
043	N 7 976 296.84	E 503 441.25	9.86
044	N 7 976 285.99	E 503 098.90	10.19
045	N 7 976 281.20	E 503 105.30	10.03
046	N 7 976 240.24	E 503 065.95	9.75
047	N 7 976 240.70	E 503 069.79	10.26
048	N 7 976 241.24	E 503 084.78	10.33
049	N 7 976 241.45	E 503 092.77	10.17
050	N 7 976 271.90	E 503 409.61	10.06
051	N 7 976 272.23	E 503 417.54	10.22
052	N 7 976 275.04	E 503 432.41	10.13
053	N 7 976 276.96	E 503 435.54	9.58
054	N 7 976 160.64	E 503 068.72	10.14
055	N 7 976 160.78	E 503 072.67	10.66
056	N 7 976 161.32	E 503 087.66	10.73
057	N 7 976 161.61	E 503 095.55	10.57
058	N 7 976 164.81	E 503 184.31	11.01
059	N 7 976 166.24	E 503 223.78	10.82
060	N 7 976 166.52	E 503 231.48	10.98
061	N 7 976 167.40	E 503 255.90	10.87
062	N 7 976 158.99	E 503 263.43	10.85
063	N 7 976 159.85	E 503 287.41	10.95
064	N 7 976 160.14	E 503 295.34	10.79
065	N 7 976 161.57	E 503 334.92	10.99
066	N 7 976 164.40	E 503 413.57	10.59
067	N 7 976 164.69	E 503 421.42	10.76
068	N 7 976 165.23	E 503 436.40	10.68
069	N 7 976 165.44	E 503 439.85	10.17
070	N 7 976 075.22	E 503 072.51	9.72
071	N 7 976 075.33	E 503 075.75	10.23
072	N 7 976 075.88	E 503 090.74	10.23
073	N 7 976 077.51	E 503 095.14	10.14
074	N 7 976 078.44	E 503 422.34	10.03
075	N 7 976 077.66	E 503 424.55	10.08
076	N 7 976 078.20	E 503 439.54	10.08
077	N 7 976 078.30	E 503 442.29	9.57

SETOUT POINTS FOR UTILITY BERM

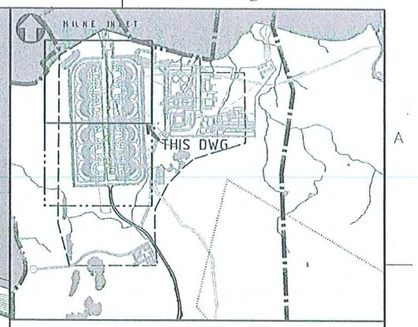
POINT No.	NORTHING	EASTING	EL.
UB 01	N 7 976 437.03	E 503 284.76	8.57
UB 02	N 7 976 427.46	E 503 285.11	8.60
UB 03	N 7 976 389.33	E 503 286.48	10.87
UB 04	N 7 976 359.37	E 503 287.73	11.10
UB 05	N 7 976 351.62	E 503 295.95	11.10
UB 06	N 7 976 352.54	E 503 328.03	11.11
UB 07	N 7 976 353.48	E 503 349.56	11.11
UB 08	N 7 976 318.42	E 503 420.86	11.10
UB 09	N 7 976 317.70	E 503 441.39	11.21

SETOUT POINTS FOR DRAINAGE BERM

POINT No.	NORTHING	EASTING	EL.
TOB 01	N 7 976 351.70	E 503 235.44	9.60
TOB 02	N 7 976 350.57	E 503 177.64	9.60
TOB 03	N 7 976 349.89	E 503 159.01	9.60
TOB 04	N 7 976 315.76	E 503 092.68	9.60
TOB 05	N 7 976 304.19	E 503 083.75	9.60
TOB 06	N 7 976 300.65	E 503 078.77	9.06
TOB 07	N 7 976 287.60	E 503 057.68	7.50
TOB 08	N 7 976 273.38	E 503 056.47	8.65
TOB 09	N 7 976 238.86	E 503 056.81	9.26
TOB 10	N 7 976 213.85	E 503 057.30	9.54
TOB 11	N 7 976 173.85	E 503 058.45	9.74
TOB 12	N 7 976 143.78	E 503 059.84	9.81
TOB 13	N 7 976 079.27	E 503 063.73	9.84
TOB 14	N 7 976 359.12	E 503 296.62	9.97
TOB 15	N 7 976 360.13	E 503 327.75	9.89
TOB 16	N 7 976 362.41	E 503 375.99	9.75
TOB 17	N 7 976 293.01	E 503 446.70	12.10
TOB 18	N 7 976 277.42	E 503 448.06	12.64
TOB 19	N 7 976 198.59	E 503 450.28	12.15
TOB 20	N 7 976 120.19	E 503 452.44	12.50
TOB 21	N 7 976 078.40	E 503 452.81	12.50

SETOUT POINTS FOR DRAINAGE DITCH

POINT No.	NORTHING	EASTING	EL.
BOD 01	N 7 976 349.58	E 503 233.91	8.54
BOD 02	N 7 976 348.23	E 503 177.70	8.37
BOD 03	N 7 976 347.47	E 503 159.11	8.32
BOD 04	N 7 976 314.08	E 503 094.84	8.11
BOD 05	N 7 976 302.46	E 503 085.95	8.07
BOD 06	N 7 976 298.63	E 503 079.05	8.05
BOD 07	N 7 976 287.63	E 503 059.61	6.55
BOD 08	N 7 976 268.70	E 503 060.21	6.60
BOD 09	N 7 976 160.42	E 503 063.66	6.93
BOD 10	N 7 976 075.04	E 503 068.47	7.19
BOD 11	N 7 976 357.07	E 503 296.70	8.97
BOD 12	N 7 976 358.08	E 503 327.83	8.89
BOD 13	N 7 976 362.15	E 503 414.06	8.63
BOD 14	N 7 976 349.82	E 503 436.53	6.97
BOD 15	N 7 976 326.93	E 503 437.43	7.04
BOD 16	N 7 976 284.96	E 503 439.07	7.16
BOD 17	N 7 976 277.10	E 503 439.38	7.19
BOD 18	N 7 976 165.56	E 503 444.07	7.52
BOD 19	N 7 976 078.40	E 503 445.23	7.78



KEY PLAN

LEGEND

- EXISTING GROUND CONTOURS
- EXISTING WATERBODY
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- PROJECT DEVELOPMENT AREA (PDA)
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- SLOPE BREAKLINE
- GRADING SLOPE
- CENTERLINE OF DITCH
- CULVERT
- FG EL. AT 50m x 50m GRID
- HP HIGH POINT
- 01 SETOUT POINT NUMBER
- CSP CORRUGATED STEEL PIPE
- CROSS SECTION DISTANCE

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 0.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR SEDIMENTATION PONDS PLAN AND DETAIL REFER TO DRAWING H349000-2345-10- 035-0001.
6. FOR UTILITY BERM TYPICAL DETAILS REFER TO DRAWINGS H349000-1000-10-041-0006, -0007 AND -0009

FOR CONSTRUCTION

SCALE IN METRES 0 10 20 30 40 50

REFERENCE DRAWINGS	
DRAWING NO.	DRAWING TITLE
H349000-2345-10-035-0001	MILNE PORT-ORE STOCKPILE SEDIMENTATION PONDS-EARTHWORKS & DRAINAGE
H349000-2000-00-014-0001	MILNE PORT-SITE LAYOUT

PERMIT TO PRACTICE HATCH LTD.
Signature
Date 30 Aug. 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON EXPLORATION CORP'N AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. (HATCH). UNAUTHORIZED USE OF THIS DRAWING IS PROHIBITED. HATCH ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGES OR RESPONSIBILITY ARISING FROM ANY USE OF, OR RELIANCE ON, ANY INFORMATION CONTAINED IN THIS DRAWING BY ANY PARTY OTHER THAN CLIENT IN CONNECTION WITH ANY ACTIVITIES, PROJECT AND/OR PURPOSE CONTEMPLATED BY THIS DRAWING. ANY USE OF, RELIANCE ON OR DECISION TO ACT BASED ON THIS DRAWING BY ANY PARTY OTHER THAN CLIENT IS THE RESPONSIBILITY OF SUCH PARTY. HATCH ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGES SUFFERED BY ANY SUCH PARTY AS A RESULT OF OR ARISING FROM ANY USE OF, RELIANCE ON OR DECISION TO ACT BASED ON THIS DRAWING. ANY PARTY THAT USES OR RELIES ON OR MAKES DECISIONS TO ACT BASED ON THIS DRAWING WITHOUT THE PRIOR WRITTEN CONSENT OF HATCH AGREES TO INDEMNIFY HATCH FOR ALL DAMAGES SUFFERED BY HATCH AS A RESULT OF SUCH USE, RELIANCE OR DECISIONS. ALL RIGHTS RESERVED. THE INFORMATION CONTAINED IN THIS DRAWING REMAINS THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER M. M. S. HASSAN LICENSEE 2004 NWT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH MM	2013-08-30

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY K FALLAH DATE 2013-08-23	DRAWN BY M. MCDOUGALD DATE 2013-08-23
CHECKED BY A. MOHEBKHANI DATE 2013-08-30	DISCIP. ENGR. S. HASSAN DATE 2013-08-30
PROJ. DES. COORD. T. THERTELL DATE 2013-08-30	PROJ. ENGR. S. PERRY DATE 2013-08-30
PROJ. MGR. J. CLELAND DATE 2013-08-30	

Baffinland

MARY RIVER PROJECT

MILNE PORT
ORE STOCKPILES NO. 1 & 2
EARTHWORKS & DRAINAGE – PLAN

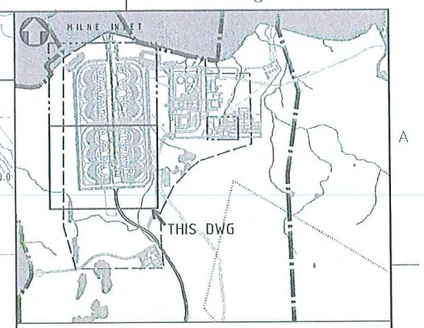
SCALE	DWG. NO.	REV.
1:1000 GR AS NOTED	H349000-2133-10-035-0001	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

mcdo64322
30/08/2013 11:07:20 AM
c:\pr\projectwise\mcdo64322\dms74793\H349000-2133-10-035-0001.dgn

DWG. NO. H349000-2133-10-035-0002

MATCHLINE REFER TO DRAWING H349000-2133-10-035-0001



KEY PLAN

LEGEND

- EXISTING GROUND CONTOURS
- EXISTING WATERBODY
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- PROJECT DEVELOPMENT AREA (PDA)
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- SLOPE BREAKLINE
- GRADING SLOPE
- CENTERLINE OF SWALE/DITCH
- FG EL. AT 50m x 50m GRID
- HP HIGH POINT
- 01 SETOUT POINT NUMBER
- CROSS SECTION DISTANCE

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 0.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.

FOR CONSTRUCTION

SCALE IN METRES 0 10 20 30 40 50

INFRASTRUCTURE PAD ACCESS ROAD REFER TO DRAWING H349000-2139-10-012-0001

ORE STOCKPILE No.3

ORE STOCKPILE No.4

MIN 20

TOTE ROAD

B 2133-10-035-0003

C 2133-10-035-0003

D 2133-10-035-0003

E 2133-10-035-0004

SETOUT POINTS FOR ORE STOCKPILE PAD

POINT No.	NORTHING	EASTING	EL.
078	N 7 976 037.17	E 503 232.90	10.16
079	N 7 976 036.30	E 503 236.18	10.23
080	N 7 976 037.02	E 503 256.17	10.23
081	N 7 976 044.13	E 503 271.58	10.37
082	N 7 976 044.85	E 503 291.57	10.37
083	N 7 976 046.68	E 503 297.69	10.24
084	N 7 976 017.25	E 503 075.10	8.56
085	N 7 976 017.35	E 503 077.85	9.07
086	N 7 976 017.89	E 503 092.84	9.15
087	N 7 976 026.32	E 503 130.29	10.04
088	N 7 976 025.67	E 503 229.56	10.11
089	N 7 976 023.09	E 503 236.66	9.86
090	N 7 976 023.81	E 503 256.64	9.96
091	N 7 976 024.57	E 503 272.29	9.98
092	N 7 976 025.30	E 503 292.27	9.88
093	N 7 976 028.74	E 503 301.33	10.14
094	N 7 976 035.91	E 503 387.89	10.11
095	N 7 976 030.14	E 503 426.28	9.21
096	N 7 976 030.68	E 503 441.26	9.13
097	N 7 976 030.78	E 503 444.00	8.62
098	N 7 976 012.18	E 503 130.79	10.04
099	N 7 976 019.79	E 503 228.36	10.12
100	N 7 976 022.58	E 503 301.29	10.13
101	N 7 976 021.68	E 503 388.71	10.10
102	N 7 975 995.84	E 503 229.68	10.31
103	N 7 975 998.37	E 503 237.55	10.46
104	N 7 975 999.09	E 503 257.54	10.46
105	N 7 976 005.19	E 503 272.99	10.36
106	N 7 976 005.91	E 503 292.98	10.36
107	N 7 976 010.70	E 503 302.71	10.13
108	N 7 975 959.28	E 503 077.19	9.72
109	N 7 975 959.38	E 503 079.94	10.23
110	N 7 975 959.92	E 503 094.93	10.23
111	N 7 975 958.61	E 503 099.43	10.14
112	N 7 975 967.87	E 503 420.05	10.17
113	N 7 975 970.11	E 503 428.43	10.33
114	N 7 975 970.65	E 503 443.42	10.33
115	N 7 975 970.75	E 503 446.17	9.82
116	N 7 975 852.57	E 503 081.04	10.25
117	N 7 975 852.67	E 503 083.79	10.76
118	N 7 975 853.22	E 503 098.78	10.84
119	N 7 975 853.50	E 503 106.70	10.68
120	N 7 975 856.71	E 503 195.43	11.12
121	N 7 975 858.12	E 503 234.68	10.93
122	N 7 975 858.41	E 503 242.61	11.09
123	N 7 975 859.25	E 503 265.96	10.99
124	N 7 975 859.59	E 503 275.21	10.98
125	N 7 975 860.42	E 503 298.23	11.10
126	N 7 975 860.72	E 503 306.38	10.93
127	N 7 975 862.14	E 503 345.72	11.13
128	N 7 975 864.96	E 503 424.06	10.74
129	N 7 975 865.26	E 503 432.22	10.90
130	N 7 975 865.80	E 503 447.21	10.83
131	N 7 975 865.90	E 503 449.95	10.32
132	N 7 975 780.61	E 503 273.42	11.66
133	N 7 975 738.81	E 503 239.09	10.33
134	N 7 975 731.22	E 503 247.19	10.45
135	N 7 975 733.23	E 503 302.82	10.47
136	N 7 975 741.69	E 503 310.68	10.34
137	N 7 975 748.40	E 503 426.64	10.17
138	N 7 975 753.12	E 503 428.21	10.18
139	N 7 975 754.09	E 503 436.23	10.35
140	N 7 975 754.63	E 503 451.22	10.27
141	N 7 975 755.68	E 503 453.93	9.77
142	N 7 975 726.03	E 503 103.37	10.20
143	N 7 975 726.40	E 503 111.28	10.04
144	N 7 975 719.50	E 503 118.70	10.04
145	N 7 975 722.45	E 503 200.28	10.45
146	N 7 975 723.28	E 503 224.62	10.33
147	N 7 975 727.24	E 503 326.21	10.34
148	N 7 975 728.12	E 503 350.56	10.47
149	N 7 975 730.03	E 503 406.72	10.18
150	N 7 975 731.93	E 503 411.32	10.17
151	N 7 975 743.33	E 503 432.22	10.32
152	N 7 975 733.11	E 503 443.20	10.21
153	N 7 975 731.24	E 503 445.22	9.70
154	N 7 975 711.58	E 503 118.90	10.20
155	N 7 975 714.52	E 503 200.56	10.61
156	N 7 975 715.68	E 503 232.75	10.45
157	N 7 975 718.78	E 503 318.35	10.47
158	N 7 975 719.95	E 503 350.85	10.63
159	N 7 975 721.96	E 503 406.34	10.35
160	N 7 975 726.73	E 503 416.78	10.32
161	N 7 975 716.51	E 503 427.76	10.21
162	N 7 975 716.61	E 503 429.75	9.70
163	N 7 975 695.25	E 503 086.72	9.47
164	N 7 975 695.35	E 503 089.47	9.98
165	N 7 975 699.38	E 503 201.11	10.54
166	N 7 975 701.81	E 503 268.26	10.20

SETOUT POINTS FOR ORE STOCKPILE PAD

POINT No.	NORTHING	EASTING	EL.
167	N 7 975 702.17	E 503 276.09	10.21
168	N 7 975 704.97	E 503 351.40	10.55
169	N 7 975 707.00	E 503 407.55	10.27
170	N 7 975 692.60	E 503 089.48	9.47
171	N 7 975 696.63	E 503 201.21	10.03
172	N 7 975 698.38	E 503 249.66	9.78
173	N 7 975 700.19	E 503 296.90	9.79
174	N 7 975 702.22	E 503 351.50	10.04
175	N 7 975 704.25	E 503 407.65	9.76
176	N 7 976 028.26	E 503 183.94	10.31
177	N 7 976 014.32	E 503 189.53	10.33
178	N 7 976 034.25	E 503 341.98	10.34
179	N 7 976 020.01	E 503 342.50	10.34

SETOUT POINTS FOR BOTTOM OF DITCH

POINT No.	NORTHING	EASTING	EL.
BOD 20	N 7 976 017.16	E 503 073.05	7.36
BOD 21	N 7 975 958.85	E 503 073.67	7.53
BOD 22	N 7 975 852.44	E 503 077.19	7.85
BOD 23	N 7 975 693.68	E 503 084.82	8.30
BOD 24	N 7 975 690.59	E 503 088.17	8.32
BOD 25	N 7 975 694.33	E 503 201.29	8.66

SETOUT POINTS FOR BOTTOM OF DITCH

POINT No.	NORTHING	EASTING	EL.
BOD 26	N 7 975 696.68	E 503 250.09	8.81
BOD 27	N 7 976 030.82	E 503 445.30	7.92
BOD 28	N 7 975 970.78	E 503 447.02	8.10
BOD 29	N 7 975 866.02	E 503 453.06	8.41
BOD 30	N 7 975 753.57	E 503 455.69	8.75
BOD 31	N 7 975 730.65	E 503 446.87	8.83
BOD 32	N 7 975 713.19	E 503 430.36	8.90
BOD 33	N 7 975 702.82	E 503 407.50	8.98
BOD 34	N 7 975 700.63	E 503 351.56	9.15
BOD 35	N 7 975 699.21	E 503 296.48	9.32

SETOUT POINTS FOR DRAINAGE BERM

POINT No.	NORTHING	EASTING	EL.
TOB 22	N 7 976 017.50	E 503 068.71	9.93
TOB 23	N 7 975 964.33	E 503 069.27	10.07
TOB 24	N 7 975 848.27	E 503 073.37	10.20
TOB 25	N 7 975 794.32	E 503 075.69	10.53
TOB 26	N 7 975 701.29	E 503 081.47	10.00
TOB 27	N 7 975 691.41	E 503 082.09	9.94
TOB 28	N 7 975 687.56	E 503 086.36	9.94
TOB 29	N 7 975 692.11	E 503 221.81	10.53

SETOUT POINTS FOR DRAINAGE BERM

POINT No.	NORTHING	EASTING	EL.
TOB 30	N 7 975 693.64	E 503 257.79	10.77
TOB 31	N 7 975 980.14	E 503 450.88	10.49
TOB 32	N 7 975 869.25	E 503 458.09	11.56
TOB 33	N 7 975 790.17	E 503 459.29	11.27
TOB 34	N 7 975 751.71	E 503 459.07	10.63
TOB 35	N 7 975 730.58	E 503 450.59	10.42
TOB 36	N 7 975 709.86	E 503 430.99	10.43
TOB 37	N 7 975 700.21	E 503 410.17	10.55
TOB 38	N 7 975 698.21	E 503 373.74	10.94
TOB 39	N 7 975 696.35	E 503 291.20	10.79

REFERENCE DRAWINGS

DRAWING NO.	DRAWING TITLE
H349000-3000-10-012-0001	TOTE ROAD – PLAN AND PROFILE
H349000-2000-10-014-0001	MILNE PORT – SITE LAYOUT

PERMIT TO PRACTICE HATCH LTD.
Signature
Date 30 Aug 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND AND SUBCONSULTANTS AND AGENTS FOR THE PURPOSES OF THE AGREEMENT IN WHICH IT APPEARS AND WAS NOT PREPARED FOR USE BY ANY OTHER PERSON OR ENTITY. NO OTHER PERSON OR ENTITY MAY RELY ON THIS DRAWING AND HATCH DOES NOT ACCEPT ANY RESPONSIBILITY FOR ANY UNAUTHORIZED USE OF THIS DRAWING AND ALL USERS RELYING ON THIS DRAWING BY ANY THIRD PARTY DO SO ENTIRELY AT THEIR OWN RISK AND WITHOUT ANY LIABILITY TO HATCH. ANY UNAUTHORIZED MODIFICATION OR REUSE OF THIS DRAWING BY OTHERS AND ITS DISTRIBUTION IN ANY FORM WHATSOEVER IS PROHIBITED. ALL RIGHTS RESERVED AS REFERENCED IN THE AGREEMENT BETWEEN THE PARTIES.

REVISIONS

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
0	CONSTRUCTION	SH	MM		2013-08-30

ISSUE AUTHORIZATION

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	J. CLELAND	2013-08-30

HATCH

DESIGNED BY	K. FALLAHI	DATE 2013-08-23
CHECKED BY	A. MEHELBRIANI	DATE 2013-08-30
PROJ. DES. COORD.	T. THERTELL	DATE 2013-08-30
PROJ. MGR.	J. CLELAND	DATE 2013-08-30
DRAWN BY	M. MCDOUGALD	DATE 2013-08-23
DISCIP. ENGR.	S. HASSANI	DATE 2013-08-30
PROJ. ENGR.	S. PERRY	DATE 2013-08-30

Baffinland

MARY RIVER PROJECT

MILNE PORT
ORE STOCKPILES NO. 3 & 4
EARTHWORKS & DRAINAGE – PLAN

SCALE	DWG. NO.	REV.
1:1000 OR AS NOTED	H349000-2133-10-035-0002	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

mcdo6f4322
30/08/2013 11:05:37 AM
c:\pw\projects\mcdo6f4322\dms74793\H349000-2133-10-035-0002.dgn

Civil

2013-08-28	1	Approved for Use	A. Mohebkhani	S. Hassan	S. Perry	D. Matthews
2013-03-20	0	Approved for Use	A. Mohebkhani	S. Hassan	S. Perry	D. Matthews
DATE	**REV.**	**STATUS**	**PREPARED BY**	**CHECKED BY**	**APPROVED BY**	**APPROVED BY**

© Hatch 2013/08

Table of Contents

1. Introduction 1

1.1 Safety 1

2. Other Project Design Criteria 1

3. Units and Coordinate System 2

4. References 2

4.1 Codes, Regulations and Standards 2
4.2 General 2
4.3 Roads 2
4.4 Stormwater Management 3
4.5 Reference Documents 3

5. Site Development 4

5.1 Site Preparation 4
5.2 Earthworks 4
5.3 Backfilling 6
5.4 Site Grading 6
5.5 Infrastructure Facilities, Laydown and Ore Stockpile Areas 6
5.6 Landfarm 7
5.7 Milne Port Design High Tide 7
5.8 Retaining Walls 8
5.9 Erosion and Sediment Control 8
5.10 Construction and Permanent Fencing 8
5.11 Explosives Magazine Pads and Earth Barricades 8

6. Road Design 9

6.1 General 9
6.2 Road Category 9
6.3 Design Vehicle 9
6.4 Geometric Design Criteria 10
6.5 Pavement Design 11
6.6 Pavement Thickness 11
6.6.5 Pavement Service Life 12
6.6.6 Design Vehicles, Traffic Volume and Load 12
6.7 Parking 12
6.8 Signage 13
6.9 Bollards 13
6.10 Shoulder Barriers (Safety Berms/Guardrails) 13
6.11 Utility Berms 14

© Hatch 2013/08

7. Stormwater Management System 14

7.1 Internal Surface Drainage 14
7.2 External Surface Drainage 15
7.2.1 Peak Flow Estimation 15
7.3 Rainfall Intensity 16
7.4 Sedimentation Ponds 17
7.5 Off-Spec and Treated Effluent Ponds 18
7.6 Culverts and Roadside Ditches 18
7.7 Drainage Interceptor/Collector Berms 19

© Hatch 2013/08

1. Introduction

- The Mary River project site is located in northern Baffin Island, in Nunavut Territory of the Canadian Arctic. The Project currently consists of activities which entail mining high grade iron ore, at a production rate of 3.5 million tonnes per annum, stockpiling it throughout the year at the Milne Port, and shipping the material during the summer months. Development of this Project includes the infrastructure construction and operational activities associated with the Milne Port and Mine Site areas along with upgrading the 100 km Tote Road connecting the two sites. All associated project infrastructure shall be based on a 5 year design life, with the exception of the laydown areas, for which a 1 year design life shall be considered. 1
- The purpose of this document is to provide the necessary information required for the design of infrastructure at the two project sites (Milne Port and Mine Site). The works covered by this criteria include earthworks, site grading, internal roads, stormwater drainage system and the earthworks for service utilities, to be implemented at the project sites. The design criteria proposed in this document shall be treated as minimum requirements for the intended infrastructure design. Refer to Section 2 of this document for a list of other design criteria and technical design documents from the pertinent disciplines. Where a conflict between the various design criteria occurs, the most stringent shall apply.
- This document is intended to address the key criteria required for the design of site infrastructure.

1.1 Safety

The consideration of personnel safety in all stages of the design, construction and operation is paramount. Prime consideration shall be given to safety and reliability to:

- Maximize health and safety for all personnel.
- Minimize environmental impacts.
- Maximize the security of equipment.

2. Other Project Design Criteria

2.1 This design criteria document shall be read in conjunction with other documents which may already exist or will be developed as the project proceeds. These documents include the following:

- Tote Road Design Criteria (H349000-3100-10-122-0001).
- Structural Design Criteria (H349000-1000-35-122-0001).
- ~~Foundation Design Criteria (H349000-1000-35-122-0002).~~ 1
- Aerodrome Design Criteria (H349000-1000-00-109-0001).
- Layout Design Criteria (H349000-1000-50-122-00030. 1
- Foundation Design Basis (H349000-1000-30-109-0001) – For Non-Process buildings. 1

© Hatch 2013/08

3. Units and Coordinate System

3.1 The International System of Units (SI units and prefixes) shall be used for all design calculations and on all drawings.

3.2 The grid coordinates shall be based on: projection - Universal Transverse Mercator (UTM) Zone 17 and horizontal datum - NAD 83 Canadian Spatial Reference System (CSRS).

3.3 Vertical datum shall based on the Canadian Geodetic Vertical Datum of 1928 (CGVD28).

4. References

4.1 Codes, Regulations and Standards

4.1.1 Unless specifically stated otherwise, civil design shall be based on the applicable sections of the latest revisions of the following codes, specifications, standards, regulations and other reference documents. In addition, the design must comply with all laws or regulations of federal and Nunavut territorial authorities.

4.2 General

4.2.1 All applicable federal, territorial (Nunavut) and local laws and regulations.

- OHSA Occupational Health and Safety Act
- CSA Canadian Standards Association
- MHSA Mine Health and Safety Act (Nunavut – S.N.W.T. 1994)
- OHSR Occupational Health and Safety Regulations
- NBCC National Building Code of Canada (2010)
- ASTM American Society for Testing and Materials
- ASCE American Society of Civil Engineers
- NFPA National Fire Protection Association
- NRC Natural Resources Canada – Explosives Safety and Security Branch 1

4.3 Roads

- TAC Transportation Association of Canada – Geometric Design Guide for Canadian Roads
- AASHTO American Association of State Highway and Transportation Officials
- USBM Design of Surface Mine Haulage Roads – A Manual (US Department of the Interior, Bureau of Mines)
- MSHA Haul Road Inspection Handbook – MSHA Document Number PH99-I-4
- MTO Ministry of Transportation, Ontario – Ontario Traffic Manual 1

© Hatch 2013/08

4.4 Stormwater Management

- MOE Ministry of the Environment - Stormwater Management Planning and Design Manual
- MTO Ministry of Transportation, Ontario – Drainage Manual
- CDA Canadian Dam Association – Dam Safety Guidelines 1

4.5 Reference Documents

Reference will be made to/contents have been used from the following documents, articulated during the previous phases of the project, during the development of these criteria:

- H337697-0000-10-122-0001: Stormwater Management and Drainage System Design.
- H337697-6170-10-122-0001: Milne Port Drainage System and Stormwater Management Ponds.
- H337697-6170-10-122-0002: Mine Site Drainage System, Stormwater and Sediment Management.
- H337697-0000-15-124-0004: Geotechnical Data Report – Infrastructure.
- Standard Specification S311213: Quarried Fill Materials.
- Standard Specification S003120: Site Conditions.
- NB 102-181/30-7: Baseline Hydrology Report, Knight Piesold, Jan 04, 2012.
- BIM - Early Revenue Phase Mine Haul Road Design Criteria.
- BIM - Early Revenue Phase Tote Road Design Criteria.
- H349000-3000-00-124-0001: NB102-00181 Bulk Sampling Program – Road Upgrade Design Summary.
- Final Environmental Impact Statement (FEIS), Mary River Project, February 2012.
- Nunavut Impact Review Board (NIRB) Project Certificate (No.:005), Dec 28, 2012.
- H349000-4221-10-220-0001: Number of Runaway Truck Arresting Provisions for the Mine Haul Road, Project Memo. 1
- H349000-2133-10-220-0001: Runoff Coefficient for the Milne Port Ore Stockpile Pad, Project Memo. 1
- H349000-1000-15-122-0001: Geotechnical Design Criteria 1
- H349000-1000-10-220-0001: Stormwater Sedimentation Pond Design Criteria, Project Memo. 1
- E349000-1000-00-124-0005: Design Brief – Milne Inlet Landfarm, November 2012, EBA File E14101174. 1

© Hatch 2013/08

5. Site Development

Site development refers to construction of civil infrastructure to support construction and operation of facilities. The following sections list the site development activities and establish criteria that shall be adhered to when carrying out site development design works.

5.1 Site Preparation

5.1.1 Construction areas shall be cleared of vegetation, and temporary drainage systems shall be provided prior to construction activities taking place within the proposed areas for the new site facilities.

5.1.2 Topsoil and/or existing roots shall be removed to a minimum depth of 150 mm, if required, from all areas where buildings, roads, yards and services are to be constructed, and shall be stockpiled in designated areas. Disposal options shall include on-site reuse, development of a designated stockpile area for disposal, or removal by truck to off-site areas, as instructed by the Company.

5.1.3 During the summer months, wetlands or areas with standing water shall be drained and the drying of such shall be promoted prior to construction. Watercourses shall be re-routed with the use of cut-off ditches, or re-aligned engineered channels.

5.1.4 Waste material shall be stockpiled in designated areas with the appropriate erosion and sedimentation control measures in place. 1

5.2 Earthworks

5.2.1 Earthworks is defined as the activity of moving soil and/or rock. Earth-moving activities are required in order to obtain the required design elevations of the ground surface. Earthworks includes cut (if required) and fill for roads, buildings and equipment pads, utility berms, foundation excavation, and construction of ditches, diversion channels and berms, dikes, etc. Earthworks shall be carried out in accordance with the following general guidelines: 1

- Existing unsuitable soils shall be removed and replaced with suitable material.
- Fill materials shall be placed and compacted over the proof-rolled subgrade in order to achieve adequate bearing capacities, as required for specific construction activities.
- Rocks/boulders and similar objects adjacent to areas which shall undergo excavation must be removed or secured, if they potentially endanger workers/machinery.
- The following criteria shall be used to determine the suitability of the soil for fill:
  - Satisfactory soil: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and, SM, or a combination of these groups; non ice-rich, free of debris, waste, vegetation and other deleterious matter. 1
  - Unsatisfactory soil: According to ASTM D 2487 Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH and PT; according to AASHTO M145 Soil Classification Groups A-2-6, A-2-7, A-4, A-5, A-6 and A-7 or a combination of these groups. Also, ice-rich soils or soils containing traces of contamination and/or organic materials. 1
  - Water shall be diverted away from excavations, so it does not saturate the side slopes.

© Hatch 2013/08

- If pipes are located in the vicinity of the slopes, erosion control measures shall be in place as mitigation for eventual leaks.
- No loads, including excavated material, traffic of vehicles or heavy machinery shall be allowed near the crest of the slopes (at a distance equal to the height of the excavation) if the slope-support solutions did not take such loads into account.
- Dust control measures shall be in place.
- For delineation of the project development boundaries, the minimum setback from freshwater aquatic environments, including fish-bearing streams and water bodies shall be as per NIRB Project Certification No.005. In general, a minimum 5 m set back shall be provided for non fish-bearing water bodies and streams, due to the potential risks of erosion and slope stability.
- Culvert installation in fish-bearing streams shall follow DFO guidelines.

5.2.2 Table 5-1 provides the minimum slope ratios that shall be used in cuts/excavations or fills/embankments. It must be noted that specific studies must be carried out by geotechnical engineers, if these slopes are to be modified with the aim of lowering costs of cut and/or fill.

Table 5-1: Minimum Slope Ratios

Type of Earthworks	Layer	Ratio H:V	
Permanent unsupported cuts	Overburden (ice-rich)	2:1	1
	Overburden (non ice-rich)	1.5:1	1
	Rock (less than 4m)	1:8	1
Permanent fills (on natural, firm ground)	Granular fill	1.5:1	
	Base and Subbase	1.5:1	
	Rock fill	1.5:1	1

Notes:
1. The maximum heights and ratios shall be determined considering slopes with typical geometry and no surcharge.
2. The above-listed parameters serve as minimum requirements, and shall be updated/modified based on confirmation/update of the site-specific conditions and/or geotechnical recommendations, or as per BIM's directions.
3. Any geometry and load condition not covered by the table above shall be reviewed by the geotechnical engineer.
4. The granular fill is assumed to be in a drained condition.
5. If the total fill height is greater than 2 m, geotechnical stability analysis and benching requirements shall be considered on a case-specific basis. 1
6. For overburden cut/fill heights of greater than 5 m, 1.5 m wide benching with minimum 2% cross slope shall be provided. 1
7. The absolute minimum fill slope for granular material is 1.5H:1V. However, the desirable slope is 2H:1V.
8. The absolute minimum fill slope for rock fill material is 1.25H:1V. However, the desirable slope is 1.5H:1V.
9. For the haul road, the fill side slopes shall be 2H:1V, depending on the site conditions and slope stability.
10. Stability assessments of some cut and fill slopes may be required. 1
11. For rock cut heights greater than 4 m, 1H:4V slope shall be used with 2 m wide benching and minimum 2% cross slope at every 6 m.

5.2.3 In general, cut activities in permafrost shall be avoided/minimized. However, cut may be required to reduce large fills and high embankments that may affect/endanger slope stability. In addition, within areas where the cut materials can be reused as fill, the suitability of performing cuts in the native soil shall be reviewed by BIM and the geotechnical engineer for requirements of soil treatment/improvement, including geogrids and geotextiles, prior to implementation into the final design. 1

© Hatch 2013/08

5.3 Backfilling

5.3.1 The gradation of fill material shall be within the Type 5 (32 mm minus) gradation limit for finish grading, within the Type 8 (150 mm minus) and/or suitable earth fill material gradation limit for rough grading, and Type 12 (600 mm minus) and/or suitable earth fill material gradation limit for the rest of the mass backfill. The surface voids of each layer of Type 12 (i.e. Run-of-Quarry material) shall be filled with rock fragments prior to the next layer being placed. 1

5.4 Site Grading

5.4.1 If applicable, finish grade elevations for roads and yards shall be set a minimum of 100 mm below the finish floor elevation of buildings/sheltered areas, with local ramps provided at doorways, as required. 1

5.4.2 Finish grading and yard grading shall be set to slope away from planned structures at a minimum of 0.5% to 2%, and drain to a storm drainage collection system. For very long-run and localized areas, the slope shall be reduced or increased, depending on the existing ground slope and the grading around the buildings and facilities.

5.4.3 Site grading shall produce a useable and easily maintainable ground surface, not subject to flooding or erosion. The rough grades and finish grades shall adhere to the following:

- Final road and site grades shall ensure suitable pedestrian and vehicular access to buildings and facilitate adequate drainage of the site.
- Building floor elevations shall be established such that the ground floor of the buildings will not be subject to flooding in the event that the storm drainage system fails.
- Elevations of buildings/sheltered areas shall be established to permit gravity connections into sanitary sewers if possible, to avoid the need for pumps.

5.5 Infrastructure Facilities, Laydown and Ore Stockpile Areas

5.5.1 Temporary/permanent equipment and construction material laydown areas shall be provided as per the applicable Contract Drawings. The sizes of the footprints shall be optimized to keep disturbed areas to a minimum and still provide enough room for storage of material/equipment and circulation of mobile cranes/vehicles.

5.5.2 The subgrades shall be prepared via cut/fill activities prior to pavement installation/placement. If the height of the subgrade fill is less than 600 mm, Type 8 (150 mm minus) fill shall be used. If the height of the subgrade fill is greater than 600 mm, Type 12 Run-of-Quarry (600 mm minus) and/or suitable earth fill material shall be used. The voids of each layer of Type 12 shall be filled with rock fragments prior to placement of the next layer. 1

5.5.3 In general, following attainment of the subgrade, the pavement shall be laid on top, with the following minimum thicknesses/material types for infrastructure facility pads and other areas:

- 300 mm, Type 8 (150 mm minus) subbase.
- 100 mm, Type 5 (32 mm minus) base/wearing surface course. 1

© Hatch 2013/08

5.5.4 Depending upon the area and specific requirements such as insulation for permafrost protection, the minimum pavement thicknesses and placement of wearing courses may differ from the above-listed.

5.5.5 There shall be no insulation under “fold-away” and “fabric” buildings constructed on non-frost susceptible ground material (typical for Milne Port). 1

5.5.6 Insulation shall be provided under “fold-away” and “fabric” buildings constructed on frost susceptible ground material (typical for Mine Site). 1

5.5.7 Frost susceptible and ice-rich soils shall be excavated to the extent required and backfilled with Type 12 Run-of-Quarry (600 mm minus). Non-frost susceptible soils with no visible ice shall not be excavated. 1

5.6 Landfarm

~~5.6.1~~ ~~Both the Milne Port and Mine Site landfarms shall be designed as per the criteria listed in Section 3.2 of Annex 5 in the FEIS, Attachment 5: Waste Management Plan for Construction Operation, and Closure; Appendix 10D-4.~~ 1

~~5.6.2~~ ~~The overall geometry as well as the liner details shall be as per Figure 3, “Hydrocarbon Impacted Soils Storage and Landfarm Facility – Preliminary Design of Landfarm Facility” contained within Attachment 5.~~ 1

5.6.3 EBA Engineering Consultants Ltd. has already carried out the design for the Milne Port Landfarm. 1

5.6.4 Milne Port and Mine Site Hazardous Waste Containment designs shall be carried out as per environmental requirements. They shall be lined, and shall contain sumps. 1

5.7 Milne Port Design High Tide

5.7.1 The design High Tide levels for the Project shall be as follow: 1

- The Higher High Water Level (HHWL) for large tides at the Milne Port is +2.3 m above Chart Datum (CD) which corresponds to +1.1 m above Mean Sea Level (MSL). 1
- The Highest Astronomical Tide (HAT) at the Milne Port is +2.4m above CD which corresponds to +1.2 m above MSL. 1
- The Lower Low Water Level (LLWL) for large tides at the Milne Port is +0.0 m above CD which corresponds to -1.2 m below MSL. 1

5.7.2 The toe of ramp and earthworks pad leading down to the sea lift from the laydown area, including the designated turnaround area at the beach within the Milne Port shall have a design elevation greater than +1.2 m above MSL. 1

5.7.3 Landing pad elevation at the beach shall be minimum 7’ (2.15 m) above the average between the HHWL and LLWL (i.e. +3.3 m above CD which corresponds to +2.1 m above MSL). 1

© Hatch 2013/08

5.8 Retaining Walls

5.8.1 Retaining walls and structures shall be designed based on site-specific conditions. Lateral pressure coefficients for design of retaining walls shall be as per the geotechnical recommendation.

5.8.2 Retailing walls shall be avoided to the greatest extent possible. Concrete, gabion walls, crib walls, reinforced earth and/or other systems of retaining structures shall be used, if required.

5.9 Erosion and Sediment Control

5.9.1 Erosion and sediment control measures shall be installed as required, in and around the project sites in order to minimize sediment transport off the site.

5.9.2 Control measures shall be designed to:

- Minimize the size of disturbed areas.
- Remove sediments from on-site runoffs prior to the runoff leaving the sites.
- Prevent sediments from off-site runoffs flowing across disturbed areas.
- Reduce runoff velocity flowing across the site.
- Meet local requirements for erosion and sediment control plans as defined in the FEIS.

5.9.3 A minimum set back of 30 m from fish-bearing streams and lakes or water bodies shall be provided. Any exception to this shall be consulted with and approved by the Project's environmental team. 1

5.10 Construction and Permanent Fencing

5.10.1 Chain link fence, where required, shall be galvanized, with a minimum height of 1.8 m.

5.10.2 Two strands of barbed wire shall be bracketed off the top of the fence for safety reasons, where required by the Company.

5.10.3 Fencing within the sites shall be provided as required and as directed by the Company.

5.11 Explosives Magazine Pads and Earth Barricades 1

5.11.1 Explosives magazine pads shall be designed as per the criteria in Section 5.5 of this document. 1

5.11.2 Geometry of the Explosives Magazine Earth Barricades shall be designed in accordance with the Quantity-Distance Principles Manual from the Natural Resources Canada, Explosives Safety and Security Branch. 1

© Hatch 2013/08

6. Road Design

6.1 General

6.1.1 The access roads at the two project sites may be temporary or permanent. An access road is defined as temporary if it will be used only during the construction period, including site predevelopment or site capturing. If an access road will be used during the operational period as well, it is defined as permanent. A 100 km roadway provides access from the Mine Site to the Milne Port (Tote Road), the design criteria for which is included in a separate document. In addition, there is a mine haul road along with internal site roads at the Mine Site, and internal site roads only within the Milne Port, in order to accomodate the mining operations.

6.1.2 The design and construction of mine haul roads, access and internal site roads at the project sites shall provide a safe environment for construction, operations and maintenance personnel, and shall facilitate the mining operations, ore transport and port operations in an efficient manner. In addition, the design shall comply with the relevant standards, guidelines, acts, approvals, permits, and other contractual environmental requirements of Baffinland as defined in Section 2 of this document.

6.2 Road Category

6.2.1 For the purposes of this design criteria, the roads are classified in three categories:

- **Mine Haul Roads -** The purpose of this type of road is for the mining operation at the mine site - hauling of ore from the open pit to the crusher pad and for maintenance purposes, from the crusher pad to the maintenance building. The mine haul road shall be segregated from the other project roads for safety considerations, and shall comply with the applicable Nunavut MHSA.
- **Permanent Access and Internal Site Roads –** These roads provide two way access to and link the various facilities/areas within each site, where B-Trains will travel in both directions.
- **Facility Service Roads –** These roads provide two way access to various facilities/areas within each site, where light vehicles will travel in both directions.
- **Tote Road –** 100 km road providing access from the Mine Site to the Milne Port.

6.3 Design Vehicle

6.3.1 The following design vehicles shall be utilized for the design of the associated project roadways:

- CAT 777G Haul Truck for the Mine Haul Road.
- B-Train (12 axle) for Permanent Access Roads and Internal Plant Roads (150 metric tonnes payload) that need to be utilized by the Tote Road trucks. 1
- CAT 740B for Waste Rock Drainage Pond/Berm. 1
- Other types of design vehicles have been used for the remainder of the Project roadways and a fire truck has been considered as the minimum design vehicle for fire access routes. 1

© Hatch 2013/08

6.4 Geometric Design Criteria

6.4.1 All roads shall be designed as gravel roads and shall accommodate the design vehicle specified in Section 6.3 of this document. The roads' geometric design parameters are specified below.

Table 6-1: Geometric Design Criteria

Road Type	Permanent Internal Plant Road	Infrastructure Facility Service Road	Haul Road – Open Pit to Crusher Pad	Waste Rock Dump Road	Haul Road Switchback	Truck Escape Ramps
Number of Lanes	2	2	2	1	2	1
Design Speed (km/h)	30	30	50	30	30	90
Posted Speed (km/h)	20	20	40	20	20	-
Total Road Width (m)	9.2	8 or 6	20	13	20	9
Minimum Horizontal Curve C/L Radius (m)	35	35	100	50	35	280
Minimum Intersection Inner Radius (m)	15	15	30	30	30	-
Minimum Cross Slope (%)	2	2	3	3	3	3
Maximum Grade (%)	10	10	10	10	8	20
Minimum K Value (Vertical Sag Curve)	8	8	12	8	8	3
Minimum K Value (Vertical Crest Curve)	4	4	16	4	4	-
Maximum Super-elevation (%)	4	4	4	4	4	6
Minimum Vertical Clearance	7	5	9	9	9	-

Notes:
1. The road design parameters are based on the desirable design speeds. Specific parameters such as the minimum turn radii may be modified for some areas locally on a case-by-case basis, via adjustment of the design speeds.
2. The Haul Road width shall be based on the Nunavut Mine Health and Safety Act which requires a minimum travel width three times the width of the widest haulage vehicle for dual lane traffic and two times the width of the widest haulage vehicle for single lane traffic.
3. Shoulder barriers (safety berms or guardrails) for the Haul Road shall be based on the Nunavut Mine Health and Safety Act which requires shoulder barriers of at least ¾ the height of the largest tire of any vehicle using the road and shall be provided along the edge of the haul road wherever a drop-off greater than 3.0m exists. For CAT 777G, the shoulder barrier (safety berm or guardrail) height shall be 2.0 m based on standard tire 27.00 R49 (E4).
4. Total road width includes shoulder width and snow allowance but doesn't include the safety berm width for the haul road.
5. ~~For the single lane Haul Road from the crusher pad to the maintenance building, pullouts shall be provided at every 100m.~~
6. Widening shall be provided in roadway curves as necessary.
7. Need for geotextiles or geogrids shall be considered on a case-specific basis.
8. For the Tote Road design criteria, refer to H349000-3100-10-122-0001.
9. Provide safety stations, emergency ramps or escape lanes in accordance with the local and mine safety requirements. Hatch will only provide two escape ramps at the most critical locations as per BIM's instruction. Escape ramp design shall be carried out as per the USBM manual.
10. For cut/fill heights of greater than 5 m, provide 1.5 m wide benching with minimum 2% cross slope at every 5 m.
11. The ramp leading down to the sea lift from the laydown area at the Milne Port shall have a maximum grade of 8%.
12. The maximum grade for ramps to the buildings is 6%.
13. Fill toe key shall be provided in areas where the existing ground is steeper than 3H:1V away from the road.
14. Design speeds may be reduced locally if needed.

© Hatch 2013/08

6.4.2 The following general rules shall apply to the geometric design of the project roads:

- Roadway grades shall not exceed the maximum grades specified in Table 6-1, except for short ramps which shall be considered on a case-specific basis.
- Signage shall be provided for speed and caution at steep horizontal and/or vertical curves, and where the design criteria can't be met.
- Light poles, traffic signs and shoulder barriers (safety berms or guardrails), shall be placed at the outer edges of the roads, as required.

6.5 Pavement Design

6.5.1 The design of pavement structures requires information such as the expected pavement service life, design vehicle traffic volume, loads, and geotechnical information such as soil type and California Bearing Ratio (CBR).

6.6 Pavement Thickness

6.6.1 For the project internal site roads, the subgrades shall be prepared via cut/fill activities prior to pavement installation/placement. If the height of the subgrade fill is less than 600 mm, Type 8 (150 mm minus) material shall be used. If the height of the subgrade fill is greater than 600 mm, Type 12 Run-of-Quarry and/or suitable earth fill material shall be used. The voids of each layer of Type 12 material shall be filled with rock fragments prior to placement of the next layer. 1

6.6.2 The following minimum internal site road pavement thicknesses shall be used throughout the project:

- 300 mm, Type 8 (150 mm minus) subbase.
- 100 mm, Type 5 (32 mm minus) base/surface course for low speed light vehicle traffic roads and low speed B-Train traffic roads. 1
- 200 mm, Type 5 (32 mm minus) base/surface course for medium to high speed B-Train traffic roads. 1

6.6.3 The following minimum haul road pavement thicknesses shall be used throughout the project:

- 300 mm, Type 8 (150 mm minus) subbase.
- 300 mm, Type 8 (150 mm minus) base.
- 200 mm, Type 5 (32 mm minus) base/surface course. 1
- ~~900 mm, Type 12 Run-of-Mine structural subgrade (varies depending on the actual site conditions).~~ 1

6.6.4 The ramp and earthworks pad leading down to the sea lift from the laydown area, including the designated turnaround area at the beach within the Milne Port shall contain the following pavement thickness:

- 300 mm, Type 8 (150 mm minus) subbase.
- 200 mm, Type 5 (32 mm minus) base/surface course. 1
- ~~100 mm Type 3 (19 mm minus) wearing course.~~ 1

© Hatch 2013/08

6.6.5 Pavement Service Life

6.6.5.1 The service life of the site pavements, prior to any structural rehabilitation work being required, shall be 5 years, unless noted otherwise for specific items.

6.6.6 Design Vehicles, Traffic Volume and Load

6.6.6.1 Vehicle types have been selected for the project roads based on the expected usage and transportation requirements of the area (Section 6.3).

6.6.6.2 All pavement, slabs, bridges, trenches, trench covers and underground installations accessible to trucks shall be designed to withstand the load associated with an HS 20-44 wheel load or its equivalent, as defined by the American Association of State Highway and Transportation Officials (AASHTO) under Standard Specification for highway bridges. However, within areas of special equipment operation, this shall be considered as per the actual vehicle loading.

6.7 Parking

6.7.1 Parking areas shall be designed to accommodate their intended use. In general, all parking areas shall be surfaced with granular materials.

6.7.2 Vehicle parking area design shall adhere to the following:

- The area shall be graded to direct stormwater away from the parking. 1
- Alignment and gradients shall be coordinated with the grading plans to control drainage.
- Walking distance from parking areas shall be kept to a minimum.
- Barrier-free parking spaces as well as walkways shall be provided according to the applicable regulations.
- Designated turnaround areas shall be provided at dead ends.
- Parking lot design criteria shall be as shown in Table 6-2.

Table 6-2: Parking Lot Design Criteria

Topic	Criteria
Gradient	Maximum 5% Minimum 0.5% Optimum 2%
Cross Slope	Maximum 5% Minimum 2% Optimum 3%
Pavement Structure	300 mm Type 8 (150 mm minus) subbase 100 mm Type 5 (32 mm minus) base/wearing surface course 1 ~~50mm wearing course~~ 1
Parking Stall Dimensions	Driving Lane • Width 7.5 m Standard

© Hatch 2013/08

Topic	Criteria
	• Depth 6 m • Width 2.75 m Barrier-free • Depth 6 m • Width 3.5 m • Access Aisle Width 1.5 m

6.8 Signage

6.8.1 Traffic control signs and road edge markers shall be provided as required to ensure safe movement in and about the site.

6.8.2 Direction and information signs for both vehicle and pedestrian traffic shall be provided for parking areas, restricted areas, shipping and receiving.

6.8.3 Primary identification signs shall be free-standing and sited according to the applicable standards as listed in Section 4.3.

6.8.4 Other signs shall be free-standing, fence-mounted or wall-mounted.

6.8.5 Security signs shall be provided at the sites and along the site property boundaries.

6.8.6 Signs for the site access roads shall be compliant with the local traffic regulations.

6.8.7 Signs shall be lighted, if deemed necessary.

6.8.8 All signs and pavement markings (if applicable) shall be well maintained during the construction and operational periods.

6.9 Bollards

6.9.1 Bollards, if required, shall be provided at building entrances and around hazardous areas such as tanks and transformers. Bollards shall be 1.2 m high, 150 mm diameter schedule 40 CS pipes. 1

6.9.2 Bollards shall be filled with concrete.

6.9.3 Bollards shall be painted and coated such that they provide clear reflection off of vehicle headlights.

6.10 Shoulder Barriers (Safety Berms/Guardrails)

6.10.1 Shoulder barriers (earth safety berms or guardrails) shall be provided where a 3.0 m or more drop-off exists at the edge of roads. 1

~~6.10.2~~ ~~Shoulder barriers shall be installed where the horizontal distance from the edge of a travelled lane to an obstruction is less than 1.0 m~~ 1

© Hatch 2013/08

6.10.3 Earth/safety berms for the Mine Haul Road from the open pit to the crusher pad and from the crusher pad to the maintenance building shall have heights of 2.0 m, and side slopes of 1H:1V. 1

6.10.4 Safety berms for the internal roads shall have heights of 1.0 m and side slopes of 1H:1V. 1

6.10.5 Discontinuous openings shall be provided in berms at maximum 25 m spacing for drainage and snow clearance, with openings smaller than half the blade width of vehicles constructing or maintaining the berms. 1

6.10.6 Runaway vehicle collision berms or escape lanes shall be provided in accordance with industry requirements as described in the Nunavut MHSA.

6.11 Utility Berms

6.11.1 Utility Berms shall travel along the project roadways to the greatest extent possible, shall be of trapezoidal cross-sections, shall be minimum 0.6 m high from the road edge or the existing ground, and shall have maximum fill side slopes of 1.5H:1V, as validated by the geotechnical engineer. They shall be constructed with the use of 300 mm of granular Type 8 (150 mm minus) and 100 mm of granular Type 5 (32 mm minus) material. If the height of the subgrade fill is less than 600 mm, Type 8 (150 mm minus) fill shall be used. If the height of the subgrade fill is greater than 600 mm, Type 12 Run-of-Quarry and/or suitable earth fill material shall be used. The voids of each layer of Type 12 material shall be filled prior to placement of the next layer. The top width of utility berms will depend on the pipe and cable duct sizes. Utility berms shall cross roadway intersections through utility sleeves. After crossing the intersections, they shall resume the alignments within the utility berms. 1

7. Stormwater Management System

7.1 Internal Surface Drainage

7.1.1 The general criteria for the site internal stormwater management system are described below.

- All interior site grading and roads shall be designed to provide continuous overland flow without erosion to a drainage ditch system.
- All drainage ditches should be of trapezoidal cross sections, where possible. 1
- Ditches shall be designed to convey a 1 in 25 year flood event.
- Provision must be made to ensure that there is a safe flow path for events up to the 1 in 100 year event, such that the runoff will not flood key mining areas, cause significant erosion, pick up excessive contaminants or cause other significant problems.
- Ditch freeboard, minimum depth, minimum width, side slope, longitudinal slope and maximum permissible velocities shall be as per Table 7-2.
- Minimum set back distance of structures from top of drainage ditch slopes shall be 3 m.
- Roof and yard drainage shall be collected in open ditches.

© Hatch 2013/08

- Rip rap shall be provided at locations throughout the storm drainage system which are susceptible to erosion, including ditch sections subject to high-velocities (greater than 1.5 m/s), sections of super critical flow, ditch outlets, storm sewers outfalls, and culverts inlets and outlets.
- If the ditch is in rock, no rip rap is required.
- Energy dissipaters shall be used where the flow velocities may reach values high enough to cause severe erosion or hydraulic jumps.

7.2 External Surface Drainage

Criteria for drainage of the external area are as follow:

- Runoff from undisturbed areas surrounding the mine site shall be collected in perimeter ditches and diverted around and/or through the site perimeter.
- To the extent possible, these perimeter ditches shall be designed to discharge at locations that best retain the characteristics of the existing (i.e. pre-development) natural drainage patterns.
- Diversion ditches shall be designed to convey the 1 in 100 year flood event.
- Ditch freeboard, minimum depth, minimum width, side slope, longitudinal slope and maximum permissible velocities shall be as per Table 7-2.

7.2.1 Peak Flow Estimation

- **For catchment areas greater than 0.5 km^2:** 1

Runoff peak flow estimation shall be based on the following equations developed by Knight Piésold Consulting:

$Q_2 = 1.1\ A^{0.79}$

$Q_5 = 1.7\ A^{0.77}$

$Q_{10} = 2.0\ A^{0.76}$

$Q_{25} = 2.6\ A^{0.75}$

$Q_{100} = 3.5\ A^{0.73}$

$Q_{200} = 3.9\ A^{0.73}$

Where:

Q=peak flow instantaneous flow in m^3/s

A = drainage area in km^2 (0.5 km^2 $\leq$ A $\leq$ 1000 km^2)

- **For catchment areas less than 0.5 km^2:** 1

The Rational Method shall be used for peak flow estimation, as follows:

Q = 0.28 CIA

Where:

Q = peak instantaneous flow in m^3/s

A = drainage area in km^2

© Hatch 2013/08

C = runoff coefficient = 0.90 (for all drainage areas except the Milne Port Ore Stockpile footprint, for which C = 0.0, as per BIM's instructions). 1

I = rainfall intensity corresponding to the time of concentration (mm/hr), estimated using Table 7-1 below.

- Time of Concentration shall be computed with the modified Kirpich equation:

$T_c = 0.06628 (L^{0.77}/S^{0.385})$

Where:

T_c = time of concentration (hours)

L = main channel length (km)

S = main channel slope (m/m)

Minimum T_c = 10 min

7.3 Rainfall Intensity

7.3.1 Table 7-1 displays the Intensity-Duration-Frequency data which shall be used for peak flow runoff approximation, developed by Knight Piesold consulting:

Table 7-1: Rainfall Intensity (mm/h)

Duration	2 yrs	5 yrs	10 yrs	15 yrs	20 yrs	25 yrs	50 yrs	100 yrs	200 yrs
5 min	9.5	12.0	14.0	15.1	15.9	16.5	18.3	20.1	22.0
10 min	7.2	9.0	10.5	11.3	11.9	12.4	13.7	15.1	16.5
15 min	6.0	7.5	8.7	9.4	9.9	10.3	11.4	12.6	13.7
30 min	5.0	6.3	7.3	7.9	8.3	8.6	9.5	10.5	11.4
1 hr	4.0	5.2	6.1	6.6	7.0	7.3	8.1	9.0	9.9
2 hr	3.0	3.9	4.6	5.0	5.2	5.5	6.1	6.8	7.4
6 hr	2.0	2.7	3.3	3.6	3.9	4.0	4.6	5.1	5.7
12 hr	1.3	1.8	2.2	2.4	2.6	2.7	3.1	3.4	3.8
24 hr	1.0	1.4	1.7	1.9	2.0	2.1	2.4	2.7	3.0

7.3.2 Figure 7-1 displays the 200 year design storm distribution:

© Hatch 2013/08

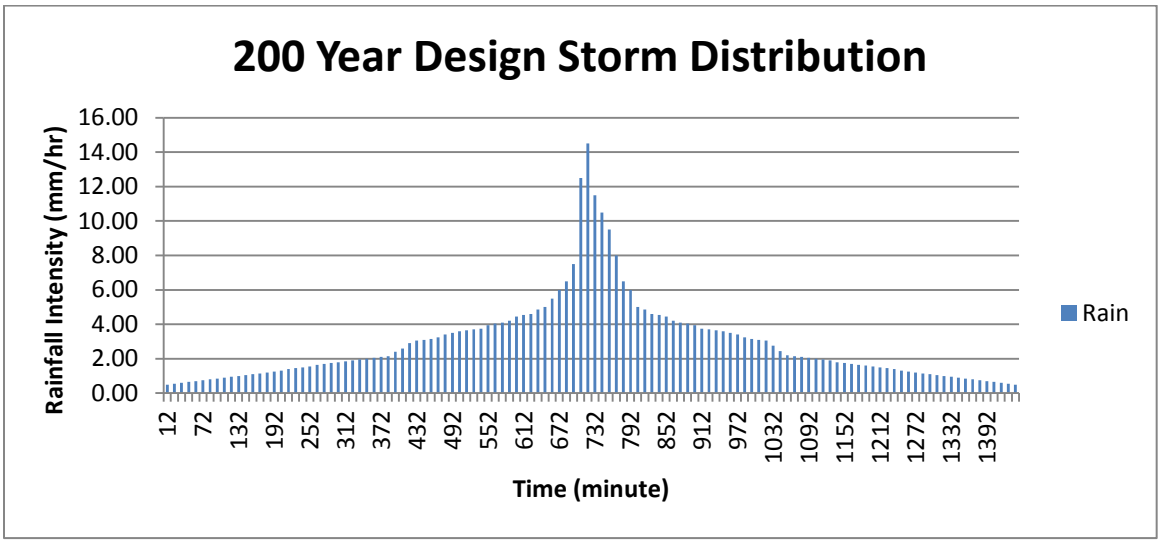


Figure 7-1: 200 Year Storm Distribution

7.3.3 The 200 year 24-hour balanced storm depth is 71 mm.

7.4 Sedimentation Ponds

7.4.1 Sedimentation ponds shall only be provided at the Milne Port Ore Stockpile area, Mine Site Crushing and Screening area and the Mine Site Waste Rock Drainage area. For all other areas, including infrastructure facility pads, laydown areas and roads, the water is considered to be clean and no sedimentation ponds shall be provided. 1

7.4.2 The general design criteria for the project sedimentation ponds are as follow:

- Ponds shall be sized based on 1 in 10 year, 24 hour design storm volumes. 1
- Runoff coefficient to estimate runoff shall be 0.9 for all drainage areas except the Milne Port Ore Stockpile footprint, for which the runoff coefficient shall be 0.0 as per BIM's instructions. 1
- Sedimentation shall be for Total Suspended Solids (TSS) ≤ 30 mg/l for a single sample and TSS ≤ 15 mg/l for the monthly average.
- Sedimentation ponds shall contain emergency overflow weirs of sufficient capacity to safely convey a 1 in 200 year return period storm event or the Probable Maximum Flood (PMF), maximum wind-induced waves, or unexpected operational difficulties. 1
- Emergency overflow weirs shall be designed to handle applicable design storms, such that the pond high water level does not increase past the set freeboard elevation. 1
- Emergency overflow weirs shall be designed as broad-crested weirs with rip rap. 1
- Gabion mattresses shall be provided at the downstream locations of emergency overflow weirs as energy dissipation measures to protect against erosion. 1
- The following broad-crested weir capacity flow equation shall be used for sizing the Project emergency overflow weirs:

© Hatch 2013/08

$Q = CLH^{3/2}$ Where:

Q = Peak instantaneous flow (m^3/s)

C = Weir discharge coefficient

L = Width of weir (m)

H = Depth of flow (m), measured 2.5H upstream of the weir discharge point

- Deep sedimentation ponds shall be avoided as much as possible. Sedimentation pond depths shall be kept to less than 5 m, to avoid non-compliant TSS removal/efficiency and other safety concerns.
- Berm/embankment side slopes for the ponds shall be 3H:1V.
- Mine Site Ore Crushing and Screening and Waste Rock Drainage sedimentation ponds shall be lined and the discharge from the ponds shall be controlled.
- Milne Port Ore Stockpile pond(s) can be lined/unlined and depending on its impact to the environment and permafrost as well as geotechnical stability, the discharge from the pond(s) can be controlled/uncontrolled.
- Ponds with storage volumes greater than 30,000 m3 and heights exceeding 2.5 m shall be classified as dams and shall meet the dam safety requirements as per the Canadian Dam Association's Dam Safety Guidelines (CDA 2007).

7.5 Off-Spec and Treated Effluent Ponds

7.5.1 The off-spec effluent pond at the Milne Port shall be sized based on the storage requirements specified in the event that the sewage treatment plant does not meet effluent discharge criteria and/or the system halts operations due to technical difficulties.

7.5.2 The treated effluent pond at the Mine Site shall be sized based on the requirements for 10 months storage of treated sewage generated at the Mine Site during the period in which the body of water receiving the discharge (i.e. Mary River) is frozen.

7.5.3 The ponds shall have minimum freeboards of 0.3 m.

7.5.4 The ponds shall have side slopes of not steeper than 3H:1V.

7.5.5 The effluent ponds shall be lined.

7.6 Culverts and Roadside Ditches

7.6.1 Drainage ditches and culverts for all internal/access roadways and vehicle access points shall be designed to convey the runoff peak flow from a 1 in 25 year return period storm, such that the inlet headwater level does not exceed the bottom of the road subbase. Their analysis and design shall consider design flow, culvert size and material, entrance structure layout, outlet structure layout and erosion protection.

7.6.2 Drainage ditch design shall also be subject to the criteria stated in Table 7-2.

© Hatch 2013/08

Table 7-2: Drainage Ditch and Culvert Design Criteria

Maximum permissible flow velocity in ditch without rip rap (m/s)		1.5
Minimum ditch and culvert slope (%)		0.3
Minimum freeboard for ditch (mm)		300
Minimum ditch depth for internal roads and other areas (mm)		300
Minimum ditch bottom width for internal roads and other areas (mm)		500
Minimum rock ditch depth for haul road (mm)		500
Minimum ditch bottom width for haul road (mm)		1000
Ditch side slopes (H:V)	Rock	1:4
	Soil	2:1
Minimum culvert diameter (mm)		500

~~7.6.3~~ ~~All culverts shall have 50 mm diameter steam pipes welded at the top inner sides for prevention of water from freezing.~~

7.6.4 Loading over culverts and pipes shall be in accordance with AASHTO HS 20-44, except for areas of special equipment operation, which shall consider actual vehicle loading. The minimum cover for culverts shall be 600 mm, or as required by the differing specific design vehicle.

7.6.5 Fish-bearing culverts shall be minimum 1,000 mm diameter and only one pipe shall be embedded by 10% of the pipe diameter.

7.6.6 All culverts shall be Corrugated Steel Pipe (CSP).

7.6.7 Apply Manning's n values as per the following:

- n = 0.025 for gravel ditches
- n = 0.040 for rip rap ditches
- n = 0.024 for all CSP pipe.

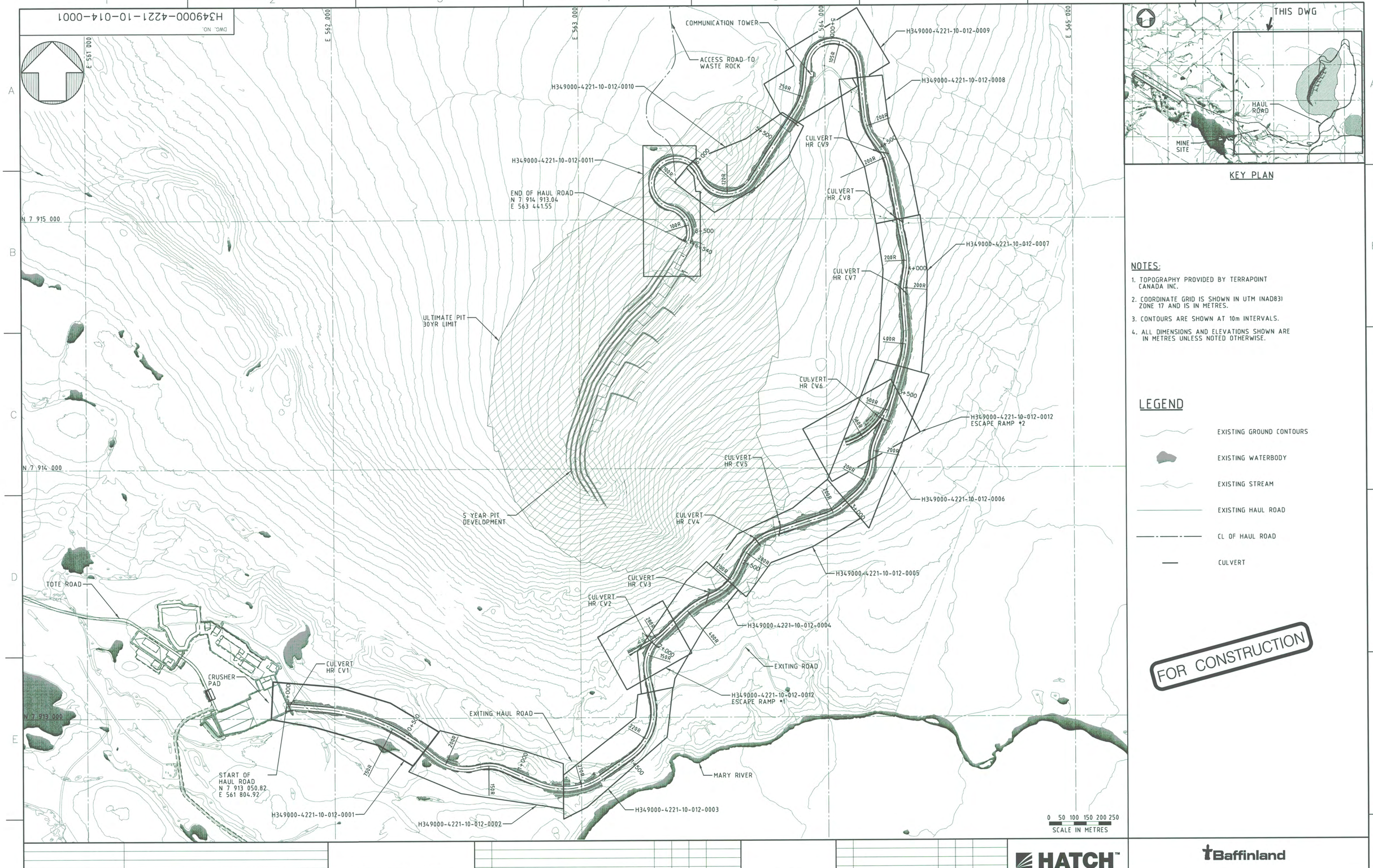
7.7 Drainage Interceptor/Collector Berms

7.7.1 Drainage berms diverting overland flow from the waste rock drainage area to the sedimentation ponds shall be a minimum of 1.0 m high with 1.5H:1V side slopes and 0.5 m top width.

7.7.2 Rip rap and other energy dissipation measures shall be provided to protect against erosion.

© Hatch 2013/08

DWG. NO. H349000-4221-10-014-0001



KEY PLAN

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 SHOWN AT 10m INTERVALS.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.

LEGEND

- EXISTING GROUND CONTOURS
- EXISTING WATERBODY
- EXISTING STREAM
- EXISTING HAUL ROAD
- CL OF HAUL ROAD
- CULVERT

FOR CONSTRUCTION

DRAWING NO.	DRAWING TITLE
H349000-4230-10-001-0001	WASTE ROCK SEDIMENTATION POND – EARTHWORKS & DRAINAGE – PLAN
H349000-4133-10-035-0001	ORE CRUSHING & SCREENING – EARTHWORKS & DRAINAGE – PLAN

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 23 Aug 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING BY HATCH, NEITHER THIS DRAWING NOR ANY PART THEREOF MAY BE USED AND ANY REUSE BY ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY SUCH USE, OR OF RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT AND OR THIS DRAWING IS SUBJECT TO, AND CLIENT'S USE IS SUBJECT TO, COPYRIGHT. CONCEPTS AND INFORMATION CONTAINED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
23 Aug 13
NT/NU

REV.	ISSUE FOR	AUTH. BY			DATE
0	CONSTRUCTION	SH	GJ		2013-08-23

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY	A. SAHELI	DRAWN BY	G. JUBINVILLE
DATE	2013-08-07	DATE	2013-08-07
CHECKED BY	K. FALLAHI	DISCIP. ENGR.	S. HASSAN
DATE	2013-08-23	DATE	2013-08-23
PROJ. DES. COORD.	T. THERTELL	PROJ. ENGR.	J. CLELAND
DATE	2013-08-23	DATE	2013-08-23
PROJ. MGR.	S. PERRY		
DATE	2013-08-23		

Baffinland

MARY RIVER PROJECT

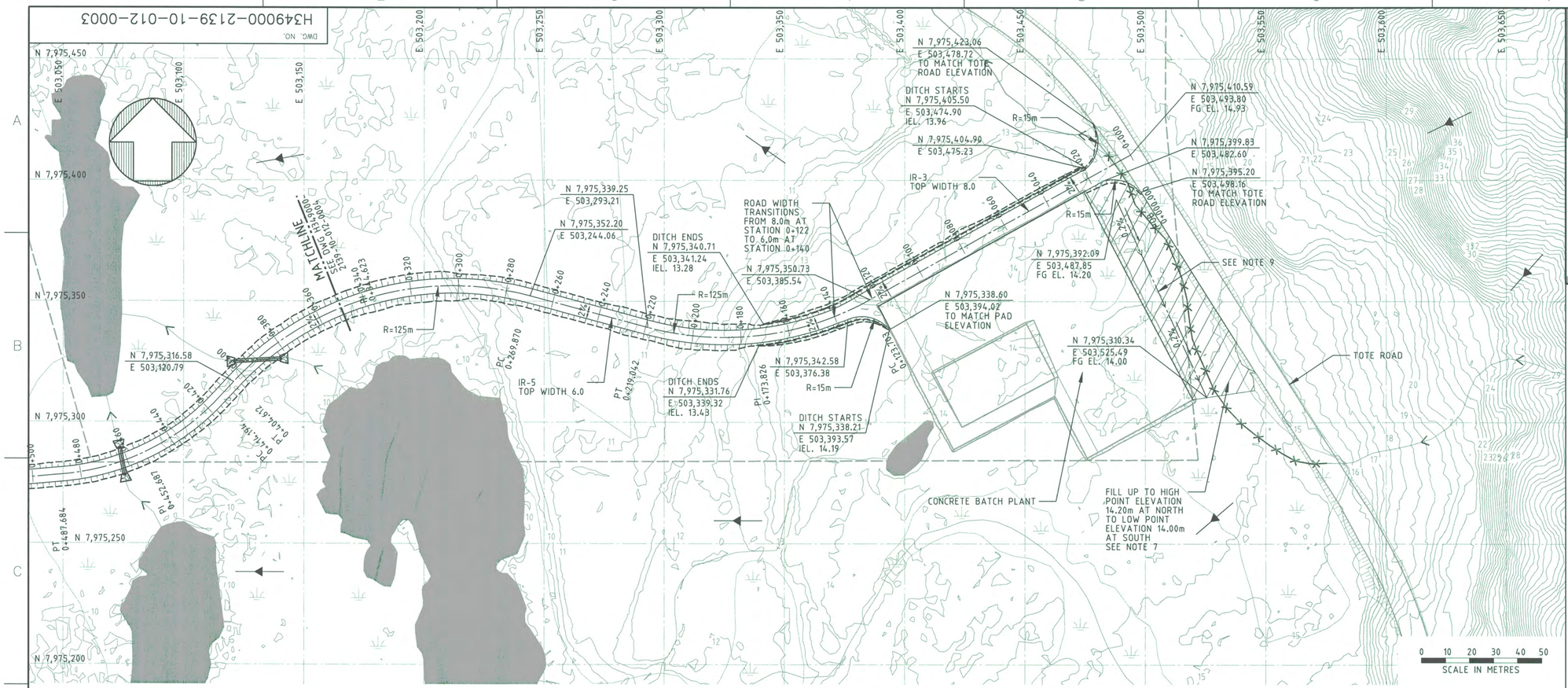
MINE HAUL ROAD
OVERALL LAYOUT

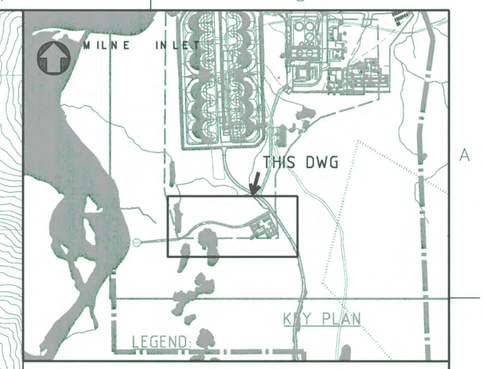
SCALE	DWG. NO.	REV.
1:7000 OR AS NOTED	H349000-4221-10-014-0001	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

jub708.36
8/23/2013 3:23:13 PM
C:\pri\projectwise\jub708.36\dms74793\H349000-4221-10-014-0001.dgn

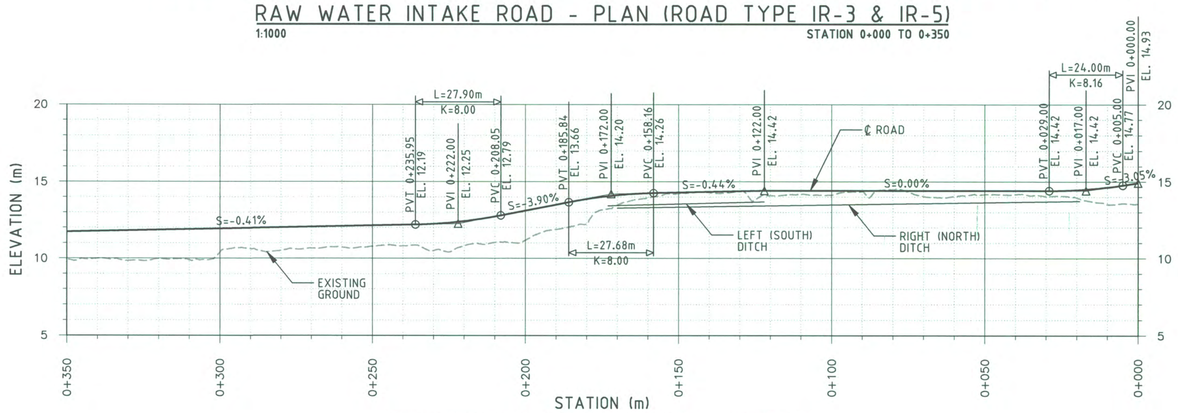
DWG. NO. H349000-2139-10-012-0003





RAW WATER INTAKE ROAD - PLAN (ROAD TYPE IR-3 & IR-5)

1:1000 STATION 0+000 TO 0+350



RAW WATER INTAKE ROAD - PROFILE

1:1000 H
1:200 V

STATION 0+000 TO 0+350

KEY PLAN

LEGEND:

- EXISTING GROUND CONTOURS
- EXISTING WATERBODY
- EXISTING STREAM
- EXISTING DRAINAGE TO BE DIVERTED
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- MARSH (SEE NOTE 6)
- FILL SLOPE
- CUT SLOPE
- RIPRAP WITH GEOTEXTILE
- % GRADING SLOPE
- 100 CROSS SECTION DISTANCE
- CENTERLINE OF SWALE/DITCH
- EXTERNAL FLOW DIRECTION
- FILL TO AVOID PONDING

PC	POINT OF CURVE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENT
POE	POINT OF END
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
K	RATE OF VERTICAL CURVATURE
CSP	CORRUGATED STEEL PIPE
IEL	INVERT ELEVATION

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 0.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR TYPICAL ROAD SECTIONS AND DETAILS REFER TO DRAWINGS H349000-1000-10-041-0004 AND H349000-1000-10-041-0005.
6. EXISTING MARSH AREA WITHIN THE ROAD FOOTPRINT SHOULD BE DEWATERED AND CLEANED FROM VEGETATION AND UNSUITABLE MATERIAL PRIOR TO BACKFILLING.
7. EXISTING GROUND SHOULD BE FILLED WITH SUITABLE CUT/EXCAVATED MATERIAL UP TO THE NOTED ELEVATION TO AVOID LOCALAIZED PONDING.
8. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH DOCUMENT No. H349000-2139-10-144-0003 "MILNE PORT - RAW WATER INTAKE ROAD STAKEOUT REPORT."
9. FOR SWALE/DITCH TYPICAL SECTION, REFER TO DRAWING H349000-1000-10-041-0002.

FOR CONSTRUCTION

DRAWING NO.	DRAWING TITLE
H349000-3000-10-012-0001	TOTE ROAD - STA. 1+000 TO 1+700 - PLAN AND PROFILE
H349000-2130-10-035-0005	MILNE PORT - CONCRETE BATCH PLANT - EARTHWORKS & DRAINAGE - PLAN & SECTIONS

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 30 Aug 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT ANY DUTY, LIABILITY OR RESPONSIBILITY TO ANY PARTY WITH RESPECT TO, AND ANY RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER M. M. S. HASSAN LICENSEE NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH AC	2013-08-30

ISSUE AUTHORIZATION

HATCH

DESIGNED BY K. FALLAHI	DATE 2013-08-02	DRAWN BY A. COZZITORTO	DATE 2013-08-02
CHECKED BY A. SAHELI	DATE 2013-08-30	DISCIP. ENGR. S. HASSAN	DATE 2013-08-30
PROJ. DES. COORD. T. THERTELL	DATE 2013-08-30	PROJ. ENGR. J. CLELAND	DATE 2013-08-30
PROJ. MGR. S. PERRY	DATE 2013-08-30		

Baffinland

MARY RIVER PROJECT

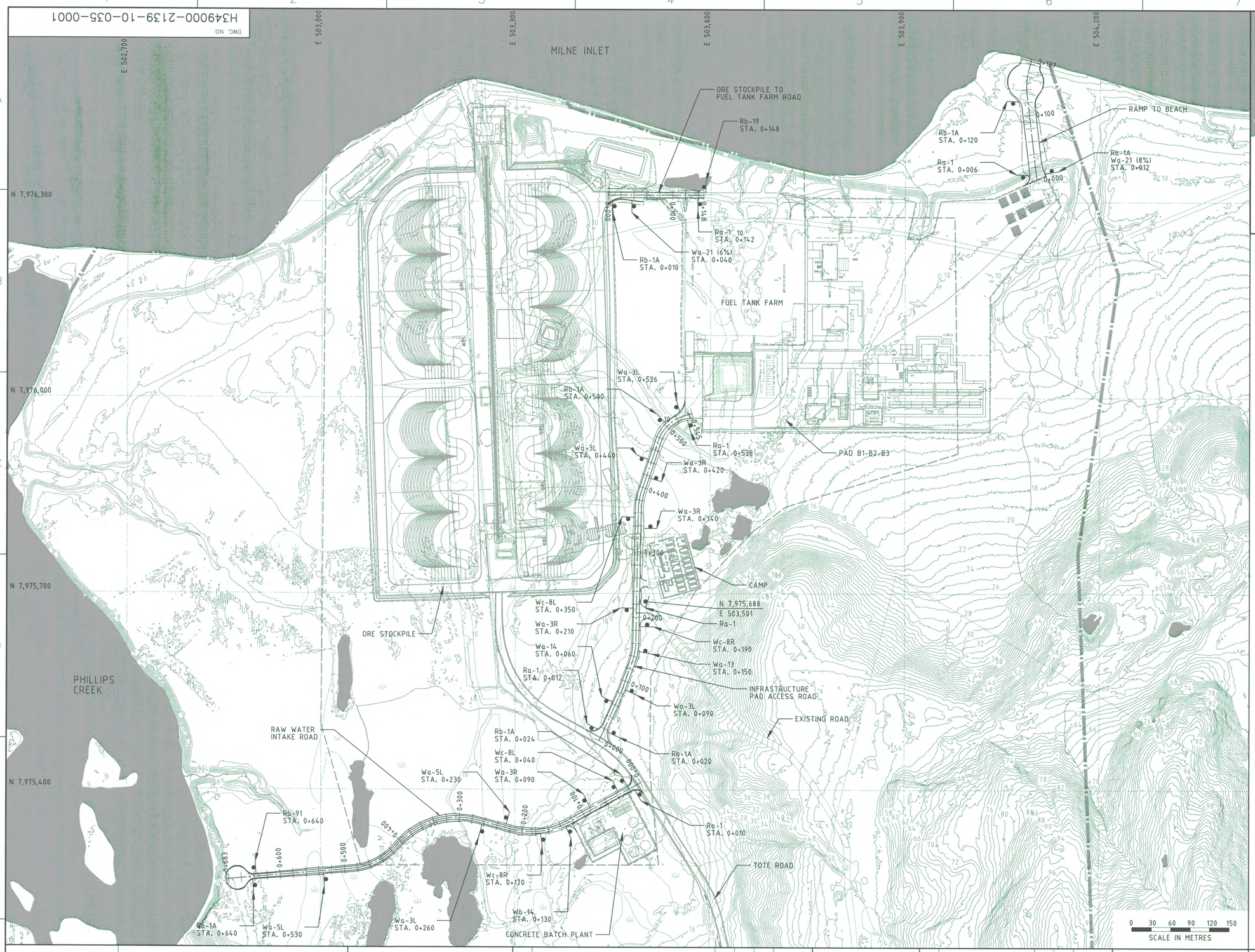
MILNE PORT
RAW WATER INTAKE ROAD
PLAN & PROFILE - SHEET 1 OF 2

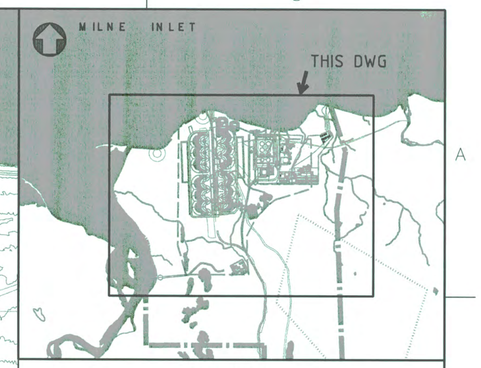
SCALE	DWG. NO.	REV.
1:1000 OR AS NOTED	H349000-2139-10-012-0003	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

cozz70439
8/30/2013 11:24:13 AM
c:\prj\projectwise\cozz70439\dms7479\H349000-2139-10-012-0003.dgn

DWG. NO. H349000-2139-10-035-0001





KEY PLAN

LEGEND:

	EXISTING GROUND CONTOURS
	EXISTING WATERBODY
	EXISTING STREAM
	EXISTING MARSH
	BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
	PROJECT DEVELOPMENT AREA (PDA)
	FILL SLOPE
	CUT SLOPE
Ra-1	STOP SIGN
Rb-1A	MAXIMUM SPEED SIGN (20km/hr)
Rb-19	DO NOT ENTER SIGN
Rb-91	YIELD TO ONCOMING TRAFFIC SIGN
Wa-3L	CURVE SIGN (LEFT)
Wa-3R	CURVE SIGN (RIGHT)
Wa-5L	REVERSE CURVE SIGN (LEFT)
Wa-13	INTERSECTION (UNCONTROLLED) SIGN
Wa-14	T-INTERSECTION (UNCONTROLLED) SIGN
Wa-21	STEEP HILL SIGN (SLOPE %)
Wc-8L	TRUCK ENTRANCE SIGN (LEFT)
Wc-8R	TRUCK ENTRANCE SIGN (RIGHT)

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 2.0m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH TEMPORARY SIGN LABELS DRAWING H349000-1000-10-040-0009-001, SIGNAGE DATA-SIGN LABELS AND SUMMARY DRAWING H349000-1000-10-040-0009-002, AND SIGN - BERM PULLOUTS DRAWING H349000-1000-10-041-0008.

FOR CONSTRUCTION

REFERENCE DRAWINGS

DRAWING NO.	DRAWING TITLE
H349000-2131-10-012-0001	MILNE PORT – RAMP TO BEACH – PLAN, PROFILE & SECTION
H349000-2139-10-012-0004	MILNE PORT – RAW WATER INTAKE ROAD – PLAN & PROFILE – SHEET 2 OF 2
H349000-2139-10-012-0003	MILNE PORT – RAW WATER INTAKE ROAD – PLAN & PROFILE – SHEET 1 OF 2
H349000-2139-10-012-0002	MILNE PORT – ORE STOCKPILE TO FUEL TANK FARM ROAD – PLAN & PROFILE
H349000-2139-10-012-0001	MILNE PORT – INFRASTRUCTURE PAD ACCESS ROAD – PLAN & PROFILE

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 30 Aug '13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED TO IN WRITING WITH CLIENT, OR SPECIFIED IN THAT AGREEMENT, HATCH MAKES NO REPRESENTATIONS TO, AND ACCEPTS NO LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF, OR RELIANCE ON, THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT OR ANY. (B) THIS DRAWING IS CONFIDENTIAL, AND ALL INTELLECTUAL PROPERTY RIGHTS, EXPRESSLY OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER M. M. S. HASSAN LICENSEE NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH AC	2013-08-30

ISSUE AUTHORIZATION

HATCH

DESIGNED BY K. FALLAH DATE 2013-08-26	DRAWN BY A. COZZITORTO DATE 2013-08-26
CHECKED BY A. SAHELI DATE 2013-08-30	DISCIP. ENGR. S. HASSAN DATE 2013-08-30
PROJ. DES. COORD. T. THERTELL DATE 2013-08-30	PROJ. ENGR. J. CLELAND DATE 2013-08-30
PROJ. MGR. S. PERRY DATE 2013-08-30	

Baffinland

MARY RIVER PROJECT

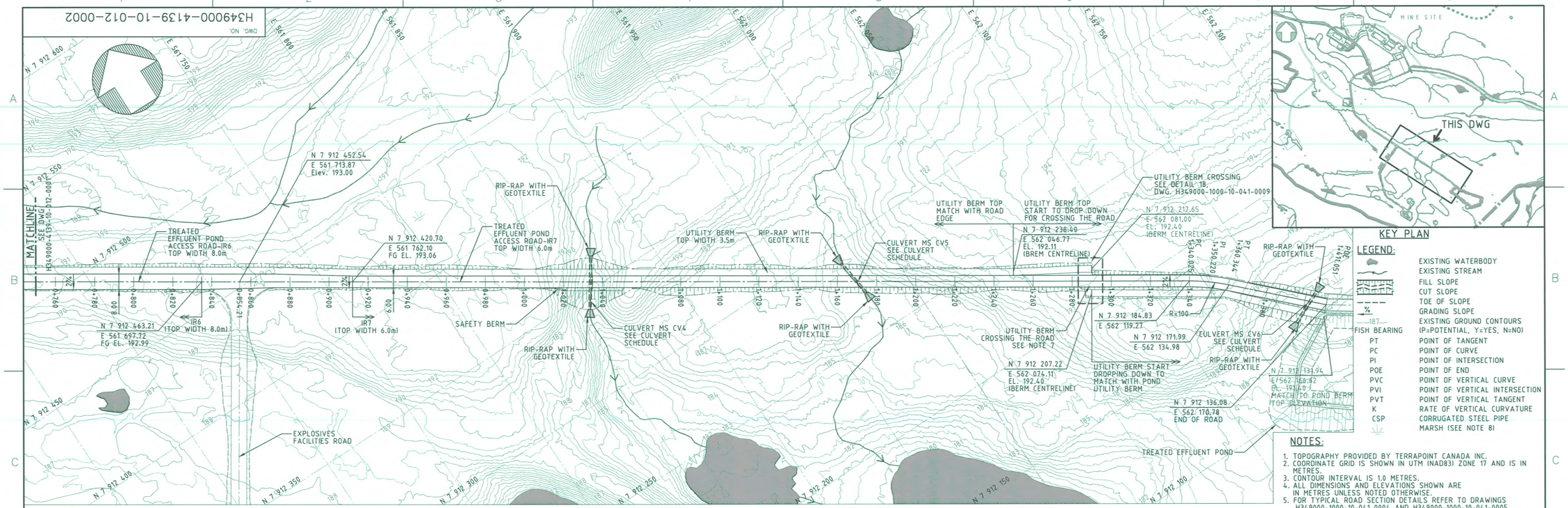
MILNE PORT
TRAFFIC MANAGEMENT
PLAN

SCALE	DWG. NO.	REV.
1:3000 OR AS NOTED	H349000-2139-10-035-0001	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

cozz70439
8/30/2013 3:41:46 PM
c:\prj\projectwise\cozz70439\dms747931\H349000-2139-10-035-0001.dgn

DWG. NO. H349000-4139-10-012-0002



TREATED EFFLUENT POND ACCESS ROAD-PLAN (ROAD TYPE IR6 & IR7)

1:1000 — STATION 0+750 TO 1+411.05

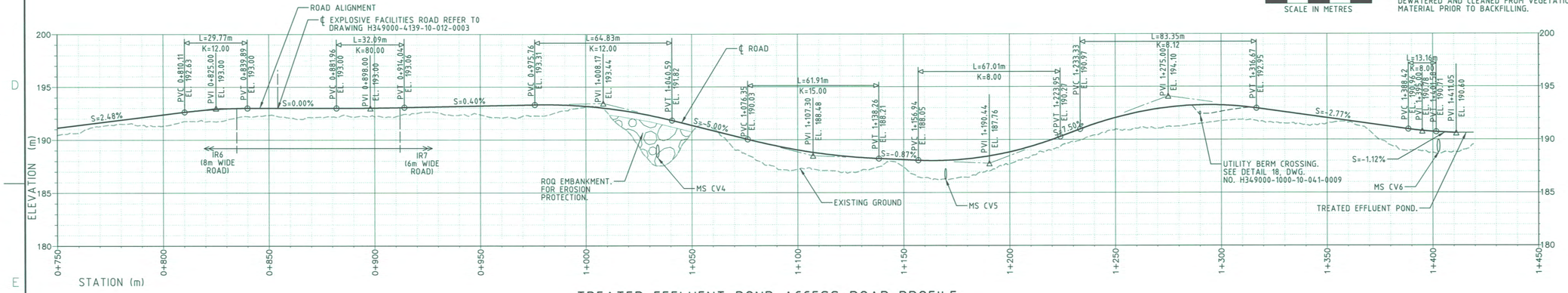
LEGEND:

- EXISTING WATERBODY
- EXISTING STREAM
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- GRADING SLOPE
- 187 — EXISTING GROUND CONTOURS (P=POTENTIAL, Y=YES, N=NO)
- FISH BEARING
- PT — POINT OF TANGENT
- PC — POINT OF CURVE
- PI — POINT OF INTERSECTION
- POE — POINT OF END
- PVC — POINT OF VERTICAL CURVE
- PVI — POINT OF VERTICAL INTERSECTION
- PVT — POINT OF VERTICAL TANGENT
- K — RATE OF VERTICAL CURVATURE
- CSP — CORRUGATED STEEL PIPE
- MARSH (SEE NOTE 8)

NOTES:

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOUR INTERVAL IS 1.0 METRES.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR TYPICAL ROAD SECTION DETAILS REFER TO DRAWINGS H349000-1000-10-041-0004 AND H349000-1000-10-041-0005.
6. TO BE READ IN CONJUNCTION WITH DOCUMENT No. H349000-4139-10-144-0001 "TREATED EFFLUENT POND ACCESS ROAD STAKEOUT REPORT".
7. FOR UTILITY BERM TOP WIDTH DIMENSIONS AND DETAILS SEE DRAWING H349000-4000-00-014-0005 "MINE SITE UTILITY SERVICE SITE LAYOUT".
8. EXISTING MARSH IN AREA OF ROAD FOOTPRINT SHOULD BE DEWATERED AND CLEANED FROM VEGETATION AND UNSUITABLE MATERIAL PRIOR TO BACKFILLING.

0 10 20 30 40 50 SCALE IN METRES



TREATED EFFLUENT POND ACCESS ROAD-PROFILE

1:1000 H
1:200 V

STATION 0+750 TO 1+411.05

FOR CONSTRUCTION

CULVERT SCHEDULE

REFER TO DRAWING H349000-1000-10-041-0003 FOR DETAIL

CULVERT ID	FISH BEARING (Y/N)	NUMBER OF PIPES	D (mm)	W (mm)	TYPE	CULVERT ℄ AT UPSTREAM NORTHING	CULVERT ℄ AT UPSTREAM EASTING	U/S INV. ELV. (m)	RIP RAP REQUIRED (Y/N)	CULVERT ℄ AT DOWNSTREAM NORTHING	CULVERT ℄ AT DOWNSTREAM EASTING	D/S INV. ELV. (m)	RIP RAP REQUIRED (Y/N)	C (mm)	L (m)	S (%)	SKEW (DEGREE)	LENGTH (m)
MS CV4	N	1	1000	1000	CSP	7 912 364.44	561 871.09	188.46	Y	7 912 342.93	561 856.49	188.20	Y	500	4.0	1.00	90.8	26
MS CV5	N	1	1200	1200	CSP	7 912 290.65	561 975.79	186.50	Y	7 912 270.79	561 978.13	186.11	Y	500	4.8	1.95	49.9	20
MS CV6	N	1	1200	1200	CSP	7 912 144.50	562 170.51	188.90	Y	7 912 136.75	562 153.16	188.58	Y	500	4.8	1.68	110.8	19

REFERENCE DRAWINGS

DRAWING NO.	DRAWING TITLE
H349000-4139-10-012-0003	MINE SITE – EXPLOSIVES FACILITIES ROAD – PLAN AND PROFILE
H349000-4733-10-035-0001	MINE SITE – TREATED EFFLUENT POND – EARTHWORKS & DRAINAGE – PLAN
H349000-4000-00-014-0005	MINE SITE – UTILITY SERVICES – SITE LAYOUT
H349000-4000-00-014-0003	MINE SITE – INFRASTRUCTURE – SITE LAYOUT

PERMIT TO PRACTICE HATCH LTD.
Signature
Date 10 Sep 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION PURSUANT TO, AND IS ISSUED SUBJECT TO, THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THE DRAWING, HATCH MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND AND ASSUMES NO LIABILITY OR RESPONSIBILITY ARISING AND/OR OUT OF OR ON ANY RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY DAMAGES RESULTING THEREFROM. COPYRIGHT RESERVED. (C) THIS DRAWING OR ANY PORTION THEREOF, INCLUDING ANY DESIGNS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

REVISIONS

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE
0	CONSTRUCTION	SH	DS		2013-09-10

REV. / ISSUE FOR / AUTH. BY / DATE — ISSUE AUTHORIZATION

REGISTERED PROFESSIONAL ENGINEER — M. M. S. HASSAN — LICENSEE — 10 Sep 13 — NT/NU

HATCH™

DESIGNED BY	K. FALLAHI	DATE 2013-06-28
DRAWN BY	I. KITYNSKA	DATE 2013-06-28
CHECKED BY	A. SAHELI	DATE 2013-09-10
DISCIP. ENGR.	S. HASSAN	DATE 2013-09-10
PROJ. DES. COORD.	T. THERRIEN	DATE 2013-09-10
PROJ. ENGR.	J. COELAND	DATE 2013-09-10
PROJ. MGR.	S. PERRY	DATE 2013-09-10

Baffinland

MARY RIVER PROJECT

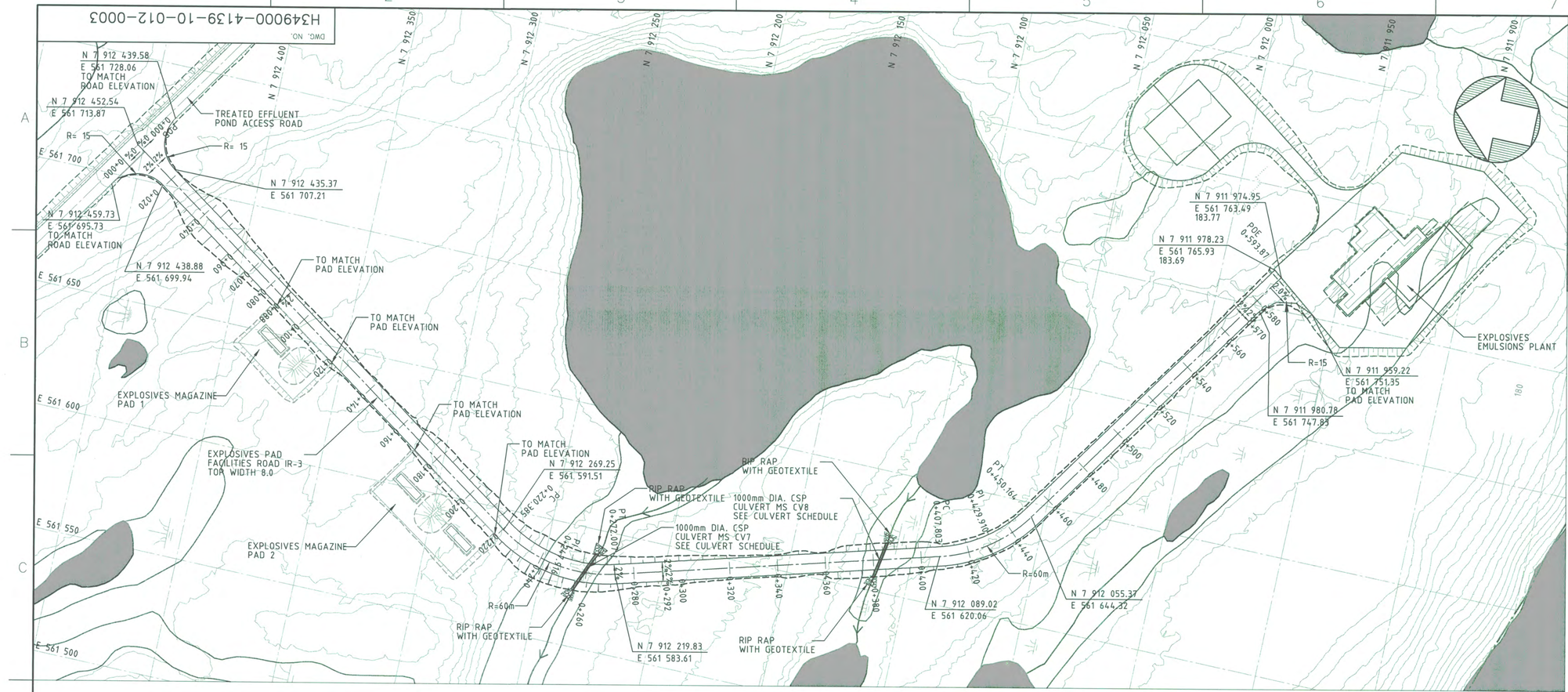
MINE SITE
TREATED EFFLUENT POND ACCESS ROAD
PLAN & PROFILE – SHEET 2 OF 2

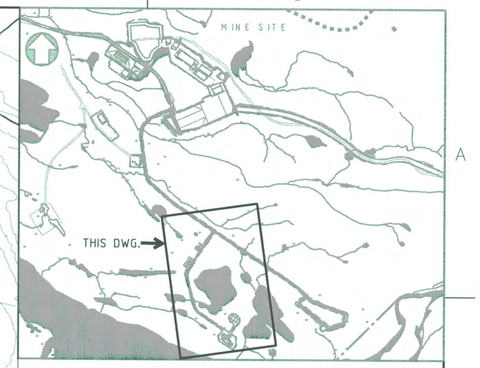
SCALE 1:1000 OR AS NOTED | DWG. NO. H349000-4139-10-012-0002 | REV. 0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

sing66407 10/09/2013 1:31:15 PM c:\prj\projectwise\sing66407\dms74793\H349000-4139-10-012-0002.dgn

DWG. NO. H349000-4139-10-012-0003





KEY PLAN

LEGEND:

187	EXISTING GROUND CONTOURS
	EXISTING WATERBODY
	EXISTING STREAM
	FILL SLOPE
	CUT SLOPE
	TOE OF SLOPE
FISH BEARING	(P=POTENTIAL, Y=YES, N=NO)
PT	POINT OF TANGENT
PC	POINT OF CURVE
PI	POINT OF INTERSECTION
POB	POINT OF BEGINNING
POE	POINT OF END
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
K	RATE OF VERTICAL CURVATURE
CSP	CORRUGATED STEEL PIPE
	MARSH (SEE NOTE 8)

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 0.5 METRES.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. FOR TYPICAL ROAD SECTION DETAILS REFER TO DRAWINGS H349000-1000-10-041-0004 AND H349000-1000-10-041-0005.
6. SAFETY BERM TO BE ADDED AS PER SITE REQUIREMENTS, AS APPROVED BY COMPANY'S REPRESENTATIVE. MODIFICATIONS SUCH AS CULVERT EXTENSION MAY BE NECESSARY.
7. TO BE READ IN CONJUNCTION WITH DOCUMENT No. H349000-4139-10-144-0002 "EXPLOSIVES FACILITIES ROAD STAKEOUT REPORT".
8. EXISTING MARSH IN AREA OF ROAD FOOTPRINT SHOULD BE DEWATERED AND CLEANED FROM VEGETETION AND UNSUITABLE MATERIAL PRIOR TO BACKFILLING.

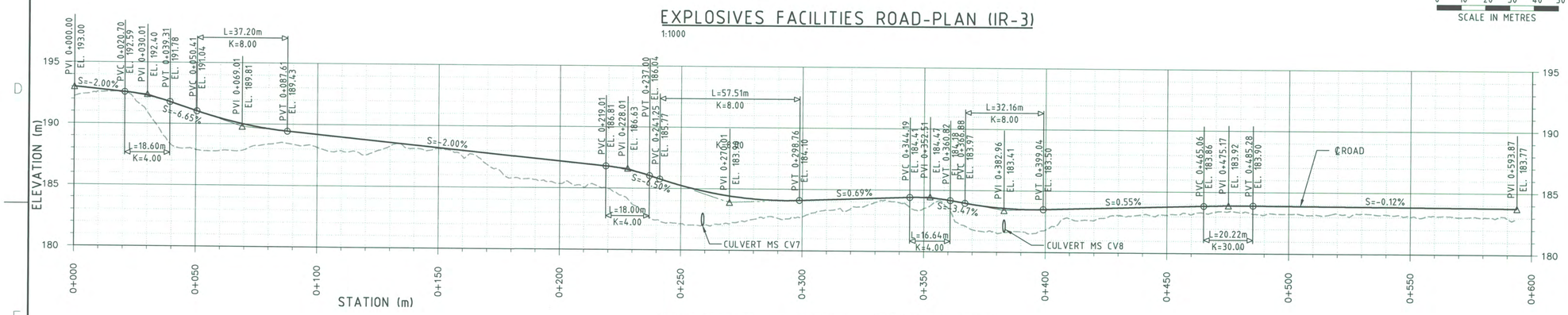
EXPLOSIVES FACILITIES ROAD-PLAN (IR-3)

1:1000

SCALE IN METRES 0 10 20 30 40 50

EXPLOSIVES FACILITIES ROAD-PROFILE

1:1000 H
1:200 V



CULVERT SCHEDULE

REFER TO DRAWING H349000-1000-10-041-0003 FOR DETAIL

CULVERT ID	FISH BEARING (P/Y/N)	NUMBER OF PIPES	D (mm)	W (mm)	TYPE	CULVERT ℄ AT UPSTREAM NORTHING	CULVERT ℄ AT UPSTREAM EASTING	RIP RAP REQUIRED (Y/N)	U/S INV. ELV. (m)	CULVERT ℄ AT DOWNSTREAM NORTHING	CULVERT ℄ AT DOWNSTREAM EASTING	D/S INV. ELV. (m)	C (mm)	L (m)	S (%)	SKEW (DEGREE)	LENGTH (m)
MS CV7	N	1	1000	1000	CSP	7 912 229.04	561 589.90	Y	182.00	7 912 236.06	561 573.32	182.00	500	4.0	0.00	117.55	18
MS CV8	N	1	1000	1000	CSP	7 912 111.67	561 620.66	Y	181.73	7 912 114.22	561 605.88	181.55	500	4.0	0.50	115.34	15

FOR CONSTRUCTION

REFERENCE DRAWINGS

DRAWING NO.	DRAWING TITLE
H349000-4135-10-035-0002	MINE SITE-EXPLOSIVES EMULSION PLANT
H349000-4139-10-012-0002	MINE SITE-TREATED EFFLUENT POND ACCESS ROAD
H349000-4000-00-014-0001	MINE SITE-SITE LAYOUT

PERMIT TO PRACTICE HATCH LTD.
Signature
Date 30.08.13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION (CLIENT) AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF, MODIFICATION OR RELIANCE UPON THIS DRAWING BY CLIENT OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

REVISIONS

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REGISTERED PROFESSIONAL ENGINEER M. M. S. HASSAN LICENSEE NT/NU

ISSUE AUTHORIZATION

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH DS	2013-08-30

HATCH™

DESIGNED BY D. SINGH	DRAWN BY D SINGH
DATE 2013-07-03	DATE 2013-07-04
CHECKED BY A. SAHELI	DISCIP. ENGR. S. HASSAN
DATE 2013-08-30	DATE 2013-08-30
PROJ. DES. COORD. T. THERTELL	PROJ. ENGR. J. CLELAND
DATE 2013-08-30	DATE 2013-08-30
PROJ. MGR. S. PERRY	
DATE 2013-08-30	

Baffinland

MARY RIVER PROJECT

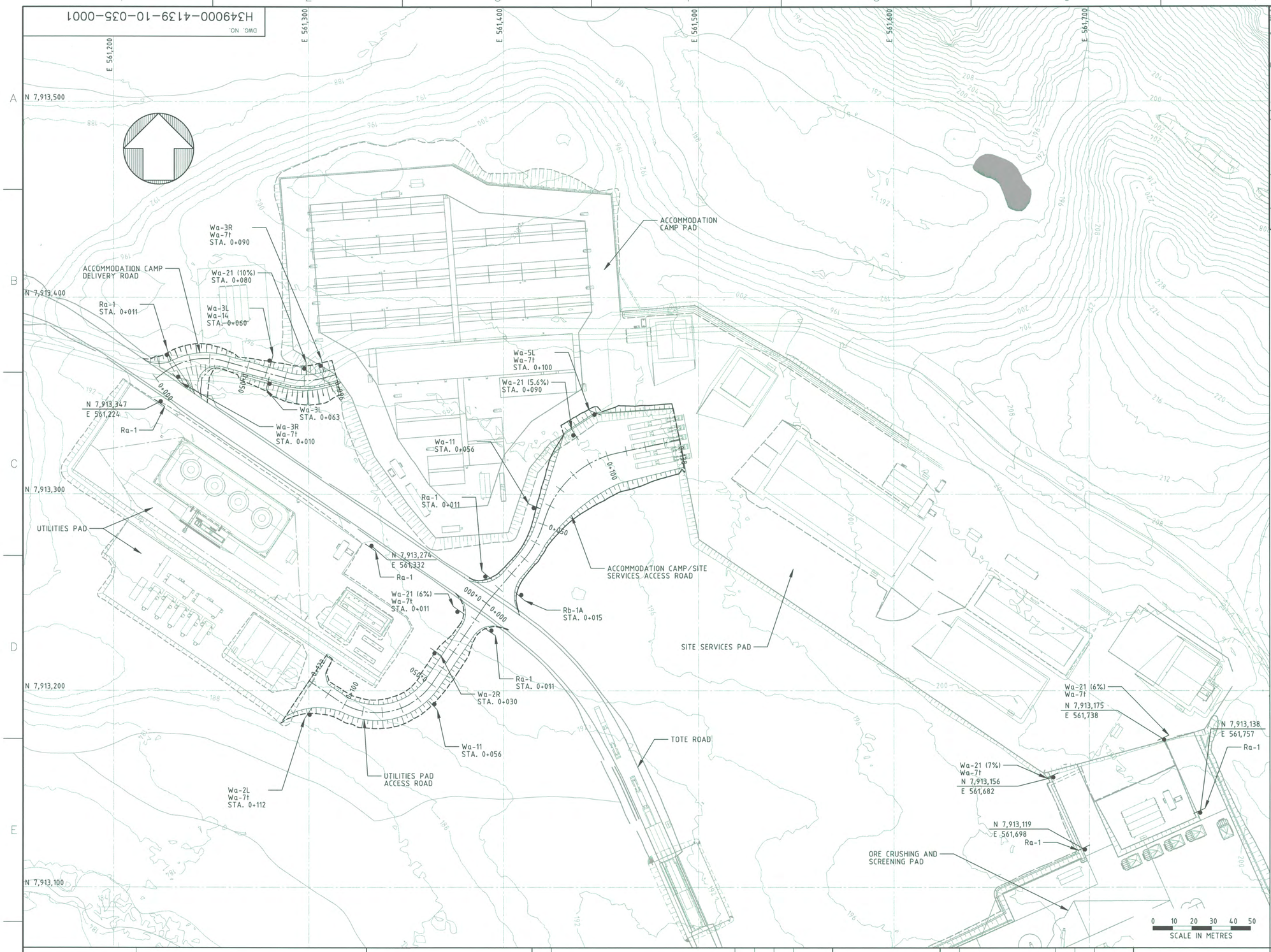
MINE SITE
EXPLOSIVES FACILITIES ROAD
PLAN & PROFILE

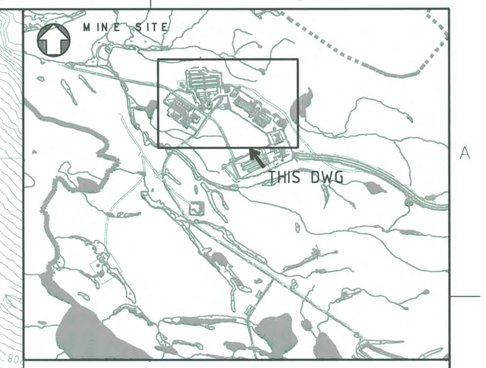
SCALE	DWG. NO.	REV.
1:1000 OR AS NOTED	H349000-4139-10-012-0003	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

mcdo64322 30/08/2013 10:37:10 AM
c:\prj\projectwise\mcdo64322\dms74793\H349000-4139-10-012-0003.dgn

DWG. NO. H349000-4139-10-035-0001





KEY PLAN

LEGEND:

200	EXISTING GROUND CONTOURS
	EXISTING WATERBODY
	EXISTING MARSH
	EXISTING STREAM
	FILL SLOPE
	CUT SLOPE
Ra-1	STOP SIGN
Rb-1A	MAXIMUM SPEED SIGN (20km/hr)
Wa-2L	SHARP CURVE SIGN (LEFT)
Wa-2R	SHARP CURVE SIGN (RIGHT)
Wa-3L	CURVE SIGN (LEFT)
Wa-3R	CURVE SIGN (RIGHT)
Wa-5L	REVERSE CURVE SIGN (LEFT)
Wa-7t	ADVISORY SPEED TAB (20km/hr)
Wa-11	INTERSECTION (UNCONTROLLED) SIGN
Wa-14	T-INTERSECTION (UNCONTROLLED) SIGN
Wa-21	STEEP HILL SIGN (SLOPE %)

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 2.0m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. THIS DRAWING SHOULD READ IN CONJUNCTION WITH TEMPORARY SIGN LABELS DRAWING H349000-1000-10-040-0009-001, SIGNAGE DATA-SIGN LABELS AND SUMMARY DRAWING H349000-1000-10-040-0009-002, AND SIGNS - BERM PULLOUTS DRAWING H349000-1000-10-041-0008.

FOR CONSTRUCTION

DRAWING NO.	DRAWING TITLE
H349000-4139-10-012-0005	MINE SITE – INFRASTRUCTURE PADS ACCESS ROADS – PROFILES
H349000-4139-10-012-0004	MINE SITE – INFRASTRUCTURE PADS ACCESS ROADS – PLAN

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 30 AUG 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING, HATCH DISCLAIMS ALL DUTIES, LIABILITIES AND RESPONSIBILITIES TO ANY PERSON OTHER THAN CLIENT IN CONNECTION WITH THIS DRAWING, AND ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT OR ANY OTHER PERSON. THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
30 Aug 13
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH AC	2013-08-30

ISSUE AUTHORIZATION

HATCH

DESIGNED BY K. FALLAH DATE 2013-08-20	DRAWN BY A. COZZITORTO DATE 2013-08-20
CHECKED BY A. SAHELI DATE 2013-08-30	DISCIP. ENGR. S. HASSAN DATE 2013-08-30
PROJ. DES. COORD. T. THERTELL DATE 2013-08-30	PROJ. ENGR. J. CLELAND DATE 2013-08-30
PROJ. MGR. S. PERRY DATE 2013-08-30	

Baffinland

MARY RIVER PROJECT

MINE SITE
TRAFFIC MANAGEMENT
PLAN – SHEET 1 OF 2

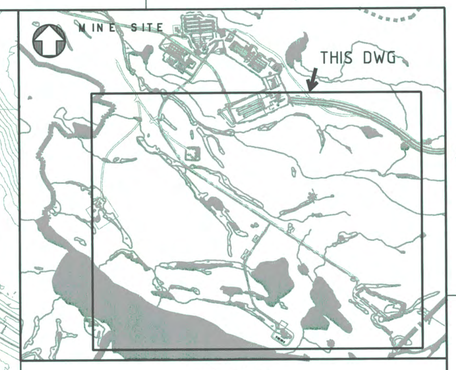
SCALE	DWG. NO.	REV.
1:1000 OR AS NOTED	H349000-4139-10-035-0001	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

cozz70439
8/30/2013 12:01:52 PM
c:\prj\projectwise\cozz70439\dms74793\H349000-4139-10-035-0001.dgn

DWG. NO. H349000-4139-10-035-0002





KEY PLAN

LEGEND:

200	EXISTING GROUND CONTOURS
	EXISTING WATERBODY
	EXISTING MARSH
	EXISTING STREAM
	FILL SLOPE
	CUT SLOPE
Ra-1	STOP SIGN
Rb-1A	MAXIMUM SPEED SIGN (20km/hr)
RB-91	YIELD TO ONCOMING TRAFFIC SIGN
Wa-3L	CURVE SIGN (LEFT)
Wa-3R	CURVE SIGN (RIGHT)
Wa-12	INTERSECTION (UNCONTROLLED) SIGN
Wa-13	INTERSECTION (UNCONTROLLED) SIGN
Wa-14	T-INTERSECTION (UNCONTROLLED) SIGN
Wa-21	STEEP HILL SIGN (SLOPE %)
Wa-28	ROADWAY NARROWS SIGN

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 2.5m.
4. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
5. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH TEMPORARY SIGN LABELS DRAWING H349000-1000-10-040-0009-001, SIGNAGE DATA-SIGN LABELS AND SUMMARY DRAWING H349000-1000-10-040-0009-002 AND SIGNS - BERM PULLOUTS DRAWING H349000-1000-10-041-0008.

FOR CONSTRUCTION

DRAWING NO.	DRAWING TITLE
H349000-4130-10-035-0003	MINE SITE – CONCRETE BATCH PLANT – EARTHWORKS & DRAINAGE – PLAN & SECTIONS
H349000-4139-10-012-0003	MINE SITE – EXPLOSIVES FACILITIES ROAD – PLAN & PROFILE
H349000-4139-10-012-0002	MINE SITE – TREATED EFFLUENT POND ACCESS ROAD – PLAN & PROFILE – SHEET 2 OF 2
H349000-4139-10-012-0001	MINE SITE – TREATED EFFLUENT POND ACCESS ROAD – PLAN & PROFILE – SHEET 1 OF 2

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 30 Aug. 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED TO IN WRITING BY HATCH, HATCH SHALL HAVE NO LIABILITY TO ANY PARTY, AND CLIENT SHALL INDEMNIFY AND HOLD HATCH HARMLESS FROM AND AGAINST ANY AND ALL LIABILITY, FOR ANY CLAIMS, LOSSES, DAMAGES AND COSTS ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT OR ANY THIRD PARTY. THIS DRAWING IS CONFIDENTIAL, AND ALL INTELLECTUAL PROPERTY RIGHTS RELATED TO OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH AC	2013-08-30

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY K. FALLAH DATE 2013-08-20	DRAWN BY A. COZZITORTO DATE 2013-08-20
CHECKED BY A. SAHELI DATE 2013-08-30	DISCIP. ENGR. S. HASSAN DATE 2013-08-30
PROJ. DES. COORD. T. THERTELL DATE 2013-08-30	PROJ. ENGR. J. CLELAND DATE 2013-08-30
PROJ. MGR. S. PERRY DATE 2013-08-30	

Baffinland

MARY RIVER PROJECT

MINE SITE
TRAFFIC MANAGEMENT
PLAN – SHEET 2 OF 2

SCALE	DWG. NO.	REV.
1:2500 OR AS NOTED	H349000-4139-10-035-0002	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

cozz70439 8/30/2013 1:50:53 PM c:\prj\projectwise\cozz70439\dms74793\H349000-4139-10-035-0002.dgn

Baffinland Iron Mines Corporation: Mary River Project
H349000

Identification												Technical								Procurement		
												Design Data						Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2140	2140-MO-001	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	502-2000		2140	2140-MO-002	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	502-2000		2140	2140-MO-003	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	502-2000		2140	2140-MO-004	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	502-2000		2142	2142-MO-001	STOCKPILE FRONT END LOADER	MOBILE EQUIPMENT		USED	PRELIMINARY	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	2014 SEALIFT	H349000-2340-05-030-0001 / /	PM102	CAT 988H	2014
	0	502-2000		2142	2142-MO-002	STOCKPILE FRONT END LOADER	MOBILE EQUIPMENT		USED	PRELIMINARY	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	2014 SEALIFT	/ / /	PM102	CAT 988H	2014
	0	502-2000		2142	2142-MO-003	STOCKPILE FRONT END LOADER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	ETA JULY 25, 2013	/ / /	PM102	CAT 988H	2013
	0	502-2000		2142	2142-MO-004	STOCKPILE FRONT END LOADER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /		/ / /	PM102	CAT 988H	2013
	0	502-2000		2142	2142-MO-005	STOCKPILE FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	WITH 96" FORKS AND QUICK COUPLER	/ / /	PM102	CAT 988H	2013
	0	502-2000		2142	2142-MO-006	STOCKPILE FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	WITH 96" FORKS AND QUICK COUPLER	/ / /	PM102	CAT 988H	2013
	0	502-2000		2142	2142-MO-009	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-010	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-011	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-012	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-013	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2142	2142-MO-014	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-015	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-016	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-017	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-018	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	502-2000		2142	2142-MO-019	CONVEYOR CLEANUP/SNOW REMOVAL ALL TERRAIN LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 3277 W: 1676 H: 3810	3175		INTERMITTENT	885 KG OPERATING LOAD	/ / /	C/W QUICK COUPLER, BUCKETS AND FORKS	/ / /	PM102	CAT 247B	2013
	0	502-2000		2142	2142-MO-020	CONVEYOR CLEANUP/SNOW REMOVAL ALL TERRAIN LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 3277 W: 1676 H: 3810	3175		INTERMITTENT	885 KG OPERATING LOAD	/ / /	C/W QUICK COUPLER, BUCKETS AND FORKS	/ / /	PM102	CAT 247B	2013
	0	502-2000		2143	2143-MO-002	SITE MAINTENANCE GRADER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 9412 W: 2791 H: 3535	24400		INTERMITTENT	2.28 M MAX SHOULDER REACH	/ / /	2009, 16FT BLADE	/ / /	PM102	CAT 14M	2013
	0	502-2000		2143	2143-MO-003	SITE MAINTENANCE TRACK DOZER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4064 W: 2464 H: 2439	21600	NUNA	INTERMITTENT		/ / /		/ / /	PM102	CAT D6T XW	2013
	0	502-2000		2143	2143-MO-004	PLANT AND MOBILE EQUIPMENT MAINTENANCE SERVICE TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7264 W: 2418 H: 2022	7300		INTERMITTENT	7000 LB TELESCOPING CRANE; 11	/ / /	VMAC CRANE	/ / /	PM130	FORD F550	2013
	0	502-2000		2143	2143-MO-005	PLANT AND MOBILE EQUIPMENT MAINTENANCE SERVICE TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7264 W: 2418 H: 2022	7300		INTERMITTENT		/ / /	10000# TELESCOPIC CRANE; AIR COMPRESSOR	/ / /	PM130	PETERBILT 348	2013
	0	502-2000		2143	2143-MO-006	SITE MAINTENANCE SMALL LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 6050 W: 2390 H: 3150	9600		INTERMITTENT	1.3 M3 BUCKET	/ / /	QUICK COUPLERS/BUCKETS/FORKS	/ / /	PM102	CAT 930K	2013
	0	502-2000		2143	2143-MO-007	SITE MAINTENANCE MID SIZE EXCAVATOR	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 11910 W: 3490 H: 3770	45000		INTERMITTENT	345 HP, 3.5 M3 BUCKET	/ / /		/ / /	PM102	CAT 345DL	2013
	0	502-2000		2143	2143-MO-008	MAINTENANCE FUEL/LUBE TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	1000 GAL FUEL TANK; 7 PRODUCT	/ / /	1000 GAL FUEL TANK; 7 PRODUCT TANKS; HEATED PRESSURIZED HOUSE	H349000-2540-05-030-0001 / /	PM130	KENWORTH T800	2013
	0	502-2000		2143	2143-MO-009	MINE/TOTE ROAD MAINTENANCE PLOW/SAND TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	TENCO CHASSIS MOUNT SPREADER; ONE WAY PLOW; RIGHT HAND SIDE DISCHARGE	/ / /	PM131	WESTERN STAR 4700 SF	2013
	0	502-2000		2143	2143-MO-011	SITE DEWATERING PUMP	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 2057 W: 979 H: 1510	834		INTERMITTENT	4"	/ / No	DIESEL C/W TRAILER AND SPILL KIT	/ / /	PM106	GORMAN-RUPP 14C2-F3L	2013

Identification												Technical								Procurement		
												Design Data						Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2143	2143-MO-012	SITE DEWATERING PUMP	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 2057 W: 979 H: 1510	834		INTERMITTENT	4"	/ / No	DIESEL C/W TRAILER AND SPILL KIT	/ / /	PM106	GORMAN-RUPP 14C2-F3L	2013
	0	502-2000		2143	2143-MO-013	MAINTENANCE HOT BOX	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	SANJAY DAHIYA		L: 4877 W: 2235 H: 1829	1850		INTERMITTENT	1100000 BTU/H	/ / /		/ / /	PM104	ECOBLAZE CUBE 1100	2013
	0	502-2000		2143	2143-MO-014	MAINTENANCE HOT BOX	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	SANJAY DAHIYA		L: 4877 W: 2235 H: 1829	1850		INTERMITTENT	1100000 BTU/H	/ / /		/ / /	PM104	ECOBLAZE CUBE 1100	2013
	0	502-2000		2143	2143-MO-015	MAINTENANCE TRAILER WELDER	MOBILE EQUIPMENT		NEW	PRELIMINARY	SANJAY DAHIYA					INTERMITTENT		/ / /		/ / /	PM104		2013
	0	502-2000		2143	2143-MO-016	FREIGHT TELEHANDLER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 6100 W: 2570 H: 2570	15800	NUNA	INTERMITTENT	4500 KG CAPACITY	/ / /		/ / /	PM106	CAT TH514	2013
	0	502-2000		2143	2143-MO-017	TOTE ROAD MAINTENANCE GRADER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 9412 W: 2791 H: 3535	24400		INTERMITTENT	2.28 M MAX SHOULDER REACH	/ / /	2009 - WITH SNOW WINGS	/ / /	PM102	CAT 14M	2013
	0	502-2000		2143	2143-MO-018	TOTE ROAD MAINTENANCE GRADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 9412 W: 2791 H: 3535	24400		INTERMITTENT	2.28 M MAX SHOULDER REACH	/ / /	WITH NEW CRAIG SNOW WINGS	/ / /	PM102	CAT 14M	2013
	0	502-2000		2143	2143-MO-019	TOTE ROAD MAINTENANCE GRADER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 9412 W: 2791 H: 3535	24400		INTERMITTENT	2.28 M MAX SHOULDER REACH	/ / /	WITH NEW CRAIG SNOW WINGS	/ / /	PM102	CAT 14M	2013
	0	502-2000		2143	2143-MO-020	TOTE ROAD MAINTENANCE COMPACTOR	MOBILE EQUIPMENT		USED	PRELIMINARY	GRAHAM BURTON		L: 5860 W: 2300 H: 3070	12250	NUNA	INTERMITTENT	DRUM WIDTH: 2140 MM; DRUM DIA:	/ / /	PURCHASED FROM NUNA	/ / /	PM102	CAT CS56	2013
	0	502-2000		2143	2143-MO-021	TOTE ROAD MAINTENANCE PLOW/SAND TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	TENCO CHASSIS MOUNT SPREADER; ONE WAY PLOW; RIGHT HAND SIDE DISCHARGE	/ / /	PM131	WESTERN STAR 4700 SF	2013
	0	502-2000		2143	2143-MO-022	TOTE ROAD MAINTENANCE MID SIZE EXCAVATOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 11910 W: 3490 H: 3770	45000		INTERMITTENT	345 HP, 3.5 M3 BUCKET	/ / /		/ / /	PM102	CAT 345DL HEX	2013
	0	502-2000		2143	2143-MO-023	ROAD SNOW BLOWER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 6170 W: 2410 H: 3320	18338		INTERMITTENT	WITH SNOW BLOWER ATTACHMENTS	/ / /	C/W VOHL MODEL DV400 SNOW BLOWER	/ / /	PM102	CAT 950H	2013
	0	502-2000		2143	2143-MO-024	MINI CRAWLER CRANE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	2.9 T	/ / /	DIESEL/ELECTRIC	/ / /	PM116	SPYDER CRANE URW295	2013
	0	502-2000		2143	2143-MO-025	FORKLIFT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 2540 W: 1300 H: 2540	4800		INTERMITTENT	3500 KG	/ / /	DIESEL	/ / /	PM106	MITSUBISHI FD35N	2013
	0	502-2000		2143	2143-MO-026	SPILL RESPONSE TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	ROLL UP DOORS ON THE SIDE; 10 DOORS; 12 COMPARTMENTS	/ / /	PM130	STERLING M8500	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2143	2143-MO-027	FORKLIFT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 3305 W: 1460 H: 2400	7160		INTERMITTENT	5000 KG	/ / /	DIESEL	/ / /	PM106	CAT DP50K	2013
	0	502-2000		2143	2143-MO-028	FORKLIFT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 2000 W: 1100 H: 2040	3330		INTERMITTENT	3880 KG	/ / /	ELECTRIC	/ / /	PM106	CAT 2ET4000	2013
	0	502-2000		2144	2144-MO-001	WATER TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	4000 GAL	/ / /	TANDEM AXLE; INSULATED STAINLESS STEEL TANK; 3" PUMP	H349000-4720-05-030-0001/H349000-2720-05-030-0001 /	PM101	PETERBILT 348 AUTO S/S 100 BBL	2013
	0	502-2000		2144	2144-MO-002	CONTAINER HANDLER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 11684 W: 3454 H: 2146	72000		INTERMITTENT	50 TON CAPACITY	/ / /	CAPABLE OF 20' & 40' ISO CONTAINERS	/ / /	PM101	KALMAR DRF 450-6555	2013
	0	502-2000		2144	2144-MO-003	PASSENGER TRANSFER BUS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 12192 W: 2440 H: 2900	14000		INTERMITTENT	48 PASSENGER; 2 WHEEL DRIVE	/ / /		/ / /	PM101	BLUE BIRD BBCV DIESEL 3507A	2013
	0	502-2000		2144	2144-MO-004	WORKER TRANSFER MINI BUS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7470 W: 2440 H: 1930	7080		INTERMITTENT	24 PASSENGER; 2 WHEEL DRIVE	/ / /		/ / /	PM101	BLUE BIRD BBCV DIESEL 1910 A	2013
	0	502-2000		2144	2144-MO-005	WATER DELIVERY TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	5400 GAL	/ / /	367 TRI-DRIVE W/ 36" SLEEPER; TRI-AXLE; INSULATED TANK; CAPABLE OF PULLING 5400 GAL PUP TRAILER	H349000-2720-05-030-0001 / /	PM101	PETERBILT 367 TRI-DRIVE	2013
	0	502-2000		2144	2144-MO-006	MILNE/MR FREIGHT HAUL TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	W/ WET KIT; HEADACHE RACK; FENDERS	/ / /	PM135	PETERBILT 367	2013
	0	502-2000		2144	2144-MO-007	MILNE/MR FREIGHT HAUL TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	W/ WET KIT; HEADACHE RACK; FENDERS	/ / /	PM135	PETERBILT 367	2013
	0	502-2000		2144	2144-MO-008	MILNE/MR FREIGHT HAUL TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	W/ WET KIT; HEADACHE RACK; FENDERS	/ / /	PM135	PETERBILT 367	2013
	0	502-2000		2144	2144-MO-009	MILNE/MR FREIGHT HAUL HIBOY TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 12192 W: 2438			INTERMITTENT	20' AND 40' ISO CONTIANER CAPA	/ / /	CAPABLE OF CARRYING 20' AND 40' ISO SEA CONTAINERS	/ / /	PM143		2013
	0	502-2000		2144	2144-MO-010	MILNE/MR FREIGHT HAUL HIBOY TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 12192 W: 2438			INTERMITTENT	20' AND 40' ISO CONTIANER CAPA	/ / /	CAPABLE OF CARRYING 20' AND 40' ISO SEA CONTAINERS	/ / /	PM143		2013
	0	502-2000		2144	2144-MO-011	MILNE/MR FREIGHT HAUL HIBOY TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 12192 W: 2438			INTERMITTENT	20' AND 40' ISO CONTIANER CAPA	/ / /	CAPABLE OF CARRYING 20' AND 40' ISO SEA CONTAINERS	/ / /	PM143		2013
	0	502-2000		2144	2144-MO-012	SEWAGE HOLDING TANK SKID MOUNTED VACUUM UNIT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	14-17 TPH (BULK); 1000 L/MIN (	/ / /	12 M3 CONTAINER CAPACITY; SKID MOUNTED SYSTEM	H349000-4720-05-030-0002/H349000-2731-05-030-0001 /	PM132	TEXLA	2013
	0	502-2000		2144	2144-MO-013	GARBAGE TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	CAPABLE OF 20-30 M3 GARBAGE BI	/ / /	60,000# ROLL ON-ROLL OFF HYRDAULIC TYPE	H349000-2540-05-030-0001 / /	PM132	PETERBILT 365	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2144	2144-MO-014	GARBAGE BIN - LARGE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	30 M3	/ / /		/ / /	PM132		2013
	0	502-2000		2144	2144-MO-015	GARBAGE BIN - LARGE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	30 M3	/ / /		/ / /	PM132		2013
	0	502-2000		2144	2144-MO-016	GARBAGE BIN - LARGE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	30 M3	/ / /		/ / /	PM132		2013
	0	502-2000		2144	2144-MO-017	GARBAGE BIN - LARGE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	30 M3	/ / /		/ / /	PM132		2013
	0	502-2000		2144	2144-MO-018	GARBAGE BIN - SMALL	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	20 M3	/ / /		/ / /	PM132		2013
	0	502-2000		2144	2144-MO-019	GARBAGE BIN - SMALL	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	20 M3	/ / /		/ / /	PM132		2013
	0			2144	2144-MO-025	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013
	0			2144	2144-MO-026	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013
	0			2144	2144-MO-027	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013
	0	502-2000		2144	2144-MO-030	HEATED/REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT SEA CONTAINER; INSULATED; CAN PROVIDE HEAT TO 12 C	/ / /	PM107		2013
	0	502-2000		2144	2144-MO-031	HEATED/REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT SEA CONTAINER; INSULATED; CAN PROVIDE HEAT TO 12 C	/ / /	PM107		2013
	0	502-2000		2144	2144-MO-032	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	502-2000		2144	2144-MO-033	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	502-2000		2144	2144-MO-034	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	502-2000		2144	2144-MO-035	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2144	2144-MO-036	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	502-2000		2144	2144-MO-037	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	502-2000		2144	2144-MO-038	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	502-2000		2340	2340-GE-001	STOCKPILE GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 6070 W: 2440 H: 3760	29440		STANDBY	3214 L FUEL TANK	/ 670 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C500DR6G	2013
	0	502-2000		2340	2340-GE-002	STOCKPILE GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 6070 W: 2440 H: 3760	29440		STANDBY	3214 L FUEL TANK	/ 670 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C500DR6G	2014
	0	502-2000		2340	2340-GE-003	STOCKPILE GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 6070 W: 2440 H: 3760	29440		STANDBY	3214 L FUEL TANK	/ 670 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C500DR6G	2014
	0	502-2000		2340	2340-GE-004	STOCKPILE GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 6070 W: 2440 H: 3760	29440		STANDBY	3214 L FUEL TANK	/ 670 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C500DR6G	2014
	0	502-2000		2340	2340-GE-005	STOCKPILE GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 6070 W: 2440 H: 3760	29440		STANDBY	3214 L FUEL TANK	/ 670 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C500DR6G	2014
	0	502-2000		2340	2340-GE-006	STOCKPILE GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 6070 W: 2440 H: 3760	29440		STANDBY	3214 L FUEL TANK	/ 670 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C500DR6G	2014
	0	502-2000		2341	2341-FE-003	FINES STOCKPILE MOBILE FEEDER	FEEDER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 500 TPH	/ 135 hp No	NOMINAL: 375 TPH	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2341	2341-FE-004	LUMPS STOCKPILE MOBILE FEEDER	FEEDER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 500 TPH	/ 135 hp No	NOMINAL: 375 TPH	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2341	2341-FE-005	LUMPS STOCKPILE MOBILE FEEDER	FEEDER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 500 TPH	/ 135 hp No	NOMINAL: 375 TPH	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2341	2341-ST-006	LUMPS STOCKPILE MOBILE STACKER	STACKER / STOCKPILE		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 662 TPH	/ 25 hp No	BELT SPEED 350 FPM @ 18 DEGREES	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2341	2341-ST-007	LUMPS STOCKPILE MOBILE STACKER	STACKER / STOCKPILE		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 662 TPH	/ 25 hp No	BELT SPEED 350 FPM @ 18 DEGREES	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2341	2341-ST-008	FINES STOCKPILE MOBILE STACKER	STACKER / STOCKPILE		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 662 TPH	/ 25 hp No	BELT SPEED 350 FPM @ 18 DEGREES	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2342	2342-CH-015	RECLAIM CONVEYOR DISCHARGE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 6000 TPH	/ / /	NOMINAL: 4500 TPH	H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2342	2342-CH-026	RECLAIM CONVEYOR MOBILE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ / /		H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2342	2342-CH-027	RECLAIM CONVEYOR MOBILE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ / /		H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2342	2342-CH-028	RECLAIM CONVEYOR MOBILE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ / /		H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2342	2342-CH-029	RECLAIM CONVEYOR MOBILE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ / /		H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2342	2342-CV-001	RECLAIM CONVEYOR	CONVEYING		NEW	FINAL	SANJAY DAHIYA		L: 850000 W: 1524 H: 47000 VERTICAL LIFT	SEE REMARKS		INTERMITTENT	DESIGN: 6000 TPH	/ 3090 hp No	NOMINAL: 4500 TPH; INSTALLED DRY WEIGHT = 1032700 KG; GALLERY WEIGHT = 411400	H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0			2342	2342-MT-001	RECLAIM CONVEYOR		2342-CV-001	NEW							INTERMITTENT		/ 3090 hp /		/ / /	PM002		
	0	502-2000		2342	2342-CV-023	JUMP CONVEYOR	CONVEYING	2342-CV-001	NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2342	2342-CV-024	JUMP CONVEYOR	CONVEYING	2342-CV-001	NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ 25 hp No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2342	2342-CV-025	JUMP CONVEYOR	CONVEYING	2342-CV-001	NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ 25 hp No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2342	2342-CV-030	JUMP CONVEYOR	CONVEYING	2342-CV-001	NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ 25 hp No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2342	2342-CV-031	JUMP CONVEYOR	CONVEYING	2342-CV-001	NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ 25 hp No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2342	2342-CV-032	JUMP CONVEYOR	CONVEYING	2342-CV-001	NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ 25 hp No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2342	2342-FE-002	MOBILE FEEDER	FEEDER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 2500 TPH	/ 135 hp No	NOMINAL: 1800 TPH	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2342	2342-FE-003	MOBILE FEEDER	FEEDER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 2500 TPH	/ 135 hp No	NOMINAL: 1800 TPH	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2342	2342-FE-004	MOBILE FEEDER	FEEDER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 2500 TPH	/ 135 hp No	NOMINAL: 1800 TPH	H349000-2340-05-030-0001 / /	PM001	MASABA MINING EQUIPMENT	2013
	0	502-2000		2342	2342-HP-022	SAMPLER BIN	HOPPER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT		/ / /		H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2342	2342-SA-019	ORE SAMPLER	SAMPLER		NEW	FINAL	SANJAY DAHIYA		L: N/A W: N/A H: N/A			INTERMITTENT		/ 33 hp No	WEIGHTS AND DIMENSIONS TO BE AVAILABLE DURING DETAILED ENGINEERING	H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2342	2342-SC-018	BELT SCALE	SCREEN		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 6000 TPH	/ / No	NOMINAL: 4500 TPH	H349000-2340-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2351	2351-CH-003	SHIPLOADER PROPORTIONAL GATE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 6000 TPH	/ / /	NOMINAL: 4500 TPH	H349000-2350-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2351	2351-CH-004	SHIPLOADING PROPORTIONAL DIVERTER DISCHARGE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 3500 TPH	/ / /	NOMINAL: 2250 TPH	H349000-2350-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2351	2351-CH-005	SHIPLOADING PROPORTIONAL DIVERTER DISCHARGE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 3500 TPH	/ / /	NOMINAL: 2250 TPH	H349000-2350-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2351	2351-CH-006	SHIPLOADER DISCHARGE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 3500 TPH	/ / /	NOMINAL: 2250 TPH	H349000-2350-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2351	2351-CH-008	SHIPLOADER LINK CONVEYOR DISCHARGE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 3500 TPH	/ / /	NOMINAL: 2250 TPH	H349000-2350-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2351	2351-CH-009	SHIPLOADER DISCHARGE CHUTE	CHUTE / DIVERTER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	DESIGN: 3500 TPH	/ / /	NOMINAL: 2250 TPH	H349000-2350-05-030-0001 / /	PM002	FAM	2014
	0	502-2000		2351	2351-CV-007	SHIPLOADER LINK CONVEYOR	CONVEYING		NEW	FINAL	SANJAY DAHIYA			212330		INTERMITTENT	DESIGN: 3500 TPH	/ 161.53 hp No	NOMINAL: 2250 TPH; WEIGHT INCLUDES CONVEYOR + TRUSS STRUCTURE + MIDDLE COLUMN + DIVIDER CHUTE	H349000-2350-05-030-0001 / /	PM002	FAM	2014
	0			2351	2351-MT-007A	SHIPLOADER LINK CONVEYOR DRIVE		2351-CV-007	NEW							INTERMITTENT		/ 125 hp /		/ / /	PM002		
	0			2351	2351-MT-007B	SHIPLOADER LINK CONVEYOR BRAKE		2351-CV-007	NEW							INTERMITTENT		/ 0.68 hp /		/ / /	PM002		
	0			2351	2351-MT-007C	SHIPLOADER LINK CONVEYOR DIVIDER CHUTE MOVING SADDLE		2351-CV-007	NEW							INTERMITTENT		/ 3.65 hp /		/ / /	PM002		
	0			2351	2351-MT-007D	SHIPLOADER LINK CONVEYOR DEDUSTING SYSTEM FAN		2351-CV-007	NEW							INTERMITTENT		/ 14.8 hp /		/ / /	PM002		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0			2351	2351-MT-007E	SHIPLOADER LINK CONVEYOR DEDUSTING SYSTEM COMPRESSOR		2351-CV-007	NEW							INTERMITTENT		/ 5.4 hp /		/ / /	PM002		
	0			2351	2351-MT-007F	SHIPLOADER LINK CONVEYOR MAINTENANCE WINCH		2351-CV-007	NEW							INTERMITTENT		/ 6 hp /		/ / /	PM002		
	0			2351	2351-MT-007G	SHIPLOADER LINK CONVEYOR MAINTENANCE WINCH		2351-CV-007	NEW							INTERMITTENT		/ 6 hp /		/ / /	PM002		
	0	**502-2000**		**2351**	**2351-SL-001**	**SHIPLOADER**	**SHIPLOADER**		**NEW**	**FINAL**	**SANJAY DAHIYA**			**1960000**		**INTERMITTENT**	**29M MAX RADIUS; 6000 TPH DESIG**	**/ 645.24 hp No**		**H349000-2350-05-030-0001 / /**	**PM002**	**FAM**	**2014**
	0			2351	2351-MT-001A	SHIPLOADER BOOM CONVEYOR DRIVE		2351-SL-001	NEW							INTERMITTENT		/ 90 hp /		/ / /	PM002		
	0			2351	2351-MT-001AA	SPOT		2351-SL-001	NEW							INTERMITTENT		/ 7 hp /		/ / /	PM002		
	0			2351	2351-MT-001AB	FEEDER CABIN		2351-SL-001	NEW							INTERMITTENT		/ 84 hp /		/ / /	PM002		
	0			2351	2351-MT-001B	SHIPLOADER BOOM CONVEYOR BRAKE		2351-SL-001	NEW							INTERMITTENT		/ 0.68 hp /		/ / /	PM002		
	0			2351	2351-MT-001C	SHIPLOADER HOISTING WINCH DRIVE TELESCOPIC CHUTE		2351-SL-001	NEW							INTERMITTENT		/ 60 hp /		/ / /	PM002		
	0			2351	2351-MT-001D	SHIPLOADER SLEWING DRIVE		2351-SL-001	NEW							INTERMITTENT		/ 12 hp /		/ / /	PM002		
	0			2351	2351-MT-001E	SHIPLOADER SLEWING DRIVE		2351-SL-001	NEW							INTERMITTENT		/ 12 hp /		/ / /	PM002		
	0			2351	2351-MT-001F	SHIPLOADER SLEWING DRIVE BRAKE		2351-SL-001	NEW							INTERMITTENT		/ 0.68 hp /		/ / /	PM002		
	0			2351	2351-MT-001G	SHIPLOADER SLEWING DRIVE BRAKE		2351-SL-001	NEW							INTERMITTENT		/ 0.68 hp /		/ / /	PM002		
	0			2351	2351-MT-001H	SHIPLOADER SLEWING DRIVE TRIMMING SPOON		2351-SL-001	NEW							INTERMITTENT		/ 1.2 hp /		/ / /	PM002		
	0			2351	2351-MT-001J	SHIPLOADER LUFFING DRIVE TRIMMING SPOON		2351-SL-001	NEW							INTERMITTENT		/ 5.5 hp /		/ / /	PM002		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0			2351	2351-MT-001K	SHIPLOADER SHUTTLE DRIVE DISCHARGE CONVEYOR		2351-SL-001	NEW							INTERMITTENT		/ 48.2 hp /		/ / /	PM002		
	0			2351	2351-MT-001L	SHIPLOADER SHUTTLE DRIVE FAN		2351-SL-001	NEW							INTERMITTENT		/ 6 hp /		/ / /	PM002		
	0			2351	2351-MT-001M	SHIPLOADER CENTRAL LUBE SYSTEM		2351-SL-001	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PM002		
	0			2351	2351-MT-001N	SHIPLOADER PINION LUBE SYSTEM		2351-SL-001	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PM002		
	0			2351	2351-MT-001P	SHIPLOADER DEDUSTING SYSTEM FAN		2351-SL-001	NEW							INTERMITTENT		/ 5.4 hp /		/ / /	PM002		
	0			2351	2351-MT-001Q	SHIPLOADER DEDUSTING SYSTEM COMPRESSOR		2351-SL-001	NEW							INTERMITTENT		/ 8.8 hp /		/ / /	PM002		
	0			2351	2351-MT-001R	SHIPLOADER DEDUSTING SYSTEM FAN		2351-SL-001	NEW							INTERMITTENT		/ 20.3 hp /		/ / /	PM002		
	0			2351	2351-MT-001S	SHIPLOADER DEDUSTING SYSTEM COMPRESSOR		2351-SL-001	NEW							INTERMITTENT		/ 8.8 hp /		/ / /	PM002		
	0			2351	2351-MT-001T	SHIPLOADER MAINTENANCE WINCH		2351-SL-001	NEW							INTERMITTENT		/ 6 hp /		/ / /	PM002		
	0			2351	2351-MT-001U	SHIPLOADER MAINTENANCE WINCH		2351-SL-001	NEW							INTERMITTENT		/ 6 hp /		/ / /	PM002		
	0			2351	2351-MT-001V	AIR CONDITIONER E-HOUSE		2351-SL-001	NEW							INTERMITTENT		/ 60 hp /		/ / /	PM002		
	0			2351	2351-MT-001W	HEATER E-HOUSE		2351-SL-001	NEW							INTERMITTENT		/ 54 hp /		/ / /	PM002		
	0			2351	2351-MT-001X	DUST COLLECTOR E-HOUSE		2351-SL-001	NEW							INTERMITTENT		/ 40 hp /		/ / /	PM002		
	0			2351	2351-MT-001Y	WELDING RECEPTACLE		2351-SL-001	NEW							INTERMITTENT		/ 80 hp /		/ / /	PM002		
	0			2351	2351-MT-001Z	HEATER/ILLUMINATION OUTDOOR/INDOOR SWITCH GEAR		2351-SL-001	NEW							INTERMITTENT		/ 27 hp /		/ / /	PM002		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2351	2351-SL-002	SHIPLOADER	SHIPLOADER		NEW	FINAL	SANJAY DAHIYA					INTERMITTENT	29M MAX RADIUS; 6000 TPH DESIG	/ 1557.64 hp No		H349000-2350-05-030-0001 / /	PM002	FAM	2014
	0			2351	2351-MT-002A	SHIPLOADER BOOM CONVEYOR DRIVE		2351-SL-002	NEW							INTERMITTENT		/ 150 hp /		/ / /	PM002		
	0			2351	2351-MT-002AA	SPOT		2351-SL-002	NEW							INTERMITTENT		/ 7 hp /		/ / /	PM002		
	0			2351	2351-MT-002AB	FEEDER CABIN		2351-SL-002	NEW							INTERMITTENT		/ 940 hp /		/ / /	PM002		
	0			2351	2351-MT-002B	SHIPLOADER BOOM CONVEYOR BRAKE		2351-SL-002	NEW							INTERMITTENT		/ 0.68 hp /		/ / /	PM002		
	0			2351	2351-MT-002C	SHIPLOADER HOISTING WINCH DRIVE TELESCOPIC CHUTE		2351-SL-002	NEW							INTERMITTENT		/ 60 hp /		/ / /	PM002		
	0			2351	2351-MT-002D	SHIPLOADER SLEWING DRIVE		2351-SL-002	NEW							INTERMITTENT		/ 10.2 hp /		/ / /	PM002		
	0			2351	2351-MT-002E	SHIPLOADER SLEWING DRIVE		2351-SL-002	NEW							INTERMITTENT		/ 10.2 hp /		/ / /	PM002		
	0			2351	2351-MT-002F	SHIPLOADER SLEWING DRIVE BRAKE		2351-SL-002	NEW							INTERMITTENT		/ 0.68 hp /		/ / /	PM002		
	0			2351	2351-MT-002G	SHIPLOADER SLEWING DRIVE BRAKE		2351-SL-002	NEW							INTERMITTENT		/ 0.68 hp /		/ / /	PM002		
	0			2351	2351-MT-002H	SHIPLOADER SLEWING DRIVE TRIMMING SPOON		2351-SL-002	NEW							INTERMITTENT		/ 1.2 hp /		/ / /	PM002		
	0			2351	2351-MT-002J	SHIPLOADER LUFFING DRIVE TRIMMING SPOON		2351-SL-002	NEW							INTERMITTENT		/ 5.5 hp /		/ / /	PM002		
	0			2351	2351-MT-002K	SHIPLOADER SHUTTLE DRIVE DISCHARGE CONVEYOR		2351-SL-002	NEW							INTERMITTENT		/ 48.2 hp /		/ / /	PM002		
	0			2351	2351-MT-002L	SHIPLOADER SHUTTLE DRIVE BRAKE		2351-SL-002	NEW							INTERMITTENT		/ 6 hp /		/ / /	PM002		
	0			2351	2351-MT-002M	SHIPLOADER CENTRAL LUBE SYSTEM		2351-SL-002	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PM002		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0			2351	2351-MT-002N	SHIPLOADER PINION LUBE SYSTEM		2351-SL-002	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PM002		
	0			2351	2351-MT-002P	SHIPLOADER DEDUSTING SYSTEM FAN		2351-SL-002	NEW							INTERMITTENT		/ 5.4 hp /		/ / /	PM002		
	0			2351	2351-MT-002Q	SHIPLOADER DEDUSTING SYSTEM COMPRESSOR		2351-SL-002	NEW							INTERMITTENT		/ 8.8 hp /		/ / /	PM002		
	0			2351	2351-MT-002R	SHIPLOADER DEDUSTING SYSTEM FAN		2351-SL-002	NEW							INTERMITTENT		/ 20.3 hp /		/ / /	PM002		
	0			2351	2351-MT-002S	SHIPLOADER DEDUSTING SYSTEM COMPRESSOR		2351-SL-002	NEW							INTERMITTENT		/ 8.8 hp /		/ / /	PM002		
	0			2351	2351-MT-002T	SHIPLOADER MAINTENANCE WINCH		2351-SL-002	NEW							INTERMITTENT		/ 6 hp /		/ / /	PM002		
	0			2351	2351-MT-002U	SHIPLOADER MAINTENANCE WINCH		2351-SL-002	NEW							INTERMITTENT		/ 6 hp /		/ / /	PM002		
	0			2351	2351-MT-002V	AIR CONDITIONER E-HOUSE		2351-SL-002	NEW							INTERMITTENT		/ 60 hp /		/ / /	PM002		
	0			2351	2351-MT-002W	HEATER E-HOUSE		2351-SL-002	NEW							INTERMITTENT		/ 54 hp /		/ / /	PM002		
	0			2351	2351-MT-002X	DUST COLLECTOR E-HOUSE		2351-SL-002	NEW							INTERMITTENT		/ 40 hp /		/ / /	PM002		
	0			2351	2351-MT-002Y	WELDING RECEPTACLE		2351-SL-002	NEW							INTERMITTENT		/ 80 hp /		/ / /	PM002		
	0			2351	2351-MT-002Z	HEATER/ILLUMINATION OUTDOOR/INDOOR SWITCH GEAR		2351-SL-002	NEW							INTERMITTENT		/ 27 hp /		/ / /	PM002		
	0	**502-2000**		**2510**	**2510-PP-001**	**RAW SEWAGE LIFT STATION**	**PUMP**		**NEW**	**PRELIMINARY**	**RUSI KAPADIA**					**INTERMITTENT**		**/ / No**		**H349000-2720-05-030-0002 / /**	**PM009**		**2013**
	0	**502-2000**		**2513**	**2513-MO-001**	**AMBULANCE**	**MOBILE EQUIPMENT**		**USED**	**CERTIFIED FINAL**	**GRAHAM BURTON**		**L: 5715 W: 1752 H: 2032**	**6350**		**INTERMITTENT**		**/ / /**	**WHEELED COACH TYPE 1, 4X4; 7.3L POWER STROKE**	**/ / /**	**PM101**	**FORD F350**	**2013**
	0	**502-2000**		**2513**	**2513-MO-002**	**FIRE TRUCK**	**MOBILE EQUIPMENT**		**USED**	**CERTIFIED FINAL**	**GRAHAM BURTON**		**L: 10540 W: 3100 H: 3810**	**16500**		**INTERMITTENT**	**1500 GAL WATER TANK**	**/ / /**	**210 GAL FOAM TANK; 450 LB DRY CHEMICAL TANK; ARFF WITH SNOZZLE**	**/ / /**	**PM101**	**OSHKOSH T1500**	**2013**

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0	**502-2000**		**2513**	**2513-PP-005**	**EMERGENCY RESPONSE OFFICE RAW WATER PUMP**	**PUMP**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 483 W: 275 H: 267**			**INTERMITTENT**	**65 PSI**	**/ 0.5 hp No**	**1/2 HP ELECTRIC PUMP**	**H349000-2720-05-030-0003 / /**	**PX001**	**SIMER JET PUMPS 2205C**	**2013**
	0			2513	2513-MT-005	RAW WATER TANK PUMP		2513-PP-005	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	**502-2000**		**2513**	**2513-PP-021**	**MILNE EMERGENCY RESPONSE GARAGE FUEL OIL PUMP (PUMP)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			2513	2513-MT-021	FUEL OIL PUMP		2513-PP-021	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**502-2000**		**2513**	**2513-PP-022**	**MILNE EMERGENCY RESPONSE GARAGE FUEL OIL PUMP (STANDBY)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			2513	2513-MT-022	FUEL OIL PUMP		2513-PP-022	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**502-2000**		**2513**	**2513-SQ-010**	**DRY CHEMICAL REFILL STATION**	**SHOP / MAINTENANCE EQUIPMENT**		**NEW**	**PRELIMINARY**	**BRADEN LOMANTO**					**INTERMITTENT**		**/ / No**	**DRY POWDER CHEMICAL HANDLING SYSTEM**	**/ / /**	**PM104**	**TYCO FIRE PROTECTION**	**2013**
	0	**502-2000**		**2513**	**2513-TK-003**	**EMERGENCY RESPONSE OFFICE SEWAGE COLLECTION TANK**	**TANK**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 3791 W: 1829 H: 610**			**INTERMITTENT**	**1000 GAL**	**/ / /**	**RECTANGULAR TANK**	**H349000-2720-05-030-0003 / /**	**PX001**	**LAGRANGE MECHANICAL SERVICES**	**2013**
	0	**502-2000**		**2513**	**2513-TK-004**	**EMERGENCY RESPONSE OFFICE RAW WATER TANK**	**TANK**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 1613 W: 737 H: 1676**			**CONTINUOUS**	**400 GAL TANK**	**/ / /**	**FREESTANDING WATER TANK**	**H349000-2720-05-030-0003 / /**	**PX001**	**NORWESCO**	**2013**
	0	**502-2000**		**2513**	**2513-TK-023**	**MILNE EMERGENCY RESPONSE GARAGE DIESEL FUEL TANK**	**TANK**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**CONTINUOUS**	**10000 L**	**/ / /**	**DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK**	**/ / /**	**PX002**	**DTE ULC601-07**	**2013**
	0	**502-2000**		**2521**	**2521-PP-003**	**MAINTENANCE BUILDING FUEL OIL PUMP (DUTY)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			2521	2521-MT-003	FUEL OIL PUMP		2521-PP-003	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**502-2000**		**2521**	**2521-PP-004**	**MAINTENANCE BUILDING FUEL OIL PUMP (STANDBY)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			2521	2521-MT-004	FUEL OIL PUMP		2521-PP-004	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**502-2000**		**2521**	**2521-PP-011**	**MILNE WELDING SHOP FUEL OIL PUMP (DUTY)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0			2521	2521-MT-011	FUEL OIL PUMP		2521-PP-011	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**502-2000**		**2521**	**2521-PP-012**	**MILNE WELDING SHOP FUEL OIL PUMP (STANDBY)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			2521	2521-MT-012	FUEL OIL PUMP		2521-PP-012	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**502-2000**		**2521**	**2521-PP-051**	**WORKSHOP OFFICE WASHCAR RAW WATER PUMP**	**PUMP**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 483 W: 275 H: 267**			**INTERMITTENT**	**65 PSI**	**/ 0.5 hp No**	**1/2 HP ELECTRIC PUMP**	**H349000-2720-05-030-0003 / /**	**PX001**	**SIMER JET PUMPS 2205C**	**2013**
	0			2521	2521-MT-051	RAW WATER TANK PUMP		2521-PP-051	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	**502-2000**		**2521**	**2521-TK-005**	**MILNE WELDING SHOP DIESEL FUEL TANK**	**TANK**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**CONTINUOUS**	**10000 L**	**/ / /**	**DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK**	**/ / /**	**PX002**	**DTE ULC601-07**	**2013**
	0	**502-2000**		**2521**	**2521-TK-013**	**MAINTENANCE BUILDING DIESEL FUEL TANK**	**TANK**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**CONTINUOUS**	**20000 L**	**/ / /**	**DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK**	**/ / /**	**PX002**	**DTE ULC601-07**	**2013**
	0	**502-2000**		**2521**	**2521-TK-050**	**WORKSHOP OFFICE WASHCAR RAW WATER TANK**	**TANK**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 1803 W: 1245 H: 1346**			**CONTINUOUS**	**525 GAL TANK**	**/ / /**	**HORIZONTAL TANK WITH >48 HOURS SUPPLY**	**H349000-2720-05-030-0003 / /**	**PX001**	**PLASTIC-MART 866-310-2556**	**2013**
	0	**502-2000**		**2521**	**2521-TK-053**	**WORKSHOP OFFICE WASHCAR SEWAGE COLLECTION TANK**	**TANK**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 3791 W: 1829 H: 610**			**INTERMITTENT**	**1000 GAL**	**/ / /**	**RECTANGULAR TANK**	**H349000-2720-05-030-0003 / /**	**PX001**	**LAGRANGE MECHANICAL SERVICES**	**2013**
	0	**502-2000**		**2522**	**2522-SQ-001**	**EVAC TANK**	**SHOP / MAINTENANCE EQUIPMENT**		**NEW**	**PRELIMINARY**	**BRADEN LOMANTO**		**L: 1118 W: 508 H: 1093**	**200**		**INTERMITTENT**	**60 GAL TANK**	**/ / No**	**SAGE OIL VAC FLUID RECOVERY SYSTEM - 120 GALLONS**	**/ / /**	**PM104**	**NORTHERN TOOL 30070V**	**2013**
	0	**502-2000**		**2522**	**2522-SQ-003**	**DRILL PRESS**	**SHOP / MAINTENANCE EQUIPMENT**		**NEW**	**PRELIMINARY**	**BRADEN LOMANTO**		**L: 508 W: 356 H: 1778**	**120**		**INTERMITTENT**	**CHUCK CAPACITY 15.9 MM**	**/ 2.7 hp No**	**LENGTH AND WIDTH ARE TABLE DIMENSIONS; 22" WITH LASER**	**/ / /**	**PM104**	**AG - DPE18-900**	**2013**
	0	**502-2000**		**2522**	**2522-SQ-004**	**MAGNETIC BASE DRILL**	**SHOP / MAINTENANCE EQUIPMENT**		**NEW**	**PRELIMINARY**	**BRADEN LOMANTO**			**33**		**INTERMITTENT**	**1650 LBS DRILL POINT PRESSURE**	**/ 0.81 hp No**	**1/2 " CHUCK SIZE**	**/ / /**	**PM104**	**AG - MTL4210-1**	**2014**
	0	**502-2000**		**2522**	**2522-SQ-005**	**OIL FILTER PRESS**	**SHOP / MAINTENANCE EQUIPMENT**		**NEW**	**PRELIMINARY**	**BRADEN LOMANTO**		**L: 1524 W: 914 H: 2640**	**680**		**INTERMITTENT**	**32 TON CRUSHING FORCE**	**/ 3.4 hp No**	**57 SECOND CYCLE TIME**	**/ / /**	**PM104**	**OBERG P300**	**2013**
	0	**502-2000**		**2522**	**2522-SQ-006**	**HYDRAULIC PORTA POWER PUMP**	**SHOP / MAINTENANCE EQUIPMENT**		**NEW**	**PRELIMINARY**	**BRADEN LOMANTO**					**INTERMITTENT**		**/ / No**		**/ / /**	**PM104**	**AG**	**2014**
	0	**502-2000**		**2522**	**2522-SQ-009**	**WELDING MACHINE**	**SHOP / MAINTENANCE EQUIPMENT**		**NEW**	**PRELIMINARY**	**BRADEN LOMANTO**		**L: 965 W: 584 H: 762**	**192**		**INTERMITTENT**		**/ 54 hp No**	**452 MIGRUNNER DIMENSION PACKAGE - 500 AMP**	**/ / /**	**PM104**	**AG - MLW951-277**	**2013**

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2522	2522-SQ-010	WELDING MACHINE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 965 W: 584 H: 762	192		INTERMITTENT		/ 54 hp No	452 MIGRUNNER DIMENSION PACKAGE - 500 AMP	/ / /	PM104	AG - MLW951-277	2013
	0	502-2000		2522	2522-SQ-011	PORTABLE WELDING FUME EXTRACTOR	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			73		INTERMITTENT	35 M2 FILTER AREA	/ 1 hp No		/ / /	PM104	AG - NED12634345	2013
	0	502-2000		2522	2522-SQ-012	PORTABLE WELDING SPARK PROTECTOR	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG - NED12375241	2013
	0	502-2000		2522	2522-SQ-014	SWEEPER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 4.7 hp No	ELECTRIC - AREA 20000 FT2	/ / /	PM104	AG	2013
	0	502-2000		2522	2522-SQ-018	TIRE CHANGER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 2.03 hp No	RIM DIAMATERS: EXTERNAL 9"-30", INTERNAL DIAMETER 11"-32"	/ / /	PM104	COATS APX80A	2013
	0	502-2000		2522	2522-SQ-022	BULK FLUID DISTRIBUTION SYSTEM	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No	OILS, LUBRICANT, COOLANT, GREASE,WATER (WASHDOWN)	/ / /	PM104	AG	2013
	0	502-2000		2522	2522-SQ-023	EVAC TANK	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1118 W: 508 H: 1093	200		INTERMITTENT	60 GAL TANK	/ / No	SAGE OIL VAC FLUID RECOVERY SYSTEM - 120 GALLONS	/ / /	PM104	NORTHERN TOOL 30070V	2013
	0	502-2000		2522	2522-SQ-025	WELDING MACHINE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 965 W: 584 H: 762	192		INTERMITTENT		/ 54 hp No	452 MIGRUNNER DIMENSION PACKAGE - 500 AMP	/ / /	PM104	AG - MLW951-277	2013
	0	502-2000		2522	2522-SQ-026	PARTS WASHER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1070 W: 560 H: 406	84		INTERMITTENT	40 GAL TANK CAPACITY	/ 2.03 hp No	DIMENSIONS ARE FOR THE TANK ITSELF; SOLV DELUXE HANDIKLEEN	/ / /	PM104	AG - GRYPL422A	2013
	0	502-2000		2522	2522-SQ-027	PARTS WASHER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1070 W: 560 H: 406	84		INTERMITTENT	40 GAL TANK CAPACITY	/ 2.03 hp No	DIMENSIONS ARE FOR THE TANK ITSELF; SOLV DELUXE HANDIKLEEN	/ / /	PM104	AG - GRYPL422A	2013
	0	502-2000		2522	2522-SQ-028	TIRE SPREADER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT	MAX TIRE: 18R-22.5"	/ 2.7 hp No	AIR POWERED WITH LYING BASE. 220V MAX. 18R/22.5 INCH	/ / /	PM104	ZHUHAI TEAMROC TR-S825	2013
	0	502-2000		2522	2522-SQ-029	BENCH GRINDER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		W: 610 H: 345			INTERMITTENT	10 " WHEEL SIZE	/ 1 hp No	HD 10" 1 HP 120V	/ / /	PM104	AG - WSWBG10D	2014
	0			2522	2522-MT-029	BENCH GRINDER		2522-SQ-029	NEW							INTERMITTENT		/ 1 hp /		/ / /	PM104		
	0	502-2000		2522	2522-SQ-030	BENCH GRINDER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		W: 610 H: 345			INTERMITTENT	10 " WHEEL SIZE	/ 1 hp No	HD 10" 1 HP 120V	/ / /	PM104	AG - WSWBG10D	2014
	0			2522	2522-MT-030	BENCH GRINDER		2522-SQ-030	NEW							INTERMITTENT		/ 1 hp /		/ / /	PM104		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2522	2522-SQ-033	TRUCK MOUNT GOODALL BOOST SYSTEM	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	502-2000		2522	2522-SQ-034	GOODALL BOOST SYSTEM	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	502-2000		2522	2522-SQ-037	A/C RECOVERY RECHARGE UNIT	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 584 W: 864 H: 1120	110		INTERMITTENT	MAX TANK SIZE 30 LBS	/ / No	MULTI-REFRIGERANT	/ / /	PM104	ROBINAIR RBN17800B	2014
	0	502-2000		2522	2522-SQ-038	BATTERY CHARGER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG - WSW1JYU3	2014
	0	502-2000		2522	2522-SQ-039	BATTERY CHARGER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG - WSW1JYU3	2014
	0	502-2000		2522	2522-SQ-040	TUBE BENDER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	502-2000		2540	2540-PP-002	MILNE WASTE MANAGEMENT BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			2540	2540-MT-002	FUEL OIL PUMP		2540-PP-002	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	502-2000		2540	2540-PP-003	MILNE WASTE MANAGEMENT BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			2540	2540-MT-003	FUEL OIL PUMP		2540-PP-003	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	502-2000		2540	2540-SQ-002	AEROSOL CAN RECYCLING SYSTEM	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			5		INTERMITTENT	CAPABLE OF 76, 114, AND 208 L	/ / No		/ / /	PM104	AG - SAYCPU03	2013
	0	502-2000		2540	2540-SQ-003	DRUM CRUSHER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			650		INTERMITTENT	38000 LBS OF CRUSHING PRESSURE	/ 6.8 hp No	CRUSHES 55 GAL DRUMS TO 6" HIGH; RESETS IN 25 SECONDS	/ / /	PM104	AG - VESHDC900IDC	2013
	0	502-2000		2540	2540-SQ-004	PLATFORM SCALE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT	10 TON	/ / No	10 TON	/ / /	PM104	AG - OHAVX32XW10000X	2014
	0	502-2000		2540	2540-TK-003	MILNE WASTE MANAGEMENT BUILDING DIESEL FUEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS	20000 L	/ / /	DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK	/ / /	PX002	DTE ULC601-07	2013
	0	502-2000		2540	2540-VP-001	WASTE INCINERATOR VENDOR PACKAGE	VENDOR PACKAGE		NEW	PRELIMINARY	MATTHEW BUYKX					-		/ / /		H349000-2540-05-030-0001 / /	TX001		2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2610	2610-PP-001	OIL WATER SEPARATOR FEED PUMP	PUMP		NEW	CERTIFIED FINAL	GRAHAM BURTON					CONTINUOUS		/ / No		/ / /	PM005		2013
	0	502-2000		2610	2610-PP-002	OIL WATER SEPARATOR FEED PUMP	PUMP		NEW	CERTIFIED FINAL	GRAHAM BURTON					CONTINUOUS		/ / No		/ / /	PM005		2013
	0	502-2000		2613	2613-FD-013	EXISTING DIESEL FUEL DISPENSING MODULE	FUEL DISPENSER		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2013
	0	502-2000		2613	2613-FD-014	DIESEL FUEL DISPENSING MODULE	FUEL DISPENSER		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / No		/ / /	PM004		2013
	0	502-2000		2613	2613-PP-007	DIESEL FUEL DISPENSING MODULE ARCTIC DIESEL PUMP NO.1	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	502-2000		2613	2613-PP-008	DIESEL FUEL DISPENSING MODULE ARCTIC DIESEL PUMP NO.2	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	502-2000		2613	2613-PP-009	DIESEL FUEL DISPENSING MODULE ARCTIC DIESEL PUMP NO.3	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	502-2000		2613	2613-PP-010	DIESEL FUEL DISPENSING MODULE ARCTIC DIESEL PUMP NO.4	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	502-2000		2613	2613-PP-011	DIESEL FUEL DISPENSING MODULE ARCTIC DIESEL PUMP NO.5	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	502-2000		2613	2613-PP-012	DIESEL FUEL DISPENSING MODULE ARCTIC DIESEL PUMP NO.6	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	502-2000		2613	2613-TK-001	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 27800 DI H: 15250			CONTINUOUS	10 ML	/ / /		/ / /	PM004		2013
	0	502-2000		2613	2613-TK-002	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 27800 DI H: 15250			CONTINUOUS	10 ML	/ / /		/ / /	PM004		2013
	0	502-2000		2613	2613-TK-003	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 27800 DI H: 15250			CONTINUOUS	10 ML	/ / /		/ / /	PM004		2013
	0	502-2000		2613	2613-TK-004	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 27800 DI H: 15250			CONTINUOUS	10 ML	/ / /		/ / /	PM004		2013
	0	502-2000		2613	2613-TK-005	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 25600 DI H: 9760			CONTINUOUS	5 ML	/ / /		/ / /	PM004		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0	502-2000		2613	2613-TK-006	ARCTIC DIESEL TANK	TANK		EXISTING	EXISTING	FLOYD BUTTS		W: 25600 DI H: 9760			CONTINUOUS	5 ML	/ / /		/ / /	PM004		
	0	502-2000		2614	2614-FD-011	JET-A1 FUEL DISPENSING MODULE	FUEL DISPENSER		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2013
	0	502-2000		2614	2614-FS-003	JET-A1 FUEL DIESPENSING MODULE FUELLING STATION	FIRE SERVICES		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / /		/ / /	PM004		2014
	0	502-2000		2614	2614-FS-004	JET-A1 FUEL DIESPENSING MODULE FUELLING STATION	FIRE SERVICES		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / /		/ / /	PM004		2014
	0	502-2000		2614	2614-PP-001	JET-A1 FUEL DIESPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	502-2000		2614	2614-PP-002	JET-A1 FUEL DIESPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	502-2000		2614	2614-TK-007	JET-A1 TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 10250 DI H: 9140			CONTINUOUS	750 kL	/ / /		/ / /	PM004		2013
	0	502-2000		2614	2614-TK-008	JET-A1 TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 10250 DI H: 9140			CONTINUOUS	750 kL	/ / /		/ / /	PM004		2013
	0	502-2000		2614	2614-TK-009	JET-A1 TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 10250 DI H: 9140			CONTINUOUS	750 kL	/ / /		/ / /	PM004		2014
	0	502-2000		2614	2614-TK-010	JET-A1 TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 10250 DI H: 9140			CONTINUOUS	750 kL	/ / /		/ / /	PM004		2014
	0	502-2000		2619	2619-GE-001	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013
	0	502-2000		2619	2619-GE-002	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013
	0	502-2000		2619	2619-GE-003	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013
	0	502-2000		2619	2619-GE-004	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013
	0	502-2000		2619	2619-GE-005	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013

Identification												Technical								Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	502-2000		2619	2619-GE-006	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2014
	0	502-2000		2619	2619-GE-007	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2014
	0	502-2000		2720	2720-PP-002	RAW WATER DISTRIBUTION PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					CONTINUOUS		/ / No		H349000-2720-05-030-0001 / /	TX001		2013
	0	502-2000		2720	2720-PP-003	RAW WATER DISTRIBUTION PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					STANDBY		/ / No		H349000-2720-05-030-0001 / /	TX001		2013
	0	502-2000		2720	2720-PP-004	DIESEL FIRE WATER PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-2720-05-030-0001 / /	TX001		2013
	0	502-2000		2720	2720-PP-005	ELECTRIC FIRE WATER PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					STANDBY		/ / No		H349000-2720-05-030-0001 / /	TX001		2013
	0	502-2000		2720	2720-PP-006	JOCKEY PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					STANDBY		/ / No		H349000-2720-05-030-0001 / /	TX001		2013
	0	502-2000		2720	2720-PP-009	POTABLE WATER DISCHARGE PUMP NO.1	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-2720-05-0002 / /	TX001		2013
	0	502-2000		2720	2720-PP-010	POTABLE WATER DISCHARGE PUMP NO.2	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-2720-05-0002 / /	TX001		2013
	0	502-2000		2720	2720-PP-012	BACKWASH SLURRY PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-2720-05-030-0002 / /	TX001		2013
	0	502-2000		2720	2720-PP-013	CLEAN BACKWASH PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-2720-05-030-0002 / /	TX001		2013
	0	502-2000		2720	2720-PP-021	RAW WATER UNLOADING PUMP	PUMP		NEW	CERTIFIED FINAL	GRAHAM BURTON					CONTINUOUS		/ / No	3" x 3"	/ / /	PM010	HAYWARD GORDON S-3	2013
	0	502-2000		2720	2720-PP-031	MILNE WATER BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			2720	2720-MT-031	FUEL OIL PUMP		2720-PP-031	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	502-2000		2720	2720-PP-032	MILNE WATER BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013

Identification												Technical								Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0			2720	2720-MT-032	FUEL OIL PUMP		2720-PP-032	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	502-2000		2720	2720-TK-001	RAW WATER TANK	TANK		NEW	PRELIMINARY	MATTHEW BUYKX					CONTINUOUS		/ / /		H349000-2720-05-030-0001 / /	TX001		2013
	0	502-2000		2720	2720-TK-007	FIRE WATER TANK	TANK		NEW	PRELIMINARY	MATTHEW BUYKX					CONTINUOUS		/ / /		H349000-2720-05-030-0001 / /	TX001		2013
	0	502-2000		2720	2720-TK-008	POTABLE WATER STORAGE TANK	TANK		NEW	PRELIMINARY	MATTHEW BUYKX					CONTINUOUS		/ / /		H349000-2720-05-030-0002 / /	TX001		2013
	0	502-2000		2720	2720-TK-011	BACKWASH SETTLING TANK	TANK		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / /		H349000-2720-05-0002 / /	TX001		2013
	0	502-2000		2720	2720-TK-033	MILNE WATER BUILDING DIESEL FUEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS	10000 L	/ / /	DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK	/ / /	PX002	DTE ULC601-07	2013
	0	502-2000		2720	2720-VP-020	POTABLE WATER TREATMENT PLANT VENDOR PACKAGE VENDOR PACKAGE	VENDOR PACKAGE		NEW	PRELIMINARY	RUSI KAPADIA					-		/ / /		/ / /	TX001		2013
	0	502-2000		2731	2731-PP-003	TREATED EFFLUENT DISCHARGE PUMP NO.1	PUMP		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / No		/ / /	PM009		2013
	0	502-2000		2731	2731-PP-004	TREATED EFFLUENT DISCHARGE PUMP NO.2	PUMP		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / No		/ / /	PM009		2013
	0	502-2000		2731	2731-SC-001	SCREEN	SCREEN		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / /		/ / /	PM009		2013
	0	502-2000		2731	2731-TK-002	TREATED EFFLUENT TANK	TANK		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / /		/ / /	PM009		2013
	0	502-2000		2731	2731-VP-005	SEWAGE TREATMENT PLANT VENDOR PACKAGE	VENDOR PACKAGE		NEW	PRELIMINARY	RUSI KAPADIA					-		/ / /		/ / /	PM009		2013
	0	502-2000		2732	2732-PP-001	MILNE SEWAGE TRUCK BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			2732	2732-MT-001	FUEL OIL PUMP		2732-PP-001	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	502-2000		2732	2732-PP-002	MILNE SEWAGE TRUCK BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0			2732	2732-MT-002	FUEL OIL PUMP		2732-PP-002	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	502-2000		2732	2732-TK-003	MILNE SEWAGE TRUCK BUILDING DIESEL FUEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS	10000 L	/ / /	DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK	/ / /	PX002	DTE ULC601-07	2013
	0	504-2200		4141	4141-MO-005	MOBILE CRUSHER FRONT-END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	HIGH LIFT SPEC. - TO BE DELIVERED BY JULY 5TH W/ STANDARD BUCKETS	H349000-4380-05-030-0001 / /	PM102	CAT 988H	2013
	0	504-2200		4141	4141-MO-006	MOBILE CRUSHER FRONT-END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	HIGH LIFT SPEC. - TO BE DELIVERED BY JULY 5TH W/ STANDARD BUCKETS	H349000-4380-05-030-0001 / /	PM102	CAT 988H	2013
	0	504-2200		4141	4141-MO-007	MINE HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10445 W: 6706 H: 5840	75200		INTERMITTENT	RATED PAYLOAD 90 TON	/ / /	ETA JULY 15, 2013	H349000-4380-05-030-0001 / /	PM102	CAT 777G	2013
	0	504-2200		4141	4141-MO-008	MINE HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10445 W: 6706 H: 5840	75200		INTERMITTENT	RATED PAYLOAD 90 TON	/ / /	ETA JULY 18, 2013	H349000-4380-05-030-0001 / /	PM102	CAT 777G	2013
	0	504-2200		4141	4141-MO-009	MINE HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10445 W: 6706 H: 5840	75200		INTERMITTENT	RATED PAYLOAD 90 TON	/ / /	ETA JULY 12, 2013	H349000-4380-05-030-0001 / /	PM102	CAT 777G	2013
	0	504-2200		4141	4141-MO-010	MINE HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10445 W: 6706 H: 5840	75200		INTERMITTENT	RATED PAYLOAD 90 TON	/ / /		H349000-4380-05-030-0001 / /	PM102	CAT 777G	2013
	0	504-2200		4141	4141-MO-024	MINE SITE LARGE EXCAVATOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 13470 W: 3500 H: 4782	85000		INTERMITTENT	530 HP, 5.4 M3 BUCKET	/ / /	MASS HEX, IRON ORE BUCKET - ETA JULY 19, 2013	H349000-4380-05-030-0001 / /	PM102	CAT 390DL	2013
	0	504-2200		4141	4141-MO-025	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4141	4141-MO-026	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4141	4141-MO-027	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4141	4141-MO-028	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4141	4141-MO-029	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4141	4141-MO-030	SINGLE PASS PRODUCTION DRILL	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT			56800		INTERMITTENT		/ / /	ETA SEPT. 10TH	/ / /	PM100	CAT MD6290	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4141	4141-MO-031	SINGLE PASS PRODUCTION DRILL	MOBILE EQUIPMENT		NEW	PRELIMINARY	TOROMONT		L: 14280 W: 4010 H: 4590	56800		INTERMITTENT		/ / /	2014 SEALIFT	/ / /	PM100	CAT MD6290	2014
	0	504-2200		4141	4141-MO-033	SECONDARY DRILL	MOBILE EQUIPMENT		USED	PRELIMINARY	GLACIER					INTERMITTENT		/ / /		/ / /	PM100	TAMROCK 800	2013
	0	504-2200		4141	4141-MO-035	DRILL DUST SUPPRESSION WATER/METHANOL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	NON-INSULATED	/ / /	PM130	KENWORTH T800H	2013
	0	504-2200		4142	4142-MO-001A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2013
	0	504-2200		4142	4142-MO-001B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-001C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-002A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2013
	0	504-2200		4142	4142-MO-002B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-002C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-003A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2013
	0	504-2200		4142	4142-MO-003B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-003C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-004A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2013
	0	504-2200		4142	4142-MO-004B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-004C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4142	4142-MO-005A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-005B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-005C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-006A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-006B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-006C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-007A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-007B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-007C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-008A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-008B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-008C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-009A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-009B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-009C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013

Identification												Technical								Procurement		
												Design Data						Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4142	4142-MO-010A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-010B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-010C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2013
	0	504-2200		4142	4142-MO-011A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-011B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-011C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-012A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-012B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-012C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-013A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-013B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-013C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-014A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-014B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-014C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4142	4142-MO-015A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-015B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-015C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-016A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-016B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-016C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-017A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-017B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-017C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-018A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-018B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-018C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-019A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-019B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-019C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4142	4142-MO-020A	TOTE ROAD ORE HAUL TRUCK - TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10080 W: 3060 H: 3900	11400 /		INTERMITTENT	600 HP, 150T (275T)	/ / /	6 WHEEL DRIVE, PLANETARY GEAR, 3" PIN	H349000-4380-05-030-0001 / /	PM103	WESTERN STAR 6900XD	2014
	0	504-2200		4142	4142-MO-020B	TOTE ROAD ORE HAUL TRUCK - LEAD TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-020C	TOTE ROAD ORE HAUL TRUCK - PUP TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 10240 W: 3060 H: 4210	34500		INTERMITTENT	75 T	/ / /	DOUBLE TRAIN SIDE DUMP.	H349000-4380-05-030-0001 / /	PM113	SMITHCO S4 (75T)	2014
	0	504-2200		4142	4142-MO-021	MINE SITE TRACK DOZER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 6630 W: 4310 H: 3815	42700		INTERMITTENT	BLADE WIDTH 4310 MM	/ / /	ETA JULY 18, 2013	/ / /	PM102	CAT D9T	2013
	0	504-2200		4142	4142-MO-022	MINE SITE TRACK DOZER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 6630 W: 4310 H: 3815	78000		INTERMITTENT	BLADE WIDTH 4310 MM	/ / /		/ / /	PM102	CAT D9T	2013
	0	504-2200		4142	4142-MO-023	MINE SITE WHEEL DOZER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 8716 W: 3556 H: 4102	46300		INTERMITTENT	BLADE W x H: 4.6M x 1.5M	/ / /	SEMI U BLADE	/ / /	PM102	CAT 824H	2013
	0	504-2200		4142	4142-MO-024	GRADER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 9963 W: 3096 H: 3718	30400		INTERMITTENT	2.6 M MAX SHOULDER REACH	/ / /	MADE IN 2002; SECONDARY STEER, RIPPER, HIGH CAB - NO WING - ETA JULY 12, 2013	/ / /	PM102	CAT 16H	2013
	0	504-2200		4142	4142-MO-026	PRODUCTION FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 16877 W: 6000 H: 7000	100000		INTERMITTENT	14 - 36 M3 BUCKET	/ / /	ETA JULY 25, 2013 - IRON ORE BUCKET DELIVERY IN SEPT.	H349000-4380-05-030-0001 / /	PM102	CAT 992K	2013
	0	504-2200		4142	4142-MO-027	PRODUCTION LARGE EXCAVATOR	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 13470 W: 3500 H: 4782	85000		INTERMITTENT	530 HP, 5.4 M3 BUCKET	/ / /	MASS HEX, IRON ORE BUCKET	H349000-4380-05-030-0001 / /	PM102	CAT 390DL	2013
	0	504-2200		4142	4142-MO-028	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4142	4142-MO-029	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4142	4142-MO-030	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4142	4142-MO-031	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4142	4142-MO-032	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4142	4142-MO-033	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4142	4142-MO-034	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4142	4142-MO-035	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4142	4142-MO-036	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4142	4142-MO-037	NIGHT WORK AREA LIGHT PLANTS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ 10.8 hp No	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	504-2200		4143	4143-MO-001	MAINTENANCE SERVICE TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	7000 LB TELESCOPING CRANE; 11	/ / /	VMAC CRANE	/ / /	PM130	FORD F550	2013
	0	504-2200		4143	4143-MO-002	MAINTENANCE SERVICE TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	10000# TELESCOPIC CRANE; AIR COMPRESSOR	/ / /	PM130	PETERBILT 348	2013
	0	504-2200		4143	4143-MO-003	MAINTENANCE FUEL/LUBE TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	1000 GAL FUEL TANK; 7 PRODUCT	/ / /	1000 GAL FUEL TANK; 7 PRODUCT TANKS; HEATED PRESSURIZED HOUSE	H349000-4540-05-030-0001 / /	PM130	KENWORTH T800	2013
	0	504-2200		4143	4143-MO-004	LOWBED TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	W/ WET KIT; HEADACHE RACK; FENDERS	/ / /	PM135	PETERBILT 367	2013
	0	504-2200		4143	4143-MO-005	LOWBED TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	W/ WET KIT; HEADACHE RACK; FENDERS	/ / /	PM135	PETERBILT 367	2013
	0	504-2200		4143	4143-MO-006	TIRE HANDLER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT			5900		INTERMITTENT	20000 LBS	/ / /	TO FIT ON CAT 988H LOADER - ESTIMATED DELIVERY AUG 25, 2013	/ / /	PM102	WBM T20P-S	2013
	0	504-2200		4143	4143-MO-008	FREIGHT HANDLING FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 6050 W: 2390 H: 3150	9600		INTERMITTENT	1.3 M3 BUCKET	/ / /	QUICK COUPLERS/BUCKETS/FORKS	/ / /	PM102	CAT 930K	2013
	0	504-2200		4143	4143-MO-009	YARD WORK EXCAVATOR	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 11910 W: 3490 H: 3770	45000		INTERMITTENT	345 HP, 3.5 M3 BUCKET	/ / /		/ / /	PM102	CAT 345DL	2013
	0	504-2200		4143	4143-MO-010	CLEANUP/SNOW REMOVAL ALL TERRAIN FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 3277 W: 1676 H: 3810	3175		INTERMITTENT	885 KG OPERATING LOAD	/ / /	C/W QUICK COUPLER, BUCKET AND FORKS	/ / /	PM102	CAT 247B	2013
	0	504-2200		4143	4143-MO-011	CLEANUP/SNOW REMOVAL ALL TERRAIN FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 3277 W: 1676 H: 3810	3175		INTERMITTENT	885 KG OPERATING LOAD	/ / /	C/W QUICK COUPLER, BUCKET AND FORKS	/ / /	PM102	CAT 247B	2013
	0	504-2200		4143	4143-MO-013	CRUSHER MAINTENANCE KNUCKLE CRANE	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	9000 KG	/ / /	TANDEM AXLE; STEEL DECK; PALFINGER PK32080 KNUCKLE CRANE	/ / /	PM116	KENWORTH T800	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4143	4143-MO-014	MAINTENANCE CRANE	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 14630 W: 7920 H: 3990	42000		INTERMITTENT	80 T	/ / /	HYDRAULICS, ROUGH TERRAIN	/ / /	PM101	TEREX RT780	2013
	0	504-2200		4143	4143-MO-015	MAINTENANCE CRANE	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 15240 W: 7920 H: 3970	60500		INTERMITTENT	130 T	/ / /	HYDRAULICS, ROUGH TERRAIN	/ / /	PM101	TEREX RT130	2013
	0	504-2200		4143	4143-MO-016	WAREHOUSE FORK LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 2790 W: 1290 H: 2500	4763		INTERMITTENT	3 T	/ / /	DIESEL ENGINE W/ SCRUBBER	/ / /	PM106	CAT P7000-D	2013
	0	504-2200		4143	4143-MO-017	MAINTENANCE FORK LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 4240 W: 2390 H: 2845	14320		INTERMITTENT	10 T	/ / /	DIESEL ENGINE W/ SCRUBBER, 96" FORKS	/ / /	PM106	CAT P20000	2013
	0	504-2200		4143	4143-MO-018	FREIGHT TELEHANDLER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 6100 W: 2570 H: 2570	15800	NUNA	INTERMITTENT	4500 KG CAPACITY	/ / /		/ / /	PM106	CAT TH514	2013
	0	504-2200		4143	4143-MO-019	RUN-OFF CONTROL DEWATERING PUMP	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT					INTERMITTENT	6"	/ / /	DIESEL W/ TRAILER AND SPILL KIT	/ / /	PM106	GORMAN RUPP T6A60S-C4.4T	2013
	0	504-2200		4143	4143-MO-020	RUN-OFF CONTROL DEWATERING PUMP	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT					INTERMITTENT	6"	/ / /	DIESEL W/ TRAILER AND SPILL KIT	/ / /	PM106	GORMAN RUPP T6A60S-C4.4T	2013
	0	504-2200		4143	4143-MO-021	MAINTENANCE HOT BOX	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	SANJAY DAHIYA		L: 4877 W: 2235 H: 1829	1850		INTERMITTENT	1100000 BTU/H	/ / /		/ / /	PM104	ECOBLAZE CUBE 1100	2013
	0	504-2200		4143	4143-MO-022	MAINTENANCE HOT BOX	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	SANJAY DAHIYA		L: 4877 W: 2235 H: 1829	1850		INTERMITTENT	1100000 BTU/H	/ / /		/ / /	PM104	ECOBLAZE CUBE 1100	2013
	0	504-2200		4143	4143-MO-023	MAINTENANCE HOT BOX	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	SANJAY DAHIYA		L: 4877 W: 2235 H: 1829	1850		INTERMITTENT	1100000 BTU/H	/ / /		/ / /	PM104	ECOBLAZE CUBE 1100	2013
	0	504-2200		4143	4143-MO-024	YARD MAINTENANCE PLOW/SAND TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	TENCO CHASSIS MOUNT SPREADER; ONE WAY PLOW; RIGHT HAND SIDE DISCHARGE	/ / /	PM131	INTERNATIONAL 7600	2013
	0	507-3200		4143	4143-MO-025	GRADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 9994 W: 3077 H: 3524	24400		INTERMITTENT	2.31 M MAX REACH	/ / /	2012	/ / /	PM102	CAT 16M	2013
	0	504-2200		4143	4143-MO-026	YARD/TOTE ROAD MAINTENANCE TRACK DOZER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4064 W: 2464 H: 2439	21600		INTERMITTENT		/ / /		/ / /	PM102	CAT D6T XW	2013
	0	504-2200		4143	4143-MO-027	MAINTENANCE TRAILER WELDER	MOBILE EQUIPMENT		NEW	PRELIMINARY	GRAHAM BURTON					INTERMITTENT		/ / /		/ / /	PM104		2013
	0	504-2200		4143	4143-MO-029	MAN LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 2500 W: 1170 H: 1970	6010		INTERMITTENT	51' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	JLG450AJ	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4143	4143-MO-030	SCISSOR LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 3500 W: 2200 H: 2900	4917		INTERMITTENT	47' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	SKYJACK 8841	2013
	0	504-2200		4143	4143-MO-031	ORE HAUL TRUCK RECOVERY TOW TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	55T	/ / /	WITH JERR DAN 110/530 WRECKER	/ / /	PM133	KENWORTH T800	2013
	0	504-2200		4143	4143-MO-032	TOTE ROAD CULVERT MAINTENANCE STEAM TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	(2) 600 GAL TANKS	/ / /		/ / /	PM101	PETERBILT T/A STEAM TRUCK	2013
	0	504-2200		4143	4143-MO-033	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4143	4143-MO-034	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4143	4143-MO-035	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4143	4143-MO-036	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4143	4143-MO-037	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	504-2200		4143	4143-MO-038	FORKLIFT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 3050 W: 1090 H: 2050	3500		INTERMITTENT	1800 KG	/ / /	ELECTRIC	/ / /	PM106	MITSUBISHI FB20PNT	2013
	0	504-2200		4143	4143-MO-039	MINI CRAWLER CRANE	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6.75T	/ / /	DIESEL/ELECTRIC	/ / /	PM116	SPYDER CRANE URW706	2013
	0	504-2200		4143	4143-MO-040	SPILL RESPONSE TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	ROLL UP DOORS ON THE SIDE; 10 DOORS; 12 COMPARTMENTS	/ / /	PM130	STERLING M8500	2013
	0	504-2200		4144	4144-MO-001	WATER TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	4000 GAL	/ / /	TANDEM AXLE; INSULATED STAINLESS STEEL TANK; 3" PUMP	/ / /	PM101	PETERBILT 348 AUTO S/S 100 BBL	2013
	0	504-2200		4144	4144-MO-002	CONTAINER HANDLER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 11684 W: 3454 H: 2146	72000		INTERMITTENT	50 TON CAPACITY	/ / /	CAPABLE OF 20' & 40' ISO CONTAINERS	/ / /	PM101	KALMAR DRF 450-6555	2013
	0	504-2200		4144	4144-MO-003	PASSENGER TRANSFER BUS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 12192 W: 2440 H: 2900	14000		INTERMITTENT	48 PASSENGER; 2 WHEEL DRIVE	/ / /		/ / /	PM101	BLUE BIRD BBCV DIESEL 3507A	2013
	0	504-2200		4144	4144-MO-004	PASSENGER TRANSFER BUS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 12192 W: 2440 H: 2900	14000		INTERMITTENT	48 PASSENGER; 2 WHEEL DRIVE	/ / /		/ / /	PM101	BLUE BIRD BBCV DIESEL 3507A	2013

Identification												Technical								Procurement		
												Design Data						Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4144	4144-MO-005	WORKER TRANSFER MINI BUS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7470 W: 2440 H: 1930	7080		INTERMITTENT	24 PASSENGER; 2 WHEEL DRIVE	/ / /		/ / /	PM101	BLUE BIRD BBCV DIESEL 1910 A	2013
	0	504-2200		4144	4144-MO-006	SEWAGE HOLDING TANK SKID MOUNTED VACUUM UNIT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	12 M3 CONTAINER CAPACITY	/ / /	12 M3 CONTAINER CAPACITY; SKID MOUNTED SYSTEM	H349000-4731-05-030-0001/H349000-4720-05-030-0004 /	PM132	TEXLA	2013
	0	504-2200		4144	4144-MO-007	FREIGHT DELIVERY HIBOY TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 14630 W: 2438			INTERMITTENT	60 T	/ / /		/ / /	PM143		2013
	0	504-2200		4144	4144-MO-008	DIESEL FUEL TRAILER TRACTOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	305 HP ENGINE	/ / /	B-TRAIN CAPABLE CLASS 8 TRACTOR FOR WATER AND FUEL TRAILER SETS	/ / /	PM101	WESTERN STAR 4900FA	2013
	0	504-2200		4144	4144-MO-009	JET-A1 FUEL DELIVERY TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 8052 W: 2960 H: 3589			INTERMITTENT	4400 GAL	/ / /	TANDEM AXLE; 40" LOW ROOF SLEEPER; TC406 COMPLIANT TANK	/ / /	PM101	MACK/INNOCAR GU813	2013
	0	504-2200		4144	4144-MO-010	DIESEL FUEL DELIVERY TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 24384 W: 2590 H: 4013	33500		INTERMITTENT	62 kL (33k L LEAD + 29 kL PUP)	/ / /	TC406 COMPLIANT; 5 COMPARTMENTS	/ / /	PM101	TREMCAR TC406 SUPER B-TRAIN	2013
	0	504-2200		4144	4144-MO-011	MOBILE EQUIPMENT LOWBOY TRAILER	MOBILE EQUIPMENT		NEW	PRELIMINARY	GRAHAM BURTON		L: 7620 W: 4572			INTERMITTENT	120 T	/ / /	TRI-AXLE; 25 FT DECK LENGTH; 15 FT DECK WIDTH	/ / /	PM101	SHELTEMA	2014
	0	504-2200		4144	4144-MO-012	GARBAGE TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	20-30 M3 GARBAGE BIN CAPABLE	/ / /	60,000# ROLL ON-ROLL OFF HYDRAULIC TYPE	H349000-4540-05-030-0001 / /	PM132	PETERBILT 365	2013
	0	504-2200		4144	4144-MO-013	GARBAGE BIN - LARGE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	30 M3	/ / /		/ / /	PM132		2013
	0	504-2200		4144	4144-MO-014	GARBAGE BIN - LARGE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	30 M3	/ / /		/ / /	PM132		2013
	0	504-2200		4144	4144-MO-015	GARBAGE BIN - LARGE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	30 M3	/ / /		/ / /	PM132		2013
	0	504-2200		4144	4144-MO-016	GARBAGE BIN - LARGE	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	30 M3	/ / /		/ / /	PM132		2013
	0	504-2200		4144	4144-MO-017	GARBAGE BIN - SMALL	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	20 M3	/ / /		/ / /	PM132		2013
	0	504-2200		4144	4144-MO-018	GARBAGE BIN - SMALL	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	20 M3	/ / /		/ / /	PM132		2013
	0	504-2200		4144	4144-MO-024	ARTICULATED WATER/SAND TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT					INTERMITTENT	8000 GAL WATER TANK	/ / /	WITH WATER CANNON AND SPRAY BARS; CYLINDERS AND TAILGATE - IN FABRICATION PROCESS - ETA AUG 1, 2013	/ / /	PM136	CAT 740	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0			4144	4144-MO-025	DIESEL FUEL DELIVERY TRAILER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	56000L	/ / /	QUAD AXLE; ALUMINUM; 5 COMPARTMENTS	/ / /	PM101	ADVANCE	2013
	0	504-2200		4144	4144-MO-026	SEWAGE HOLDING TANK SKID MOUNTED VACUUM UNIT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	12 M3 CONTAINER CAPACITY	/ / /	12 M3 CONTAINER CAPACITY; SKID MOUNTED SYSTEM	H349000-4731-05-030-0001/H349000-4720-05-030-0004 /	PM132	TEXLA	2013
	0	504-2200		4144	4144-MO-030	HEATED/REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT SEA CONTAINER; INSULATED; CAN PROVIDE HEAT TO 12 C	/ / /	PM107		2013
	0	504-2200		4144	4144-MO-031	HEATED/REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT SEA CONTAINER; INSULATED; CAN PROVIDE HEAT TO 12 C	/ / /	PM107		2013
	0	504-2200		4144	4144-MO-032	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	504-2200		4144	4144-MO-033	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	504-2200		4144	4144-MO-034	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	504-2200		4144	4144-MO-035	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	504-2200		4144	4144-MO-036	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0	504-2200		4144	4144-MO-037	REFRIGERATED SEA CONTAINER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6096 W: 2440 H: 2440			CONTINUOUS	20 FOOT SEA CAN	/ / /	20 FT CONTAINER	/ / /	PM107		2013
	0			4144	4144-MO-040	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013
	0			4144	4144-MO-041	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013
	0			4144	4144-MO-042	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013
	0			4144	4144-MO-043	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013
	0			4144	4144-MO-044	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0			4144	4144-MO-045	WILDLIFE DETERGENT GARBAGE BIN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	6 M3	/ / /	HYDRAULIC ASSISTEDS, SELF LOCKING LIDS	/ / /	PM132		2013
	0	504-2200		4381	4381-CR-001	PRIMARY CRUSHING PLANT LINE 1	CRUSHER		NEW	FINAL	SANJAY DAHIYA		L: 3470 W: 4100 H: 3440	38000		CONTINUOUS	600 TPH	/ 293 hp No	JAW CRUSHER	H349000-4380-05-030-0001 / /	PM001	METSO C125	2013
	0	504-2200		4381	4381-CR-003	SECONDARY CRUSHING PLANT LINE 1	CRUSHER		NEW	FINAL	SANJAY DAHIYA		L: 2370 W: 2370 H: 1600	23000		CONTINUOUS	600 TPH	/ 490 hp No	CONE CRUSHER	H349000-4380-05-030-0001 / /	PM001	METSO HP400	2013
	0	504-2200		4381	4381-CR-005	TERTIARY CRUSHING PLANT LINE 1	CRUSHER		NEW	FINAL	SANJAY DAHIYA		L: 2370 W: 2370 H: 1600	23000		CONTINUOUS	600 TPH	/ 490 hp No	CONE CRUSHER	H349000-4380-05-030-0001 / /	PM001	METSO HP400	2013
	0	504-2200		4381	4381-CR-006	PRIMARY CRUSHING PLANT LINE 2	CRUSHER		NEW	FINAL	SANJAY DAHIYA		L: 3470 W: 4100 H: 3440	38000		CONTINUOUS	600 TPH	/ 293 hp No	JAW CRUSHER	H349000-4380-05-030-0001 / /	PM001	METSO C125	2013
	0	504-2200		4381	4381-CR-008	SECONDARY CRUSHING PLANT LINE 2	CRUSHER		NEW	FINAL	SANJAY DAHIYA		L: 2370 W: 2370 H: 1600	23000		CONTINUOUS	600 TPH	/ 490 hp No	CONE CRUSHER	H349000-4380-05-030-0001 / /	PM001	METSO HP400	2013
	0	504-2200		4381	4381-CR-010	TERTIARY CRUSHING PLANT LINE 2	CRUSHER		NEW	FINAL	SANJAY DAHIYA		L: 2370 W: 2370 H: 1600	23000		CONTINUOUS	600 TPH	/ 490 hp No	CONE CRUSHER	H349000-4380-05-030-0001 / /	PM001	METSO HP400	2013
	0	504-2200		4381	4381-CV-011	LINK CONVEYOR	CONVEYING	4381-CR-001	NEW	FINAL	SANJAY DAHIYA					CONTINUOUS		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	504-2200		4381	4381-CV-012	LINK CONVEYOR	CONVEYING	4381-CR-001	NEW	FINAL	SANJAY DAHIYA					CONTINUOUS		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	504-2200		4381	4381-CV-013	LINK CONVEYOR	CONVEYING	4381-CR-003	NEW	FINAL	SANJAY DAHIYA					CONTINUOUS		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	504-2200		4381	4381-CV-014	LINK CONVEYOR	CONVEYING	4381-CR-005	NEW	FINAL	SANJAY DAHIYA					CONTINUOUS		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	504-2200		4381	4381-CV-015	LINK CONVEYOR	CONVEYING	4381-CR-006	NEW	FINAL	SANJAY DAHIYA					CONTINUOUS		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	504-2200		4381	4381-CV-016	LINK CONVEYOR	CONVEYING	4381-CR-006	NEW	FINAL	SANJAY DAHIYA					CONTINUOUS		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	504-2200		4381	4381-CV-017	LINK CONVEYOR	CONVEYING	4381-CR-008	NEW	FINAL	SANJAY DAHIYA					CONTINUOUS		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013
	0	504-2200		4381	4381-CV-018	LINK CONVEYOR	CONVEYING	4381-CR-010	NEW	FINAL	SANJAY DAHIYA					CONTINUOUS		/ / No		/ / /	PM001	MASABA MINING EQUIPMENT	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4381	4381-SC-002	PRIMARY SCREEN LINE 1	SCREEN		NEW	FINAL	SANJAY DAHIYA		L: 2700 W: 6900	9000		CONTINUOUS	600 TPH	/ 121.5 hp No		H349000-4380-05-030-0001 / /	PM001	METSO FS302	2013
	0	504-2200		4381	4381-SC-004	SECONDARY SCREEN LINE 1	SCREEN		NEW	FINAL	SANJAY DAHIYA		L: 3000 W: 6900	14500		CONTINUOUS	600 TPH	/ 175 hp No		H349000-4380-05-030-0001 / /	PM001	METSO FS 353	2013
	0	504-2200		4381	4381-SC-007	PRIMARY SCREEN LINE 2	SCREEN		NEW	FINAL	SANJAY DAHIYA		L: 2700 W: 6900	9000		CONTINUOUS	600 TPH	/ 121.5 hp No		H349000-4380-05-030-0001 / /	PM001	METSO FS302	2013
	0	504-2200		4381	4381-SC-009	SECONDARY SCREEN LINE 2	SCREEN		NEW	FINAL	SANJAY DAHIYA		L: 3000 W: 6900	14500		CONTINUOUS	600 TPH	/ 175 hp No		H349000-4380-05-030-0001 / /	PM001	METSO FS 353	2013
	0	501-3201		4382	4382-SC-001	TRUCK WEIGH SCALE	SCREEN		NEW	PRELIMINARY	KENTARO IMAI		L: 36600 W: 3960 H: 1030			INTERMITTENT	200 T	/ / /	SHALLOW PIT, 5 MODULE DESIGN	/ / /	PM115	RICE LAKE OTR-XV	2013
	0	504-2200		4385	4385-PP-001	CRUSHER STOCKPILE RUNOFF POND DISCHARGE PUMP	PUMP		NEW	CERTIFIED FINAL	GRAHAM BURTON					CONTINUOUS		/ / No		H349000-4380-05-030-0001 / /	PM010	LOBE PRO SM68	2013
	0	504-2200		4385	4385-PP-002	CRUSHER STOCKPILE RUNOFF POND DISCHARGE PUMP	PUMP		NEW	CERTIFIED FINAL	GRAHAM BURTON					STANDBY		/ / No		H349000-4380-05-030-0001 / /	PM010	LOBE PRO SM68	2013
	0	504-2200		4431	4431-PP-002	AERODROME OFFICE RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	H349000-4720-05-030-0003 / /	PX001	SIMER JET PUMPS 2205C	2013
	0			4431	4431-MT-002	RAW WATER TANK PUMP		4431-PP-002	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	504-2200		4431	4431-TK-001	AERODROME OFFICE RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1613 W: 737 H: 1676			CONTINUOUS	400 GAL TANK	/ / /	FREESTANDING WATER TANK	H349000-4720-05-030-0003 / /	PX001	NORWESCO	2013
	0	504-2200		4431	4431-TK-004	AERODROME OFFICE SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	H349000-4720-05-030-0003 / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	504-2200		4433	4433-AE-001	SECURITY X-RAY MACHINE	AERODROME EQUIPMENT		NEW	PRELIMINARY	KENTARO IMAI		L: 2282 W: 1030 H: 1467			INTERMITTENT		/ / No		/ / /	PM008		2013
	0	504-2200		4433	4433-AE-015	AIRCRAFT GROUND POWER UNIT	AERODROME EQUIPMENT		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	90 KVA WITH 28.5 VDC OUTPUT	/ / /		/ / /	PM008		2013
	0	504-2200		4433	4433-AE-023	AIRCRAFT PASSENGER STAIRS	AERODROME EQUIPMENT		NEW	PRELIMINARY	KENTARO IMAI		L: 9906 W: 2565 H: 3048			INTERMITTENT		/ / No		/ / /	PM008		2013
	0	504-2200		4434	4434-MO-002	AIRPORT MAINTENANCE DE-ICING TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	1800 GAL	/ / /	47 FT NOZZLE REACH HEIGHT; TYPE I AND TYPE II DE-ICE FLUID; 3 MILLION BTU (3) HEATER DESIGN	/ / /	PM101	FORD SUPERIOR	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4510	4510-PP-001	RAW SEWAGE LIFT STATION	PUMP		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / No		H349000-4720-05-030-0002 / /	PM009		2013
	0	504-2200		4511	4511-LE-001	AIR COMPRESSOR	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 15.4 hp No	INGERSOLL RAND - IRN 10H-130	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-002	AIR COMPRESSOR	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 15.4 hp No	INGERSOLL RAND - IRN 10H-130	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-003	AIR DRYER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.68 hp No	INGERSOLL RAND - D108IN	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-004	BALANCE SCALE	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.41 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-005	BALANCE SCALE	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.41 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-006	BALANCE SCALE	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.41 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-007	CARBON/SULFUR ANALYSER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 5.7 hp No	LECO CS230	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-008	CHILLER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 5.1 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-016	CRUSHER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 12.4 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-017	CRUSHER DUST HOOD	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.15 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-018	DRYING OVEN	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 16.2 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-019	DRYING OVEN	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.41 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-020	DUST COLLECTOR	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 24 hp No	DONALDSONS - DF02-12	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-021	FUMEHOOD	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.15 hp No		/ / /	PM105		2014

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4511	4511-LE-022	FUSION SYSTEM	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 13.4 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-023	HOT PLATE	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 6.6 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-024	MUFFLE FURNACE	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 5.9 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-027	PULVERIZER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 4.1 hp No	RM2000	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-028	PULVERIZER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 4.1 hp No	RM2000	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-029	PULVERIZER DUST HOOD	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.15 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-030	ROTAP	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 1.22 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-031	ROTAP DUST HOOD	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.15 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-032	MAGNETITE ANALYSER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 0.41 hp No	SATMAGAN - MAGNETITE CONTENT MEASURING INSTRUMENT	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-033	SCRUBBER FAN	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 12.7 hp No	MV-16 SCRUBBER FAN	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-034	SCRUBBER RECIRCULATION PUMP	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 3 hp No		/ / /	PM105		2014
	0	504-2200		4511	4511-LE-035	THERMOGRAVIMETRIC ANALYSER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 7.8 hp No	LECO TGA	/ / /	PM105		2014
	0	504-2200		4511	4511-LE-036	XRF SPECTROMETER	LABORATORY EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 9.5 hp No	XRF SPECTROMETER & UNINTERRUPTED POWER SUPPLY	/ / /	PM105		2014
	0	504-2200		4513	4513-MO-001	AMBULANCE	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 6680 W: 2438 H: 2024	6350		INTERMITTENT		/ / /	WHEELED COACH TYPE I, 4X4; TURBO DIESEL	/ / /	PM101	FORD F450	2013
	0	504-2200		4513	4513-MO-002	FIRE TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 10922 W: 2921 H: 3607	39000 GVWR		INTERMITTENT	3000 GAL WATER TANK	/ / /	420 GAL FOAM TANK; 450 LB DRY CHEMICAL TANK; ARFF WITH SNOZZLE	/ / /	PM101	OSHKOSH TI3000	2013

Identification											Technical									Procurement		
											Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	**504-2200**		**4513**	**4513-MO-003**	**SNOW RESCUE VEHICLE**	**MOBILE EQUIPMENT**		**USED**	**CERTIFIED FINAL**	**GRAHAM BURTON**		**L: 6900 W: 1870 H: 2400**	**6580**		**INTERMITTENT**		**/ / /**	**17 PASSENGER**	**/ / /**	**PM101**	**HAGGLUND BV206**	**2013**
	0	**504-2200**		**4513**	**4513-PP-006**	**EMERGENCY RESPONSE OFFICE RAW WATER PUMP**	**PUMP**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 483 W: 275 H: 267**			**INTERMITTENT**	**65 PSI**	**/ 0.5 hp No**	**1/2 HP ELECTRIC PUMP**	**H349000-4720-05-030-0003 / /**	**PX001**	**SIMER JET PUMPS 2205C**	**2013**
	0			4513	4513-MT-006	RAW WATER TANK PUMP		4513-PP-006	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	**504-2200**		**4513**	**4513-PP-021**	**MINE EMERGENCY RESPONSE GARAGE FUEL OIL PUMP (PUMP)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			4513	4513-MT-021	FUEL OIL PUMP		4513-PP-021	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**504-2200**		**4513**	**4513-PP-022**	**MINE EMERGENCY RESPONSE GARAGE FUEL OIL PUMP (STANDBY)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			4513	4513-MT-022	FUEL OIL PUMP		4513-PP-022	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**504-2200**		**4513**	**4513-SQ-010**	**DRY CHEMICAL REFILL STATION**	**SHOP / MAINTENANCE EQUIPMENT**		**NEW**	**PRELIMINARY**	**BRADEN LOMANTO**					**INTERMITTENT**		**/ / No**	**DRY POWDER CHEMICAL HANDLING SYSTEM**	**/ / /**	**PM104**	**TYCO FIRE PROTECTION**	**2013**
	0	**504-2200**		**4513**	**4513-TK-004**	**EMERGENCY RESPONSE OFFICE SEWAGE COLLECTION TANK**	**TANK**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 3791 W: 1829 H: 610**			**INTERMITTENT**	**1000 GAL**	**/ / /**	**RECTANGULAR TANK**	**H349000-4720-05-030-0003 / /**	**PX001**	**LAGRANGE MECHANICAL SERVICES**	**2013**
	0	**504-2200**		**4513**	**4513-TK-005**	**EMERGENCY RESPONSE OFFICE RAW WATER TANK**	**TANK**		**NEW**	**CERTIFIED FINAL**	**KENTARO IMAI**		**L: 1613 W: 737 H: 1676**			**CONTINUOUS**	**400 GAL TANK**	**/ / /**	**FREESTANDING WATER TANK**	**H349000-4720-05-030-0003 / /**	**PX001**	**NORWESCO**	**2013**
	0	**504-2200**		**4513**	**4513-TK-023**	**MINE EMERGENCY RESPONSE GARAGE DIESEL FUEL TANK**	**TANK**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**CONTINUOUS**	**10000 L**	**/ / /**	**DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK**	**/ / /**	**PX002**	**DTE ULC601-07**	**2013**
	0	**504-2200**		**4521**	**4521-PP-003**	**WELDING SHOP FUEL OIL PUMP (DUTY)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			4521	4521-MT-003	FUEL OIL PUMP		4521-PP-003	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	**504-2200**		**4521**	**4521-PP-004**	**WELDING SHOP FUEL OIL PUMP (STANDBY)**	**PUMP**		**NEW**	**PRELIMINARY**	**KENTARO IMAI**					**INTERMITTENT**	**25 PSI**	**/ 0.5 hp No**	**DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY**	**/ / /**	**PX002**	**VIKING DUPLEX OIL SYSTEMS**	**2013**
	0			4521	4521-MT-004	FUEL OIL PUMP		4521-PP-004	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4521	4521-PP-011	MAINTENANCE BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT		/ 0.5 hp No		/ / /	PX004		2014
	0			4521	4521-MT-011	FUEL OIL PUMP		4521-PP-011	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX004		
	0	504-2200		4521	4521-PP-012	MAINTENANCE BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT		/ 0.5 hp No		/ / /	PX004		2014
	0			4521	4521-MT-012	FUEL OIL PUMP		4521-PP-012	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX004		
	0	504-2200		4521	4521-PP-021	WAREHOUSE BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT		/ 0.5 hp No		/ / /	PX004		2014
	0			4521	4521-MT-021	FUEL OIL PUMP		4521-PP-021	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX004		
	0	504-2200		4521	4521-PP-022	WAREHOUSE BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT		/ 0.5 hp No		/ / /	PX004		2014
	0			4521	4521-MT-022	FUEL OIL PUMP		4521-PP-022	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX004		
	0	504-2200		4521	4521-PP-051	WORKSHOP OFFICE WASHCAR RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	H349000-4720-05-030-0003 / /	PX001	SIMER JET PUMPS 2205C	2013
	0			4521	4521-MT-051	RAW WATER TANK PUMP		4521-PP-051	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	504-2200		4521	4521-TK-005	WELDING SHOP DIESEL FUEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS	20000 L	/ / /	DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK	/ / /	PX002	DTE ULC601-07	2013
	0	504-2200		4521	4521-TK-013	MAINTENANCE BUILDING DIESEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS		/ / /		/ / /	PX004		2014
	0	504-2200		4521	4521-TK-023	WAREHOUSE BUILDING DIESEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS		/ / /		/ / /	PX004		2014
	0	504-2200		4521	4521-TK-050	WORKSHOP OFFICE WASHCAR RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1803 W: 1245 H: 1346			CONTINUOUS	525 GAL TANK	/ / /	HORIZONTAL TANK WITH >48 HOURS SUPPLY	H349000-4720-05-030-0003 / /	PX001	PLASTIC-MART 866-310-2556	2013
	0	504-2200		4521	4521-TK-053	WORKSHOP OFFICE WASHCAR SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	H349000-4720-05-030-0003 / /	PX001	LAGRANGE MECHANICAL SERVICES	2013

Identification											Technical								Procurement		
											Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4522	4522-SQ-001	INDUSTRIAL FREEZER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1525 W: 715 H: 1250	290		INTERMITTENT	20 CU.FT.	/ 0.35 hp No	RANGE -45C TO -80C. 20 FT3	/ / /	PM104	ONTARIO OVENS 80-12	2013
	0	504-2200		4522	4522-SQ-002	KIDNEY LOOP	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			50		INTERMITTENT	10 GPM FLOW	/ 1.62 hp No	OPERATING TEMP -40 DEG C TO 66 DEG C; HYDRAULIC FILTER CART 10 MFP	/ / /	PM104	AG - DYE10MFP240SA 10QBV	2013
	0	504-2200		4522	4522-SQ-003	LARGE SHOP PRESS	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1295 W: 1727 H: 3125	1970		INTERMITTENT	150 TON	/ / No		/ / /	PM104	AG - OTC1866	2013
	0	504-2200		4522	4522-SQ-004	LATHE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		W: 44 H: 64			INTERMITTENT	20 INCH	/ 10.13 hp No	THREE LENGTHS: 94" (4730 LBS) / 114" (5590 LBS) / 134" (6800 LBS)	/ / /	PM104	SUMMIT MACHINE TOOL	2013
	0			4522	4522-MT-004A	LATHE SPINDLE MOTOR		4522-SQ-004	NEW							INTERMITTENT		/ 10 hp /		/ / /	PM104		
	0			4522	4522-MT-004B	LATHE COOLANT PUMP		4522-SQ-004	NEW							INTERMITTENT		/ 0.13 hp /		/ / /	PM104		
	0	504-2200		4522	4522-SQ-005	MILLING MACHINE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	504-2200		4522	4522-SQ-006	LINE BORING MACHINE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1830 W: 330 H: 280	205		INTERMITTENT	BORING DIA. 12" (OPT. 24")	/ 10.1 hp No	BORING DIAMETERS 1.5" - 2"	/ / /	PM104	CLIMAX BB5000	2013
	0	504-2200		4522	4522-SQ-008	IRON WORKER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1525 W: 915 H: 1985	2300		INTERMITTENT	84 TON PUNCH STATION	/ 3.4 hp No	HYDRAULIC SW-84 / SHIPS IN THREE (3) SEPERATE PACKAGES	/ / /	PM104	BAILEIGH INDUSTRIAL 001-99777	2013
	0	504-2200		4522	4522-SQ-009	HEAVY TRUCK RAMP	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 13360 W: 4980 H: 3990			INTERMITTENT	27 TON LIFTING CAPACITY	/ 4.1 hp No	COMPLETE WITH ROLLING JACK AND ROLLING DRAIN PAN	/ / /	PM104	ROTARY 60000HDL	2013
	0	504-2200		4522	4522-SQ-010	LIGHT TRUCK RAMP	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		H: 6990			INTERMITTENT	8 TON LIFTING CAPACITY	/ 4.1 hp No	COMPLETE WITH ROLLING JACK AND ROLLING DRAIN PAN	/ / /	PM104	ROTARY SM18LO-X	2013
	0	504-2200		4522	4522-SQ-011	TIRE SIPING MACHINE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	504-2200		4522	4522-SQ-012	AIR FILTER CLEANER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1830 W: 1830 H: 2650			INTERMITTENT	55 GAL DUST DRUM	/ 6.8 hp No	REQUIRES COMPRESSED AIR AT 90 PSI	/ / /	PM104	DIVERSI-TECH	2013
	0	504-2200		4522	4522-SQ-018	EVAC TANK	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1118 W: 508 H: 1093	200		INTERMITTENT	60 GAL TANK	/ / No	SAGE OIL VAC FLUID RECOVERY SYSTEM - 120 GALLONS	/ / /	PM104	NORTHERN TOOL 30070V	2013
	0	504-2200		4522	4522-SQ-019	EVAC TANK	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1118 W: 508 H: 1093	200		INTERMITTENT	60 GAL TANK	/ / No	SAGE OIL VAC FLUID RECOVERY SYSTEM - 120 GALLONS	/ / /	PM104	NORTHERN TOOL 30070V	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0	504-2200		4522	4522-SQ-021	DRILL PRESS	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 508 W: 356 H: 1778	120		INTERMITTENT	CHUCK CAPACITY 15.9 MM	/ 2.7 hp No	LENGTH AND WIDTH ARE TABLE DIMENSIONS; 22" WITH LASER	/ / /	PM104	AG - DPE18-900	2013
	0	504-2200		4522	4522-SQ-022	MAGNETIC BASE DRILL	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			33		INTERMITTENT	1650 LBS DRILL POINT PRESSURE	/ 0.81 hp No	1/2 " CHUCK SIZE	/ / /	PM104	AG - MTL4210-1	2014
	0	504-2200		4522	4522-SQ-023	OIL FILTER PRESS	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1524 W: 914 H: 2640	680		INTERMITTENT	32 TON CRUSHING FORCE	/ 3.4 hp No	57 SECOND CYCLE TIME	/ / /	PM104	OBERG P300	2013
	0	504-2200		4522	4522-SQ-026	WELDING MACHINE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 965 W: 584 H: 762	192		INTERMITTENT		/ 54 hp No	452 MIGRUNNER DIMENSION PACKAGE - 500 AMP	/ / /	PM104	AG - MLW951-277	2013
	0	504-2200		4522	4522-SQ-027	WELDING MACHINE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 965 W: 584 H: 762	192		INTERMITTENT		/ 54 hp No	452 MIGRUNNER DIMENSION PACKAGE - 500 AMP	/ / /	PM104	AG - MLW951-277	2013
	0	504-2200		4522	4522-SQ-028	PORTABLE WELDING FUME EXTRACTOR	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			73		INTERMITTENT	35 M2 FILTER AREA	/ 1 hp No		/ / /	PM104	AG - NED12634345	2013
	0	504-2200		4522	4522-SQ-029	PORTABLE WELDING SPARK PROTECTOR	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG - NED12375241	2013
	0	504-2200		4522	4522-SQ-031	SWEEPER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 4.7 hp No	ELECTRIC - AREA 20000 FT2	/ / /	PM104	AG	2013
	0	504-2200		4522	4522-SQ-036	TIRE CHANGER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ 2.03 hp No	RIM DIAMATERS: EXTERNAL 9"-30", INTERNAL DIAMETER 11"-32"	/ / /	PM104	COATS APX80A	2013
	0	504-2200		4522	4522-SQ-038	TRACK PIN PRESS	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	504-2200		4522	4522-SQ-041	BULK FLUID DISTRIBUTION SYSTEM	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No	OILS, LUBRICANT, COOLANT, GREASE,WATER (WASHDOWN)	/ / /	PM104	AG	2013
	0	504-2200		4522	4522-SQ-042	EVAC TANK	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1118 W: 508 H: 1093	200		INTERMITTENT	60 GAL TANK	/ / No	SAGE OIL VAC FLUID RECOVERY SYSTEM - 120 GALLONS	/ / /	PM104	NORTHERN TOOL 30070V	2013
	0	504-2200		4522	4522-SQ-043	EVAC TANK	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1118 W: 508 H: 1093	200		INTERMITTENT	60 GAL TANK	/ / No	SAGE OIL VAC FLUID RECOVERY SYSTEM - 120 GALLONS	/ / /	PM104	NORTHERN TOOL 30070V	2013
	0	504-2200		4522	4522-SQ-044	WELDING MACHINE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 965 W: 584 H: 762	192		INTERMITTENT		/ 54 hp No	452 MIGRUNNER DIMENSION PACKAGE - 500 AMP	/ / /	PM104	AG - MLW951-277	2013
	0	504-2200		4522	4522-SQ-046	METAL BREAK FLOOR	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			580		INTERMITTENT		/ / No		/ / /	PM104	AG - GGS13W877	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4522	4522-SQ-047	PARTS WASHER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1070 W: 560 H: 406	84		INTERMITTENT	40 GAL TANK CAPACITY	/ 2.03 hp No	DIMENSIONS ARE FOR THE TANK ITSELF; SOLV DELUXE HANDIKLEEN	/ / /	PM104	AG - GRYPL422A	2013
	0	504-2200		4522	4522-SQ-048	PARTS WASHER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1070 W: 560 H: 406	84		INTERMITTENT	40 GAL TANK CAPACITY	/ 2.03 hp No	DIMENSIONS ARE FOR THE TANK ITSELF; SOLV DELUXE HANDIKLEEN	/ / /	PM104	AG - GRYPL422A	2013
	0	504-2200		4522	4522-SQ-049	PARTS WASHER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1070 W: 560 H: 406	84		INTERMITTENT	40 GAL TANK CAPACITY	/ 2.03 hp No	DIMENSIONS ARE FOR THE TANK ITSELF; SOLV DELUXE HANDIKLEEN	/ / /	PM104	AG - GRYPL422A	2013
	0	504-2200		4522	4522-SQ-050	PARTS WASHER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 1070 W: 560 H: 406	84		INTERMITTENT	40 GAL TANK CAPACITY	/ 2.03 hp No	DIMENSIONS ARE FOR THE TANK ITSELF; SOLV DELUXE HANDIKLEEN	/ / /	PM104	AG - GRYPL422A	2013
	0	504-2200		4522	4522-SQ-051	TIRE SPREADER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT	MAX TIRE: 18R-22.5"	/ 2.7 hp No	AIR POWERED WITH LYING BASE. 220V MAX. 18R/22.5 INCH	/ / /	PM104	ZHUHAI TEAMROC TR-S825	2013
	0	504-2200		4522	4522-SQ-052	HYDRAULIC PORTA POWER PUMP	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	504-2200		4522	4522-SQ-053	BENCH GRINDER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		W: 610 H: 345			INTERMITTENT	10 " WHEEL SIZE	/ 1 hp No	HD 10" 1 HP 120V	/ / /	PM104	AG - WSWBG10D	2014
	0			4522	4522-MT-053	BENCH GRINDER		4522-SQ-053	NEW							INTERMITTENT		/ 1 hp /		/ / /	PM104		
	0	504-2200		4522	4522-SQ-054	BENCH GRINDER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		W: 610 H: 345			INTERMITTENT	10 " WHEEL SIZE	/ 1 hp No	HD 10" 1 HP 120V	/ / /	PM104	AG - WSWBG10D	2014
	0			4522	4522-MT-054	BENCH GRINDER		4522-SQ-054	NEW							INTERMITTENT		/ 1 hp /		/ / /	PM104		
	0	504-2200		4522	4522-SQ-055	BENCH GRINDER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		W: 610 H: 345			INTERMITTENT	10 " WHEEL SIZE	/ 1 hp No	HD 10" 1 HP 120V	/ / /	PM104	AG - WSWBG10D	2014
	0			4522	4522-MT-055	BENCH GRINDER		4522-SQ-055	NEW							INTERMITTENT		/ 1 hp /		/ / /	PM104		
	0	504-2200		4522	4522-SQ-056	BENCH GRINDER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		W: 610 H: 345			INTERMITTENT	10 " WHEEL SIZE	/ 1 hp No	HD 10" 1 HP 120V	/ / /	PM104	AG - WSWBG10D	2014
	0			4522	4522-MT-056	BENCH GRINDER		4522-SQ-056	NEW							INTERMITTENT		/ 1 hp /		/ / /	PM104		
	0	504-2200		4522	4522-SQ-059	TRUCK MOUNT GOODALL BOOST SYSTEM	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4522	4522-SQ-060	GOODALL BOOST SYSTEM	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	504-2200		4522	4522-SQ-063	TRACK PIN PRESS	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG - OTC4240	2014
	0	504-2200		4522	4522-SQ-064	A/C RECOVERY RECHARGE UNIT	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO		L: 584 W: 864 H: 1120	110		INTERMITTENT	MAX TANK SIZE 30 LBS	/ / No	MULTI-REFRIGERANT	/ / /	PM104	ROBINAIR RBN17800B	2014
	0	504-2200		4522	4522-SQ-065	INCHING TOOL	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No	OPEN LOOP ENERGY	/ / /	PM104	AG	2014
	0	504-2200		4522	4522-SQ-066	BATTERY CHARGER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG - WSW1JYU3	2014
	0	504-2200		4522	4522-SQ-067	BATTERY CHARGER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG - WSW1JYU3	2014
	0	504-2200		4522	4522-SQ-068	TUBE BENDER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / No		/ / /	PM104	AG	2014
	0	504-2200		4523	4523-PP-002	TRUCK WASH BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT		/ 0.5 hp No		/ / /	PX004		2014
	0			4523	4523-MT-002	FUEL OIL PUMP		4523-PP-002	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX004		
	0	504-2200		4523	4523-PP-003	TRUCK WASH BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT		/ 0.5 hp No		/ / /	PX004		2014
	0			4523	4523-MT-003	FUEL OIL PUMP		4523-PP-003	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX004		
	0	504-2200		4523	4523-TK-004	TRUCK WASH BUILDING DIESEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS		/ / /		/ / /	PX004		2014
	0	504-2200		4523	4523-VP-001	TRUCK WASH FACILITY VENDOR PACKAGE	VENDOR PACKAGE		NEW	CERTIFIED FINAL	SANJAY DAHIYA					INTERMITTENT		/ 7 hp No		H349000-4720-05-030-0004 / /	PM114		2013
	0	504-2200		4540	4540-PP-005	MINE WASTE MANAGEMENT BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			4540	4540-MT-005	FUEL OIL PUMP		4540-PP-005	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		

Identification												Technical								Procurement		
												Design Data						Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0	504-2200		4540	4540-PP-006	MINE WASTE MANAGEMENT BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			4540	4540-MT-006	FUEL OIL PUMP		4540-PP-006	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	504-2200		4540	4540-SQ-002	AEROSOL CAN RECYCLING SYSTEM	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			5		INTERMITTENT	CAPABLE OF 76, 114, AND 208 L	/ / No		/ / /	PM104	AG - SAYCPU03	2013
	0	504-2200		4540	4540-SQ-003	DRUM CRUSHER	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO			650		INTERMITTENT	38000 LBS OF CRUSHING PRESSURE	/ 6.8 hp No	CRUSHES 55 GAL DRUMS TO 6" HIGH; RESETS IN 25 SECONDS	/ / /	PM104	AG - VESHDC900IDC	2013
	0	504-2200		4540	4540-SQ-004	PLATFORM SCALE	SHOP / MAINTENANCE EQUIPMENT		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT	10 TON	/ / No		/ / /	PM104	AG	2014
	0	504-2200		4540	4540-TK-007	MILNE WASTE MANAGEMENT BUILDING DIESEL FUEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS	20000 L	/ / /	DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK	/ / /	PX002	DTE ULC601-07	2013
	0	504-2200		4540	4540-VP-001	WASTE INCINERATOR VENDOR PACKAGE	VENDOR PACKAGE		NEW	PRELIMINARY	MATTHEW BUYKX					-		/ / /		H349000-4540-05-030-0001 / /	TX001		2013
	0	504-2200		4613	4613-FD-013	DIESEL FUEL DISPENSING MODULE	FUEL DISPENSER		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2013
	0	504-2200		4613	4613-PP-001	DIESEL FUEL DISPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	504-2200		4613	4613-PP-002	DIESEL FUEL DISPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	504-2200		4613	4613-PP-003	DIESEL FUEL DISPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	504-2200		4613	4613-PP-004	DIESEL FUEL DISPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	504-2200		4613	4613-PP-005	DIESEL FUEL DISPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	504-2200		4613	4613-PP-006	DIESEL FUEL DISPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	504-2200		4613	4613-PP-007	DIESEL FUEL DISPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014

Identification												Technical								Procurement		
												Design Data						Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0	504-2200		4613	4613-PP-008	DIESEL FUEL DISPENSING MODULE DISCHARGE PUMP	PUMP		NEW	PRELIMINARY	FLOYD BUTTS					INTERMITTENT		/ / No		/ / /	PM004		2014
	0	504-2200		4613	4613-TK-009	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 8350 DIA H: 9140			CONTINUOUS	500 kL	/ / /		/ / /	PM004		2013
	0	504-2200		4613	4613-TK-010	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 8350 DIA H: 9140			CONTINUOUS	500 kL	/ / /		/ / /	PM004		2013
	0	504-2200		4613	4613-TK-011	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 8350 DIA H: 9140			CONTINUOUS	500 kL	/ / /		/ / /	PM004		2014
	0	504-2200		4613	4613-TK-012	ARCTIC DIESEL TANK	TANK		NEW	PRELIMINARY	FLOYD BUTTS		W: 8350 DIA H: 9140			CONTINUOUS	500 kL	/ / /		/ / /	PM004		2014
	0	504-2200		4619	4619-GE-001	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013
	0	504-2200		4619	4619-GE-002	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013
	0	504-2200		4619	4619-GE-003	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013
	0	504-2200		4619	4619-GE-004	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2013
	0	504-2200		4619	4619-GE-005	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2014
	0	504-2200		4619	4619-GE-006	GENERATOR	GENERATOR		NEW	CERTIFIED FINAL	BRIAN PERKINS					CONTINUOUS		/ 1840 hp No		/ / /	PE001		2014
	0	504-2200		4720	4720-PP-002	RAW WATER DISTRIBUTION PUMP	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT		/ 35 hp No		H349000-4720-05-030-0001 / /	TX001		2013
	0			4720	4720-MT-002	RAW WATER DISTRIBUTION PUMP		4720-PP-002	NEW							INTERMITTENT		/ 35 hp /		/ / /	TX001		
	0	504-2200		4720	4720-PP-003	RAW WATER DISTRIBUTION PUMP	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT		/ 35 hp No		H349000-4720-05-030-0001 / /	TX001		2013
	0			4720	4720-MT-003	RAW WATER DISTRIBUTION PUMP		4720-PP-003	NEW							INTERMITTENT		/ 35 hp /		/ / /	TX001		

Identification											Technical								Procurement		
											Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4720	4720-PP-004	DIESEL FIRE WATER PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-4720-05-030-0001 / /	TX001		2013
	0	504-2200		4720	4720-PP-005	ELECTRIC FIRE WATER PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					STANDBY		/ / No		H349000-4720-05-030-0001 / /	TX001		2013
	0	504-2200		4720	4720-PP-006	JOCKEY PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					STANDBY		/ / No		H349000-4720-05-030-0001 / /	TX001		2013
	0	504-2200		4720	4720-PP-008	RAW WATER FEED PUMP	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	10 HP	/ 10 hp No		H349000-4720-05-030-0001 / /	PM003		2013
	0			4720	4720-MT-008	RAW WATER FEED PUMP		4720-PP-008	NEW							INTERMITTENT		/ 10 hp /		/ / /	PM003		
	0	504-2200		4720	4720-PP-010	POTABLE WATER DISCHARGE PUMP NO.1	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-4720-05-030-0002 / /	TX001		2013
	0	504-2200		4720	4720-PP-011	POTABLE WATER DISCHARGE PUMP NO.2	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-4720-05-030-0002 / /	TX001		2013
	0	504-2200		4720	4720-PP-013	BACKWASH SLURRY PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-4720-05-030-0002 / /	TX001		2013
	0	504-2200		4720	4720-PP-014	CLEAN BACKWASH PUMP	PUMP		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / No		H349000-4720-05-030-0002 / /	TX001		2013
	0	504-2200		4720	4720-PP-015	RAW WATER FEED PUMP	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	10 HP	/ 10 hp No	VERTICAL TURBINE PUMP	/ / /	PM003		2013
	0			4720	4720-MT-015	RAW WATER FEED PUMP		4720-PP-015	NEW							INTERMITTENT		/ 10 hp /		/ / /	PM003		
	0	504-2200		4720	4720-PP-031	MINE WATER BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			4720	4720-MT-031	FUEL OIL PUMP		4720-PP-031	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	504-2200		4720	4720-PP-032	MINE WATER BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			4720	4720-MT-032	FUEL OIL PUMP		4720-PP-032	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4720	4720-TK-001	RAW WATER TANK	TANK		NEW	PRELIMINARY	MATTHEW BUYKX					CONTINUOUS		/ / /		H349000-4720-05-030-0001 / /	TX001		2013
	0	504-2200		4720	4720-TK-007	FIRE WATER TANK	TANK		NEW	PRELIMINARY	MATTHEW BUYKX					CONTINUOUS		/ / /		H349000-4720-05-030-0001 / /	TX001		2013
	0	504-2200		4720	4720-TK-009	POTABLE WATER STORAGE TANK	TANK		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / /		H349000-4720-05-030-0002 / /	TX001		2013
	0	504-2200		4720	4720-TK-012	BACKWASH SETTLING TANK	TANK		NEW	PRELIMINARY	MATTHEW BUYKX					INTERMITTENT		/ / /		H349000-4720-05-030-0002 / /	TX001		2013
	0	504-2200		4720	4720-TK-033	MINE WATER BUILDING DIESEL FUEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS	10000 L	/ / /	DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK	/ / /	PX002	DTE ULC601-07	2013
	0	504-2200		4720	4720-VP-020	POTABLE WATER TREATMENT PLANT VENDOR PACKAGE	VENDOR PACKAGE		NEW	PRELIMINARY	RUSI KAPADIA					-		/ / /		/ / /	TX001		2013
	0	504-2200		4731	4731-PP-003	TREATED EFFLUENT DISCHARGE PUMP NO.1	PUMP		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / No		/ / /	PM009		2013
	0	504-2200		4731	4731-PP-004	TREATED EFFLUENT DISCHARGE PUMP NO.2	PUMP		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / No		/ / /	PM009		2013
	0	504-2200		4731	4731-SC-001	SCREEN	SCREEN		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / /		/ / /	PM009		2013
	0	504-2200		4731	4731-TK-002	TREATED EFFLUENT TANK	TANK		NEW	PRELIMINARY	RUSI KAPADIA					INTERMITTENT		/ / /		/ / /	PM009		2013
	0	504-2200		4731	4731-VP-005	SEWAGE TREATMENT PLANT VENDOR PACKAGE	VENDOR PACKAGE		NEW	PRELIMINARY	RUSI KAPADIA					-		/ / /		H349000-4731-05-030-0001/H349000-2731-05-030-0001 /	PM009		2013
	0	504-2200		4732	4732-PP-001	MINE SEWAGE TRUCK BUILDING FUEL OIL PUMP (DUTY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			4732	4732-MT-001	FUEL OIL PUMP		4732-PP-001	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		
	0	504-2200		4732	4732-PP-002	MINE SEWAGE TRUCK BUILDING FUEL OIL PUMP (STANDBY)	PUMP		NEW	PRELIMINARY	KENTARO IMAI					INTERMITTENT	25 PSI	/ 0.5 hp No	DUPLEX FUEL OIL PUMPS, POSITIVE DISPLACEMENT ROTARY	/ / /	PX002	VIKING DUPLEX OIL SYSTEMS	2013
	0			4732	4732-MT-002	FUEL OIL PUMP		4732-PP-002	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX002		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	504-2200		4732	4732-TK-003	MINE SEWAGE TRUCK BUILDING DIESEL FUEL TANK	TANK		NEW	PRELIMINARY	KENTARO IMAI					CONTINUOUS	10000 L	/ / /	DOUBLE WALLED HORIZONTAL ABOVE GRADE TANK	/ / /	PX002	DTE ULC601-07	2013
	0	504-2200		4733	4733-VM-001	TREATED EFFLUENT POND SLUICE GATE	BULK MATERIAL VALVES		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / /		/ / /	BP005		2013
	0	504-2200		4733	4733-VM-002	TREATED EFFLUENT POND SLUICE GATE SPARE	BULK MATERIAL VALVES		NEW	PRELIMINARY	BRADEN LOMANTO					INTERMITTENT		/ / /		/ / /	BP005		2013
	0	507-3200		7231	7231-PP-003	AERODROME OFFICE RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	/ / /	PX001	SIMER JET PUMPS 2205C	2013
	0			7231	7231-MT-003	RAW WATER TANK PUMP		7231-PP-003	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	507-3200		7231	7231-TK-001	AERODROME OFFICE SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	/ / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	507-3200		7231	7231-TK-002	AERODROME OFFICE RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1613 W: 737 H: 1676			CONTINUOUS	400 GAL TANK	/ / /	FREESTANDING WATER TANK	/ / /	PX001	NORWESCO	2013
	0	507-3200		7232	7232-PP-003	BATCH PLANT OFFICE-LUNCHROOM-WC RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	/ / /	PX001	SIMER JET PUMPS 2205C	2013
	0			7232	7232-MT-003	RAW WATER TANK PUMP		7232-PP-003	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	507-3200		7232	7232-PP-006	SITE SERVICES WASHCAR #1 RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	/ / /	PX001	SIMER JET PUMPS 2205C	2013
	0			7232	7232-MT-006	RAW WATER TANK PUMP		7232-PP-006	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	507-3200		7232	7232-PP-009	SITE SERVICES WASHCAR #2 RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	/ / /	PX001	SIMER JET PUMPS 2205C	2013
	0			7232	7232-MT-009	RAW WATER TANK PUMP		7232-PP-009	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	507-3200		7232	7232-TK-001	BATCH PLANT OFFICE-LUNCHROOM-WC SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	/ / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	507-3200		7232	7232-TK-002	BATCH PLANT OFFICE-LUNCHROOM-WC RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1613 W: 737 H: 1676			CONTINUOUS	400 GAL TANK	/ / /	HORIZONTAL TANK WITH >48 HOURS SUPPLY	/ / /	PX001	PLASTIC-MART 866-310-2556	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0	507-3200		7232	7232-TK-004	SITE SERVICES WASHCAR #1 SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	/ / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	507-3200		7232	7232-TK-005	SITE SERVICES WASHCAR #1 RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1803 W: 1245 H: 1346			CONTINUOUS	525 GAL TANK	/ / /	HORIZONTAL TANK WITH >48 HOURS SUPPLY	/ / /	PX001	PLASTIC-MART 866-310-2556	2013
	0	507-3200		7232	7232-TK-007	SITE SERVICES WASHCAR #2 SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	/ / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	507-3200		7232	7232-TK-008	SITE SERVICES WASHCAR #2 RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1803 W: 1245 H: 1346			CONTINUOUS	525 GAL TANK	/ / /	HORIZONTAL TANK WITH >48 HOURS SUPPLY	/ / /	PX001	PLASTIC-MART 866-310-2556	2013
	0	507-3200		7241	7241-MO-001	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-002	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-003	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-004	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-005	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-006	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-007	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-008	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-009	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-010	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-011	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013

Identification												Technical								Procurement		
												Design Data						Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7241	7241-MO-012	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-013	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-014	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7241	7241-MO-024	CUBE VAN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	12' HEATED ENCLOSED VAN BODY	/ / /	PM130	FORD F550	2013
	0	507-3200		7241	7241-MO-026	PICKUP TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 6274 W: 2665 H: 2032	6350		INTERMITTENT	3300 KG PAYLOAD	/ / /		/ / /	PM111	FORD F350	2013
	0	507-3200		7243	7243-MO-001	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-002	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-003	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-004	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-005	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-006	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-007	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-008	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-009	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013

Identification												Technical								Procurement		
												Design Data						Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7243	7243-MO-010	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	MADE IN 2012; C/W LINERS - AVAILABLE TO SHIP - NEED FIRE SUPPRESSION - WILL TAKE SOME TIME	/ / /	PM136	CAT 740B	2013
	0	507-3200		7243	7243-MO-011	FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	STANDARD LIFT	/ / /	PM102	CAT 988H	2013
	0	507-3200		7243	7243-MO-012	FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	STANDARD LIFT	/ / /	PM102	CAT 988H	2013
	0	507-3200		7243	7243-MO-014	MID SIZE AIR COMPRESSOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON				NUNA	INTERMITTENT	375 CFM	/ / /		/ / /	PM104	ATLAS COPCO	2013
	0	507-3200		7243	7243-MO-015	TRASH PUMP	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 711.2 W: 533.4 H: 621.7	54		INTERMITTENT	3"	/ / /	AVAILABLE READY TO SHIP	/ / /	PM106	GORMAN-RUPP 13D-L700EE S/G	2013
	0	507-3200		7243	7243-MO-016	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7243	7243-MO-017	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7243	7243-MO-018	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7243	7243-MO-019	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7243	7243-MO-020	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7243	7243-MO-021	FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 6050 W: 2390 H: 3150	9600		INTERMITTENT	1.3 M3 BUCKET	/ / /	QUICK COUPLERS/BUCKETS/FORKS	/ / /	PM102	CAT 930K	2013
	0	507-3200		7243	7243-MO-022	TELEHANDLER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 6100 W: 2570 H: 2570	15800	NUNA	INTERMITTENT	5000 KG	/ / /		/ / /	PM106	CAT TH514	2013
	0	507-3200		7243	7243-MO-023	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-024	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-025	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7243	7243-MO-026	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-027	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-028	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-029	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-030	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-031	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-032	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-033	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-034	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-035	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-036	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-037	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7243	7243-MO-046	LOWBOY TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 16050 W: 2438			INTERMITTENT	60 T	/ / /	STANDARD WIDTH	/ / /	PM143		2013
	0	507-3200		7244	7244-GE-001	ACOMMODATIONS AREA GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 14630 W: 2440 H: 4062	68320		STANDBY	5106 L FUEL TANK	/ 2145 hp No	POWER SUPPLY CAN BE SPLIT INTO 2 X 1075 HP; DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C1600D6R	2013
	0	507-3200		7244	7244-GE-002	CONCRETE BATCH PLANT GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4674 W: 1730 H: 2085	8800		STANDBY	901 L FUEL TANK	/ 200 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C150D6R	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7244	7244-GE-003	CONCRETE BATCH PLANT GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4674 W: 1730 H: 2085	8800		STANDBY	901 L FUEL TANK	/ 200 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C150D6R	2013
	0	507-3200		7244	7244-GE-004	GENERAL GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4500 W: 1905 H: 2085	5322		STANDBY	606 L FUEL TANK	/ 107 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C80D6R	2013
	0	507-3200		7244	7244-GE-005	CONSTRUCTION OFFICE/LUNCHROOM/WASHCAR GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4500 W: 1905 H: 2085	5230		STANDBY	606 L FUEL TANK	/ 80 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C60D6R	2013
	0	507-3200		7244	7244-GE-006	SITE SERVICES LUNCHROOM/WASHCAR GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2110 W: 1020 H: 2315	3776		STANDBY	532 L FUEL TANK	/ 47 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSFAA	2013
	0	507-3200		7244	7244-GE-007	LOGISTICS TRAILER GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2110 W: 1020 H: 2315	3776		STANDBY	532 L FUEL TANK	/ 47 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSFAA	2013
	0	507-3200		7244	7244-GE-008	AERODROME LIGHTING GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2160 W: 790 H: 1500	2442		STANDBY	380 L FUEL TANK	/ 27 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSKBA	2013
	0	507-3200		7244	7244-GE-009	WORKFACE TOOLS GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2160 W: 790 H: 1500	2442		STANDBY	380 L FUEL TANK	/ 27 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSKBA	2013
	0	507-3200		7244	7244-GE-010	WORKFACE TOOLS GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2160 W: 790 H: 1500	2442		STANDBY	380 L FUEL TANK	/ 27 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSKBA	2013
	0	507-3200		7245	7245-MO-002	MAN LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	51' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	JLG 450AJ	2013
	0	507-3200		7245	7245-MO-003	MAN LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	51' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	JLG 450AJ	2013
	0	507-3200		7245	7245-MO-004	MAN LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	51' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	GENIE Z45/25	2013
	0	507-3200		7245	7245-MO-005	SCISSOR LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 3500 W: 2200 H: 2900	4917		INTERMITTENT	47' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	SKYJACK 8841	2013
	0	507-3200		7245	7245-MO-006	SCISSOR LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 3500 W: 2200 H: 2900	4917		INTERMITTENT	47' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	SKYJACK 8841	2013
	0	507-3200		7245	7245-MO-007	BOOM TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	26 T	/ / /	MOUNTED ON A 2004 FORD STERLING 7501	/ / /	PM130	MAMTEX 26101C	2013
	0	507-3200		7245	7245-MO-008	MAINTENANCE CRANE	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON			41400		INTERMITTENT	80 T	/ / /	ETA JULY 15, 2013	/ / /	PM116	GROVE RT890E	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0	507-3200		7245	7245-MO-010	WAREHOUSE FREIGHT DELIVERY FLAT DECK TRUCKS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7264 W: 2418 H: 2022	3311		INTERMITTENT	12666 LBS MAXIMUM PAYLOAD	/ / /	12' FLAT DECK BODY	/ / /	PM130	FORD F550	2013
	0	507-3200		7245	7245-MO-011	WAREHOUSE FREIGHT DELIVERY FLAT DECK TRUCKS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7264 W: 2418 H: 2022	3311		INTERMITTENT	12666 LBS MAXIMUM PAYLOAD	/ / /	12' FLAT DECK BODY	/ / /	PM130	FORD F550	2013
	0	507-3200		7245	7245-MO-012	WAREHOUSE FREIGHT DELIVERY FLAT DECK TRUCKS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7264 W: 2418 H: 2022	3311		INTERMITTENT	12666 LBS MAXIMUM PAYLOAD	/ / /	12' FLAT DECK BODY	/ / /	PM130	FORD F550	2013
	0	507-3200		7340	7340-MO-001	TRACK DOZER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 4674 W: 2000 H: 2900	9250		INTERMITTENT	BLADE WIDTH: 3200 MM	/ / /		/ / /	PM102	CAT D6T XW	2013
	0	507-3200		7340	7340-MO-002	TRACK DOZER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 4674 W: 2000 H: 2900	9250		INTERMITTENT	BLADE WIDTH: 3200 MM	/ / /		/ / /	PM102	CAT D6T XW	2013
	0	507-3200		7340	7340-MO-003	TRACK DOZER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4674 W: 2000 H: 2900	9250		INTERMITTENT	BLADE WIDTH: 3200 MM	/ / /	LGP - LOW GROUND PRESSURE	/ / /	PM102	CAT D6-LGP	2013
	0	507-3200		7340	7340-MO-004	MID SIZE EXCAVATOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 11910 W: 3490 H: 3770	45000		INTERMITTENT	345 HP, 3.5 M3 BUCKET	/ / /		/ / /	PM102	CAT 345DL HEX	2013
	0	507-3200		7340	7340-MO-014	COMPACTOR	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 5970 W: 2300 H: 3070	15650		INTERMITTENT	DRUM WIDTH: 2140 MM; DRUM DIA:	/ / /	MADE IN 2011	/ / /	PM102	CAT CS74	2013
	0	507-3200		7340	7340-MO-015	COMPACTOR	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 5970 W: 2300 H: 3070	15650		INTERMITTENT	DRUM WIDTH: 2140 MM; DRUM DIA:	/ / /	MADE IN 2007; 84" PADFOOT VIBRATORY SOIL COMPACTOR	/ / /	PM102	CAT CP563E	2013
	0	507-3200		7340	7340-MO-016	ROAD SNOW BLOWER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 6170 W: 2410 H: 3320	18338		INTERMITTENT	WITH SNOW BLOWER ATTACHMENTS	/ / /	C/W VOHL MODEL DV400 SNOW BLOWER	/ / /	PM102	CAT 950H	2013
	0	507-3200		7340	7340-MO-017	ROAD SNOW BLOWER	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 6170 W: 2410 H: 3320	18338		INTERMITTENT	WITH SNOW BLOWER ATTACHMENTS	/ / /	C/W VOHL MODEL DV400 SNOW BLOWER	/ / /	PM102	CAT 950H	2013
	0	507-3200		7432	7432-PP-003	BATCH PLANT OFFICE-LUNCHROOM-WC RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	/ / /	PX001	SIMER JET PUMPS 2205C	2013
	0			7432	7432-MT-003	RAW WATER TANK PUMP		7432-PP-003	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	507-3200		7432	7432-PP-006	FUEL SYSTEMS WASHCAR RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	/ / /	PX001	SIMER JET PUMPS 2205C	2013
	0			7432	7432-MT-006	RAW WATER TANK PUMP		7432-PP-006	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW) Name Plate Emergency Required (Y/N)	Remarks	PFD No. PID No. Datasheet No.	Enquiry No	Manufacturer / Model No.	Sealift
	0	507-3200		7432	7432-PP-009	SITE SERVICES WASHCAR #1 RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	/ / /	PX001	SIMER JET PUMPS 2205C	2013
	0			7432	7432-MT-009	RAW WATER TANK PUMP		7432-PP-009	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	507-3200		7432	7432-PP-012	SITE SERVICES WASHCAR #2 RAW WATER PUMP	PUMP		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 483 W: 275 H: 267			INTERMITTENT	65 PSI	/ 0.5 hp No	1/2 HP ELECTRIC PUMP	/ / /	PX001	SIMER JET PUMPS 2205C	2013
	0			7432	7432-MT-012	RAW WATER TANK PUMP		7432-PP-012	NEW							INTERMITTENT		/ 0.5 hp /		/ / /	PX001		
	0	507-3200		7432	7432-TK-001	BATCH PLANT OFFICE-LUNCHROOM-WC SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	/ / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	507-3200		7432	7432-TK-002	BATCH PLANT OFFICE-LUNCHROOM-WC RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1613 W: 737 H: 1676			CONTINUOUS	400 GAL TANK	/ / /	HORIZONTAL TANK WITH >48 HOURS SUPPLY	/ / /	PX001	PLASTIC-MART 866-310-2556	2013
	0	507-3200		7432	7432-TK-004	FUEL SYSTEMS WASHCAR SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	/ / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	507-3200		7432	7432-TK-005	FUEL SYSTEMS WASHCAR RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1803 W: 1245 H: 1346			CONTINUOUS	525 GAL TANK	/ / /	HORIZONTAL TANK WITH >48 HOURS SUPPLY	/ / /	PX001	PLASTIC-MART 866-310-2556	2013
	0	507-3200		7432	7432-TK-007	SITE SERVICES WASHCAR #1 SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	/ / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	507-3200		7432	7432-TK-008	SITE SERVICES WASHCAR #1 RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1803 W: 1245 H: 1346			CONTINUOUS	525 GAL TANK	/ / /	HORIZONTAL TANK WITH >48 HOURS SUPPLY	/ / /	PX001	PLASTIC-MART 866-310-2556	2013
	0	507-3200		7432	7432-TK-010	SITE SERVICES WASHCAR #2 SEWAGE COLLECTION TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 3791 W: 1829 H: 610			INTERMITTENT	1000 GAL	/ / /	RECTANGULAR TANK	/ / /	PX001	LAGRANGE MECHANICAL SERVICES	2013
	0	507-3200		7432	7432-TK-011	SITE SERVICES WASHCAR #2 RAW WATER TANK	TANK		NEW	CERTIFIED FINAL	KENTARO IMAI		L: 1803 W: 1245 H: 1346			CONTINUOUS	525 GAL TANK	/ / /	HORIZONTAL TANK WITH >48 HOURS SUPPLY	/ / /	PX001	PLASTIC-MART 866-310-2556	2013
	0	507-3200		7441	7441-MO-008	FUEL/LUBE TRUCK - ARTICULATED	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT					INTERMITTENT	4175 GAL	/ / /	ENCLOSED FUEL LUBE TRUCK; 4175 GAL DIESEL TANK; 6 PRODUCT TANKS IN FABRICATION - ETA SEPT 1, 2013	/ / /	PM102	CAT 740 EFLT	2013
	0	507-3200		7441	7441-MO-025	CUBE VAN	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT		/ / /	12' HEATED ENCLOSED VAN BODY	/ / /	PM130	FORD F550	2013
	0	507-3200		7443	7443-MO-001	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	ETA JULY 15, 2013	/ / /	PM136	CAT 740B	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7443	7443-MO-002	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	ETA JULY 15, 2013	/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-003	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	ETA JULY 24, 2013	/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-004	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /	ETA JULY 24, 2013	/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-005	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /		/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-006	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /		/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-007	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /		/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-008	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /		/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-009	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /		/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-010	ARTICULATED HAUL TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	TOROMONT		L: 10889 W: 3430 H: 3745	34000		INTERMITTENT	35 TON	/ / /		/ / /	PM136	CAT 740B	2013
	0	507-3200		7443	7443-MO-011	FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	STANDARD LIFT	/ / /	PM102	CAT 988H	2013
	0	507-3200		7443	7443-MO-012	FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 10390 W: 3600 H: 4115	43400		INTERMITTENT	4.5 - 5.4 M3 BUCKET	/ / /	STANDARD LIFT	/ / /	PM102	CAT 988H	2013
	0	507-3200		7443	7443-MO-014	MID SIZE AIR COMPRESSOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON				NUNA	INTERMITTENT	375 CFM	/ / /		/ / /	PM104	ATLAS COPCO	2013
	0	507-3200		7443	7443-MO-015	LARGE AIR COMPRESSOR	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	830 CFM	/ / /		/ / /	PM104	ATLAS COPCO	2013
	0	507-3200		7443	7443-MO-016	TRASH PUMP	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 711.2 W: 533.4 H: 621.7	54		INTERMITTENT	3"	/ / /		/ / /	PM106	GORMAN-RUPP 13D-L700EE S/G	2013
	0	507-3200		7443	7443-MO-017	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013

Identification												Technical								Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7443	7443-MO-018	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7443	7443-MO-019	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7443	7443-MO-020	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7443	7443-MO-021	MOBILE LIGHT PLANT	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 4623 W: 2007 H: 9000	925		INTERMITTENT	4000W	/ / /	4 X 1000W LIGHTS	/ / /	PM106	TEREX AL4	2013
	0	507-3200		7443	7443-MO-022	FRONT END LOADER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 6050 W: 2390 H: 3150	9600		INTERMITTENT	1.3 M3 BUCKET	/ / /	QUICK COUPLERS/BUCKETS/FORKS	/ / /	PM102	CAT 930K	2013
	0	507-3200		7443	7443-MO-023	TELEHANDLER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	TOROMONT		L: 6100 W: 2570 H: 2570	15800	NUNA	INTERMITTENT		/ / /		/ / /	PM106	CAT TH514	2013
	0	507-3200		7443	7443-MO-024	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-025	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-026	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-027	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-028	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-029	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-030	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-031	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-032	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7443	7443-MO-033	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-034	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-035	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-036	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-037	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-038	FROST FIGHTER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	350000 BTU	/ / /	OIL FIRED; C/W HEAT RECOVERY SYSTEM	/ / /	BM104	FROSTFIGHTER IDF350-11	2013
	0	507-3200		7443	7443-MO-051	LOWBOY TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 16050 W: 3658			INTERMITTENT	60T	/ / /		/ / /	PM143		2013
	0	507-3200		7443	7443-MO-052	HIBOY TRAILER	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 14630 W: 2438			INTERMITTENT	60T	/ / /		/ / /	PM143		2013
	0	507-3200		7443	7443-MO-053	SECONDARY DRILL	MOBILE EQUIPMENT		USED	PRELIMINARY	GLACIER					INTERMITTENT		/ / /		/ / /	PM100	SANDVIK 800	2013
	0	507-3200		7443	7443-MO-054	SECONDARY DRILL	MOBILE EQUIPMENT		USED	PRELIMINARY	GLACIER					INTERMITTENT		/ / /		/ / /	PM100	SANDVIK 800	2013
	0	507-3200		7444	7444-GE-001	ACCOMMODATIONS AREA GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 14630 W: 2440 H: 4065	78220		STANDBY	5106 L FUEL TANK	/ 2145 hp No	POWER SUPPLY CAN BE SPLIT INTO 2 X 1075 HP; DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C1600D6RG	2013
	0	507-3200		7444	7444-GE-002	CONCRETE BATCH PLANT GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4675 W: 1730 H: 2085	10466		STANDBY	901 L FUEL TANK	/ 200 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C150D6R	2013
	0	507-3200		7444	7444-GE-003	CONCRETE BATCH PLANT GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4675 W: 1730 H: 2085	10466		STANDBY	901 L FUEL TANK	/ 200 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C150D6R	2013
	0	507-3200		7444	7444-GE-004	GENERAL GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4496 W: 1905 H: 2085	6458		STANDBY	606 L FUEL TANK	/ 107 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C80D6R	2013
	0	507-3200		7444	7444-GE-005	AERODROME LIGHTING GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4496 W: 1905 H: 2085	6365		STANDBY	606 L FUEL TANK	/ 80 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C60D6R	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7444	7444-GE-006	RAW WATER PUMPHOUSE GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4496 W: 1905 H: 2085	6365		STANDBY	606 L FUEL TANK	/ 80 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C60D6R	2013
	0	507-3200		7444	7444-GE-007	RAW WATER PUMPHOUSE GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4496 W: 1905 H: 2085	6365		STANDBY	606 L FUEL TANK	/ 80 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C60D6R	2013
	0	507-3200		7444	7444-GE-008	CONSTRUCTION OFFICE/LUNCHROOM/WASHCAR GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 4496 W: 1905 H: 2085	6365		STANDBY	606 L FUEL TANK	/ 80 hp No	DIMENSIONS INCLUDE TRAILER	/ / /	PE001	CUMMINS C60D6R	2013
	0	507-3200		7444	7444-GE-009	SITE SERVICES LUNCHROOM/WASHCAR GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2110 W: 1020 H: 2315	4760		STANDBY	532 L FUEL TANK	/ 47 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSFAA	2013
	0	507-3200		7444	7444-GE-010	SITE SERVICES LUNCHROOM/WASHCAR GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2110 W: 1020 H: 2315	4760		STANDBY	532 L FUEL TANK	/ 47 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSFAA	2013
	0	507-3200		7444	7444-GE-011	SITE SERVICES LUNCHROOM/WASHCAR GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2110 W: 1020 H: 2315	4760		STANDBY	532 L FUEL TANK	/ 47 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSFAA	2013
	0	507-3200		7444	7444-GE-012	WORKFACE TOOLS GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2160 W: 790 H: 1500	3145		STANDBY	380 L FUEL TANK	/ 27 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSKBA	2013
	0	507-3200		7444	7444-GE-013	WORKFACE TOOLS GENERATOR	GENERATOR		NEW	PRELIMINARY	BRIAN PERKINS		L: 2160 W: 790 H: 1500	3145		STANDBY	380 L FUEL TANK	/ 27 hp No	NO TRAILER; DIMENSIONS ARE FOR GENERATOR ONLY	/ / /	PE001	CUMMINS DSKBA	2013
	0	507-3200		7445	7445-MO-002	MAN LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	51' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	GENIE Z45/25	2013
	0	507-3200		7445	7445-MO-003	MAN LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	51' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	GENIE Z45/25	2013
	0	507-3200		7445	7445-MO-006	SCISSOR LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 3500 W: 2200 H: 2900	4917		INTERMITTENT	47' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	SKYJACK 8841	2013
	0	507-3200		7445	7445-MO-007	SCISSOR LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 3500 W: 2200 H: 2900	4917		INTERMITTENT	47' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	SKYJACK 8841	2013
	0	507-3200		7445	7445-MO-008	SCISSOR LIFT	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 3500 W: 2200 H: 2900	4917		INTERMITTENT	47' WORKING HEIGHT	/ / /	DIESEL	/ / /	PM140	SKYJACK 8841	2013
	0	507-3200		7445	7445-MO-009	MAINTENANCE CRANE	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON		L: 12900 W: 7910 H: 3640	113000		INTERMITTENT	300 T	/ / /		/ / /	PM101	MANITOWOC 2250	2013
	0	507-3200		7445	7445-MO-012	BOOM TRUCK	MOBILE EQUIPMENT		USED	CERTIFIED FINAL	GRAHAM BURTON					INTERMITTENT	26 T	/ / /	MOUNTED ON A 2007 STERLING LT7501	/ / /	PM130	MANITEX 26101C	2013

Identification												Technical									Procurement		
												Design Data							Supp. Information	Diagrams			
X	Rev	EWP	CWP	Area	Tag No	Description	Equip Type	Part of	Const. Type	Eng/Data Status	Package Eng	Design Code	Dimension l x w x h	Dry Wgt (kg)	Contractor	Operating Mode	Design Capacity	Design Load (kW)	Remarks	PFD No.	Enquiry No	Manufacturer / Model No.	Sealift
																		Name Plate		PID No.			
																		Emergency Required (Y/N)		Datasheet No.			
	0	507-3200		7445	7445-MO-013	WAREHOUSE FREIGHT DELIVERY FLAT DECK TRUCKS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7264 W: 2418 H: 2022	3311		INTERMITTENT	12666 LBS MAXIMUM PAYLOAD	/ / /	12' FLAT DECK BODY	/ / /	PM130	FORD F550	2013
	0	507-3200		7445	7445-MO-014	WAREHOUSE FREIGHT DELIVERY FLAT DECK TRUCKS	MOBILE EQUIPMENT		NEW	CERTIFIED FINAL	GRAHAM BURTON		L: 7264 W: 2418 H: 2022	3311		INTERMITTENT	12666 LBS MAXIMUM PAYLOAD	/ / /	12' FLAT DECK BODY	/ / /	PM130	FORD F550	2013
	0			7920	7920-PP-001	DECOMISSIONING PUMP	PUMP		NEW	PRELIMINARY	HEATHER REID							/ / /		/ / /			

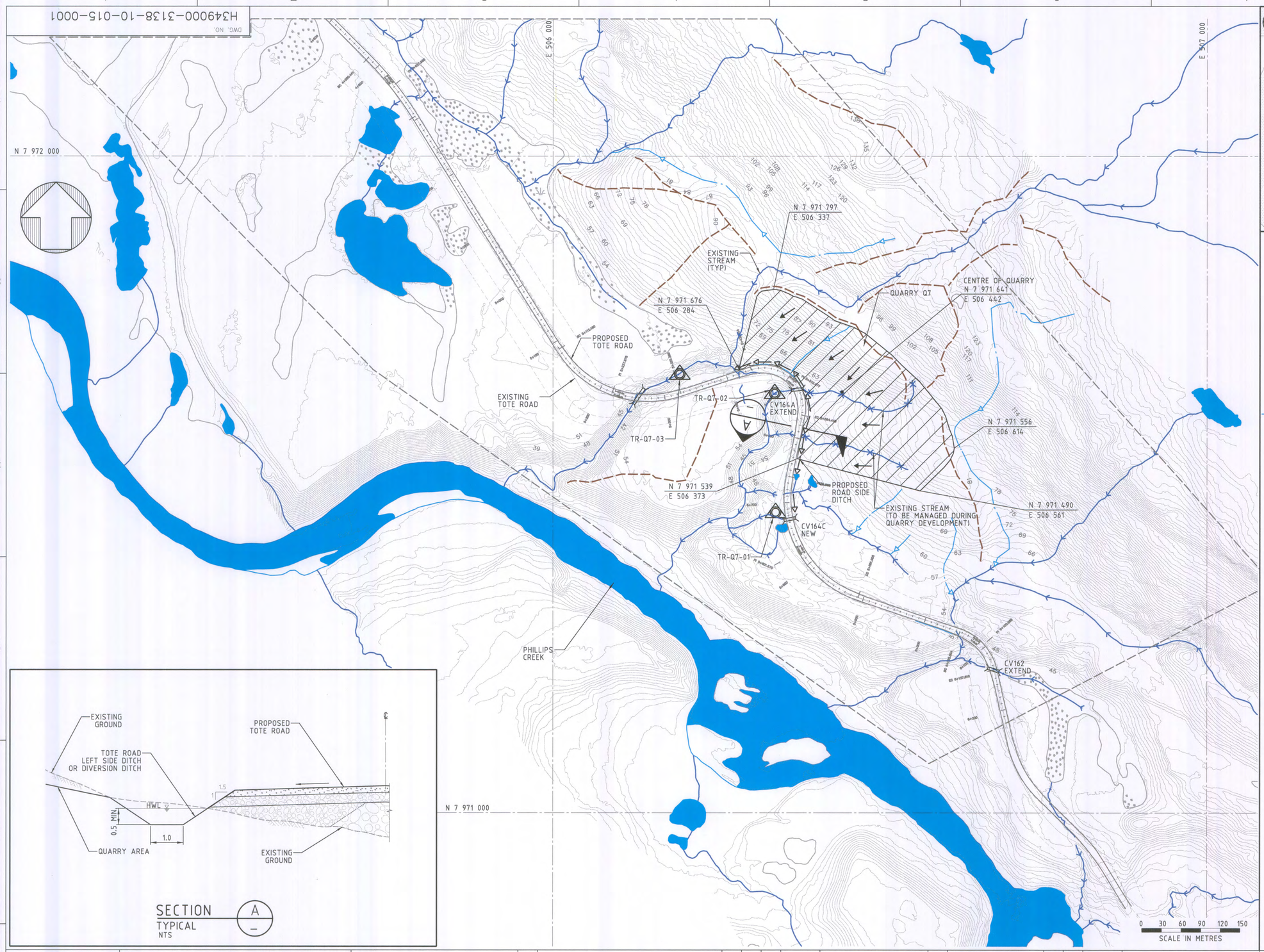
2013-08-20	0	Approved for Use	S. Carnegie	G. Burton	S. Perry	D. Matthews
Date	**Rev.**	**Status**	**Prepared By**	**Checked By**	**Approved By**	**Approved By**

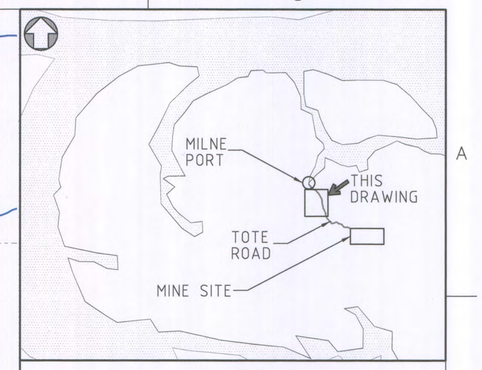
Baffinland					
Unit #	**YEAR**	**MAKE**	**MODEL**	**DESC**	**SER. #**
EX1032	2013	CAT	320DL	320D Excavator	CAT0320DHSPN01703
EX1033	2013	CAT	320DL	320D Excavator	CAT0320DHSPN01706
BH491	2013	CAT	430F IT	430F IT LOADER/BACKHOE	LNH00153
BH491	2013	CAT	430F ST	430F ST LOADER/BACKHOE	LDY00172
WL489	2013	CAT	950H	950H WHEEL LOADER	M1G03380
WL490	2013	CAT	950H	950H WHEEL LOADER	M1G03551
TH001	2013	CAT	TL1055C	TL1055C TELEHANDLER	KDE00678
TH002	2013	CAT	TL1055C	TL1055C TELEHANDLER	KDE00647
SS432	2013	CAT	262C2	262C2 SKID STEER	CAT0262CHTMW01645
SS433	2013	CAT	262C2	262C2 SKID STEER	CAT0262CHTMW01790
CR002	2011	TADANO	GR750XL-2	75 TON RT CRANE	547337
CR003	2013	TADANO	GR750XL-2	75 TON RT CRANE	548241
CPT001		MACK		CEMENT PUMPER TRUCK	
CM001	2013	MACK	GU813	MACK MIXER TRUCK	1M24X13C7DM022910
CM002	2013	MACK	GU813	MACK MIXER TRUCK	1M24X13C7DM022911
PT381	2011	DODGE	3500	DODGE PICK UP	3D73Y3CL7BG588531
PT374	2010	DODGE	3500	DODGE PICK UP	3D73YCL9AG144436
PT386	2012	DODGE	3500	DODGE PICK UP	3C63D3GLXCG174118
PT392	2012	DODGE	2500	DODGE PICK UP	3C6UD5JL6CG188915
TK2042	2006	MACK	CV713	FUEL TRUCK	2EATHA02WR000188
TK2002	2006	KENWORTH	T800	WINCH TRACTOR	1NKDL40Z26R988222
TR221	2000	ASPEN		LOWBED TRAILER	2A9LB4037XN125132
ML001		GENIE	Z60	60'BOOM LIFT	Z6008-9015
ML002		GENIE	Z60	60'BOOM LIFT	Z6013-12885
SL001	2005	SKYJACK	SJ77135RT	35FT SCISSOR LIFT	341353
SL002	2005	SKYJACK	SJ800-8841	40FTSCISSOR LIFT	43128
LT		ALLMAND	ML15VMINESPEC	15KW 6 LAMP LIGHT TOWER	0525MLV13
LT		ALLMAND	ML15VMINESPEC	15KW 6 LAMP LIGHT TOWER	0522MLV13
LT		ALLMAND	MLII6/8V	8KW 4 LAMP LIGHT TOWER	0055ML2V13
LT		ALLMAND	MLII6/8V	8KW 4 LAMP LIGHT TOWER	0056ML2V13
WLD		LINCOLN	SAE300	WELDER 300 AMP DSL	C1130401123-11916
WLD		LINCOLN	SAE300	WELDER 300 AMP DSL	C1130401497-11916
WLD		MILLER	TRAILBLAZER302	WELDER 300 AMP DSL	
GEN		MULTIQUIP	DAC7000SSA	6-7KW GEN SET 125/250 VOL	5675363
GEN		MULTIQUIP	DAC7000SSA	6-7KW GEN SET 125/250 VOL	5675364
GEN		MULTIQUIP	DAC7000SSA	6-7KW GEN SET 125/250 VOL	5675370
GEN		MULTIQUIP	DAC7000SSA	6-7KW GEN SET 125/250 VOL	5677551
AC		DOOSAN	P185WJD	185 CFM AIR COMPRESSOR	455427UFXD75/4FVCABAA9D445427
HTR001		FLAGRO	FVO-400	350,000BTU HEATER	7704
HTR002		FLAGRO	FVO-400	350,000BTU HEATER	7711
HTR003		FLAGRO	FVO-400	350,000BTU HEATER	7855
HTR004		FLAGRO	FVO-400	350.000BTU HEATER	7857
HTR005		FLAGRO	FVO-400	350.000BTU HEATER	7858
HTR006		FLAGRO	FVO-400	350,000BTU HEATER	7890
HTR007		FLAGRO	FVO-400	350,000BTU HEATER	7895
HTR008		FLAGRO	FVO-400	350,000BTU HEATER	7907

Baffinland					
Unit #	**YEAR**	**MAKE**	**MODEL**	**DESC**	**SER. #**
HTR009		FLAGRO	FVO-400	350,000BTU HEATER	7813-13a-0049
HTR010		FLAGRO	FVO-400	350,000BTU HEATER	7834-13a-0097
HTR011		FLAGRO	FVO-400	350,000BTU HEATER	7837-12z-1997
HTR012		FLAGRO	FVO-400	350,000BTU HEATER	7838-12z-1998
HTR013		FLAGRO	FVO-400	350,000BTU HEATER	7835-12z-2000
HTR014		FLAGRO	FVO-400	350,000BTU HEATER	7785-13a-0016
HTR015		FLAGRO	FVO-400	350,000BTU HEATER	8123-13a-0383
HTR016		FLAGRO	FVO-400	350,000BTU HEATER	7847-13a-0047
HTR017		FLAGRO	FVO-400	350,000BTU HEATER	7795-13a-0086
HTR018		FLAGRO	FVO-400	350,000BTU HEATER	8001-13f-0222
HTR019		FLAGRO	FVO-400	350,000BTU HEATER	8004-13f-0219
HTR020		FLAGRO	FVO-400	350,000BTU HEATER	7791-13a-0005
PLT001		WACKER	DPU6555HE	1000lbs PLATE TAMPER	10282741
PLT002		WACKER	DPU6555HE	1000lbs PLATE TAMPER	10282745
PLT003		WACKER	DPU6555HE	1000lbs PLATE TAMPER	10282742
PLT004		WACKER	DPU6555HE	1000lbs PLATE TAMPER	10281741
PLT005		WACKER	DPU3750H	600LBS PLATE TAMPER	10146549
PLT006		WACKER	DPU3750H	600LBS PLATE TAMPER	10185486
PLT007		WACKER	DPU3750H	600LBS PLATE TAMPER	10149813
PLT008		WACKER	DPU3750H	600LBS PLATE TAMPER	10166271
JJ001		WACKER	BS60-4S	JUMPING JACK	20171400
JJ002		WACKER	BS60-4S	JUMPING JACK	20171401
JJ003		WACKER	BS60-4S	JUMPING JACK	20171402
JJ004		WACKER	BS60-4S	JUMPING JACK	20171403
		STEPHENS	MUSTANG	BATCH PLANT	9078-13
		MARCOTTE		Batch Plant Controller	
		STEPHENS		Ventilation System	On batch plant
		TO BE SHIPPED		Water Tank/meter/boiler	
				Aggregate heating	
				Moisture Sensor	
				Concrete testing equipment	
				Lock block forms (6)	
				Rebar bender	
				Rebar bender	
				Insulated Tarps (40 units)	
PWRT001		WACKER	CT48-8A	46"POWER TROWEL	20183318
PWRT002		WACKER	CT48-8A	46"POWER TROWEL	20186843
PWRT003				46"POWER TROWEL 11HP	44V0712017
PWRT004				46"POWER TROWEL	46D0305019
WBS001		HUSQUVARNA	FS413	18"WALK BEHIND SAW	20120004681
WBS002		HUSQUVARNA	FS413	18"WALK BEHIND SAW	4416
WBS003		HUSQUVARNA	FS309	14"WALK BEHIND SAW	20131100016
SC		SMALL TOOLS		40FT STD CONTAINER	OOLU724893-2
SC		SMALL TOOLS		40FT STD CONTAINER	OOLU725042-0
SC				40FT STD CONTAINER	TTNU589304-9
SC				40FT STD CONTAINER	KLFU135999

Baffinland					
Unit #	**YEAR**	**MAKE**	**MODEL**	**DESC**	**SER. #**
SC				40FT STD CONTAINER	MOFU031697-7
SC				40FT HIGH CUBE CONTAINER	HJCU105260-8

DWG. NO. H349000-3138-10-015-0001





KEY PLAN

LEGEND:

- EXISTING WATERBODY
- PROPOSED FOOTPRINT OF QUARRY AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- EXISTING STREAM
- OVERLAND FLOW PATH
- EXISTING DRAINAGE TO BE DIVERTED/ABANDONED
- SURFACE DRAINAGE DIVERSION
- INTERNAL SURFACE DRAINAGE
- RIDGE LINE (HIGH POINT)
- PROPOSED CULVERT
- EXISTING CULVERT (LOCATION APPROXIMATE)
- WATER QUALITY MONITORING LOCATION (TR-Q7-01)
- HWL — HIGH WATER LEVEL
- TOTE ROAD LEFT SIDE DITCH OR DIVERSION DITCH

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 1.5 METRES.

FOR PERMITTING

DRAWING NO.	DRAWING TITLE
H349000-3000-10-012-0009	TOTE ROAD STA. 5+600 TO 6+300 – PLAN AND PROFILE
H349000-3000-10-012-0008	TOTE ROAD STA. 4+900 TO 5+600 – PLAN AND PROFILE
H349000-3000-10-012-0007	TOTE ROAD STA. 4+200 TO 4+900 – PLAN AND PROFILE

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 17 Oct. 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("BAFFINLAND") AND HAS ISSUED PURSUANT TO AGREEMENT BETWEEN BAFFINLAND AND HATCH. UNLESS OTHERWISE AGREED TO IN WRITING WITH CONSENT OF HATCH, (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY DERIVATIVE THEREOF, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
17041 13
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	FOR PERMITTING	SH IK	2013-10-17

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY I. KITYNSKA	DRAWN BY I. KITYNSKA	
DATE 2013-10-10	DATE 2013-10-10	
CHECKED BY K. FALLAHI	DISCIP. ENGR. S. HASSAN	
DATE 2013-10-17	DATE 2013-10-17	
PROJ. DES. COORD. T. THERTELL	PROJ. ENGR. J. CLELAND	
DATE 2013-10-17	DATE 2013-10-17	
PROJ. MGR. S. PERRY		
DATE 2013-10-17		

Baffinland

MARY RIVER PROJECT

TOTE ROAD
QUARRY Q7
DRAINAGE PLAN

SCALE	DWG. NO.	REV.
1:3000 OR AS NOTED	H349000-3138-10-015-0001	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

kity69254
17/10/2013 3:46:51 PM
c:\p\projects\kity69254\dms74793\H349000-3138-10-015-0001.dgn

DWG. NO. H349000-3138-10-015-0002

E 503000

E 516 000

E 517 000

N 7 963 000

TR-Q11-02

CV123C EXTEND

N 7 962 922
E 516 543

CENTRE OF QUARRY
N 7 962 744
E 516 585

QUARRY Q11

N 7 962 848
E 516 410

N 7 962 658
E 516 727

TR-Q11-01

CV123D EXTEND

N 7 962 544
E 516 632

CV123E EXTEND

EXISTING GROUND

TOTE ROAD LEFT SIDE DITCH OR DIVERSION DITCH

PROPOSED TOTE ROAD

HWL

0.5 MIN.

1.0

1.5

1

QUARRY AREA

EXISTING GROUND

SECTION A
TYPICAL
NTS

MILNE PORT

THIS DRAWING

TOTE ROAD

MINE SITE

KEY PLAN

LEGEND:

- EXISTING WATERBODY
- PROPOSED FOOTPRINT OF QUARRY AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- EXISTING STREAM
- OVERLAND FLOW PATH
- EXISTING DRAINAGE TO BE DIVERTED/ABANDONED
- SURFACE DRAINAGE DIVERSION
- INTERNAL SURFACE DRAINAGE
- RIDGE LINE (HIGH POINT)
- PROPOSED CULVERT
- EXISTING CULVERT (LOCATION APPROXIMATE)
- WATER QUALITY MONITORING LOCATION (TR-Q11-01)
- HWL — HIGH WATER LEVEL
- TOTE ROAD LEFT SIDE DITCH OR DIVERSION DITCH

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 1.5 METRES.

FOR PERMITTING

0 30 60 90 120 150
SCALE IN METRES

DRAWING NO.	DRAWING TITLE
H349000-3000-10-012-0030	TOTE ROAD – STA. 27+450 TO 28+150 – PLAN AND PROFILE
H349000-3000-10-012-0029	TOTE ROAD – STA. 26+750 TO 27+450 – PLAN AND PROFILE
H349000-3000-10-012-0028	TOTE ROAD – STA. 26+050 TO 26+750 – PLAN AND PROFILE

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 17 Oct. 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND AND ITS CONSULTANTS AND CONTRACTORS FOR THE PURPOSES OF THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. (HATCH). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY, AND (B) ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	FOR PERMITTING	SH IK	2013-10-17

ISSUE AUTHORIZATION

HATCH

DESIGNED BY I. KITYNSKA DATE 2013-10-11
DRAWN BY I. KITYNSKA DATE 2013-10-11
CHECKED BY K. FALLAH DATE 2013-10-17
DISCIP. ENGR. S. HASSAN DATE 2013-10-17
PROJ. DES. COORD. T. THERTELL DATE 2013-10-17
PROJ. ENGR. J. CLELAND DATE 2013-10-17
PROJ. MGR. S. PERRY DATE 2013-10-17

Baffinland

MARY RIVER PROJECT

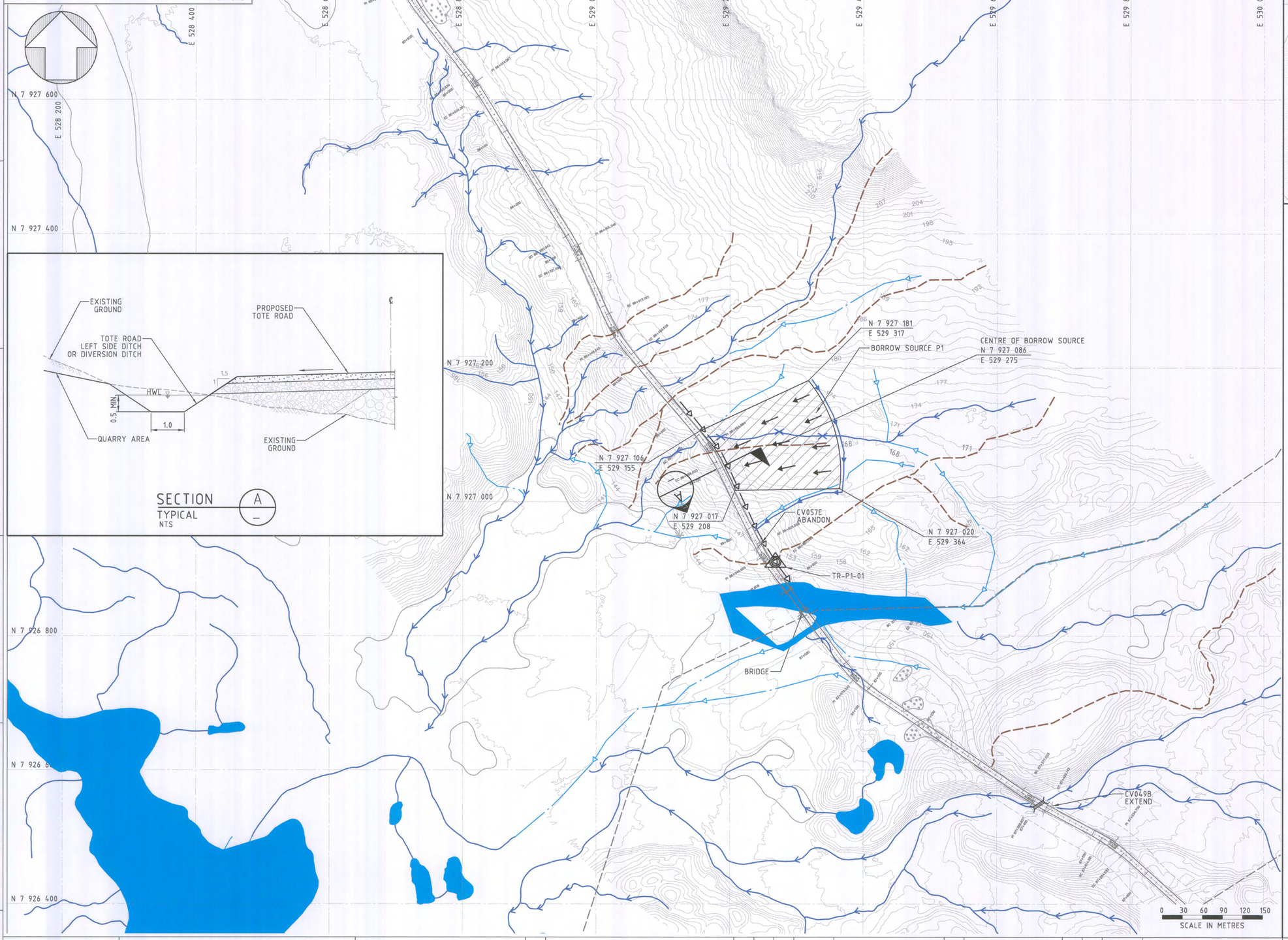
TOTE ROAD
QUARRY Q11
DRAINAGE PLAN

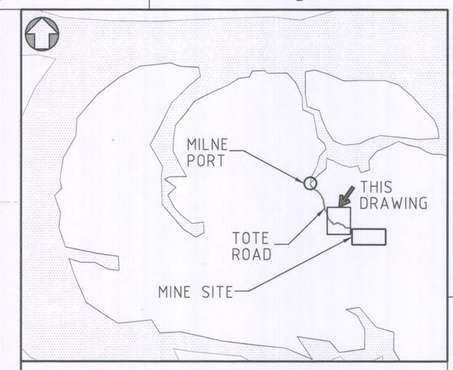
SCALE 1:3000 OR AS NOTED
DWG. NO. H349000-3138-10-015-0002
REV. 0
ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

kity69254
11/10/2013 4:29:21 PM
c:\pr\projectwise\kity69254\dms74793\H349000-3138-10-015-0002.dgn

DWG. NO. H349000-3138-10-015-0003

SECTION A
TYPICAL
NTS





KEY PLAN

LEGEND:

- EXISTING WATERBODY
- PROPOSED FOOTPRINT OF BORROW SOURCE AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- EXISTING STREAM
- OVERLAND FLOW PATH
- EXISTING DRAINAGE TO BE DIVERTED/ABANDONED
- SURFACE DRAINAGE DIVERSION
- INTERNAL SURFACE DRAINAGE
- RIDGE LINE (HIGH POINT)
- PROPOSED CULVERT
- EXISTING CULVERT (LOCATION APPROXIMATE)
- WATER QUALITY MONITORING LOCATION (TR-P1-01)
- HWL — HIGH WATER LEVEL
- TOTE ROAD LEFT SIDE DITCH OR DIVERSION DITCH

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 1.5 METRES.

FOR PERMITTING

DRAWING NO.	DRAWING TITLE
H349000-3000-10-012-0088	TOTE ROAD – STA. 87+500 TO 88+200 – PLAN AND PROFILE
H349000-3000-10-012-0087	TOTE ROAD – STA. 86+800 TO 87+500 – PLAN AND PROFILE
H349000-3000-10-012-0086	TOTE ROAD – STA. 86+100 TO 86+800 – PLAN AND PROFILE
H349000-3000-10-012-0085	TOTE ROAD – STA. 85+410 TO 86+100 – PLAN AND PROFILE

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 17 Oct 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED TO IN WRITING BY HATCH, NO OTHER PERSON MAY RELY ON THIS DRAWING, AND HATCH DOES NOT ACCEPT ANY RESPONSIBILITY OR ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR ANY RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ANY INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
17/04/13
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	FOR PERMITTING	SH IK	2013-10-17

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY I. KITYNSKA	DRAWN BY I. KITYNSKA
DATE 2013-10-10	DATE 2013-10-10
CHECKED BY K. FALLAHI	DISCIP. ENGR. S. HASSAN
DATE 2013-10-17	DATE 2013-10-17
PROJ. DES. COORD. T. THERTELL	PROJ. ENGR. J. CLELAND
DATE 2013-10-17	DATE 2013-10-17
PROJ. MGR. S. PERRY	
DATE 2013-10-17	

Baffinland

MARY RIVER PROJECT

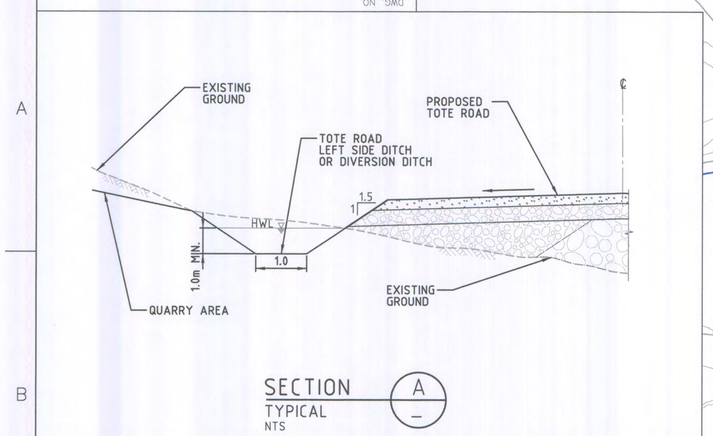
TOTE ROAD
BORROW SOURCE P1
DRAINAGE PLAN

SCALE	DWG. NO.	REV.
1:3000 OR AS NOTED	H349000-3138-10-015-0003	0

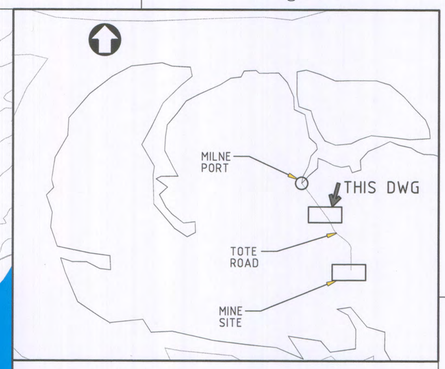
ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

kity/69254
2013_3:11:37 PM
C:\Projects\projectwise\kity\69254\dms74793\H349000-3138-10-015-0003.dgn

DWG. NO. H349000-3138-10-015-0004



SECTION A
TYPICAL
NTS



KEY PLAN

LEGEND

- EXISTING WATERBODY
- PROPOSED FOOTPRINT OF QUARRY AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- EXISTING STREAM
- OVERLAND FLOW PATH
- EXISTING DRAINAGE TO BE DIVERTED/ABANDONED
- SUFACE DRAINAGE DIVERSION
- INTERNAL SUFACE DRAINAGE
- RIDGE LINE (HIGH POINT)
- PROPOSED CULVERT
- EXISTING CULVERT (LOCATION APPROXIMATE)
- WATER QUALITY MONITORING LOCATION (TR-Q19-01)
- TOTE ROAD LEFT DITCH OR DIVERSION DITCH

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 1.5 METRES.

FOR PERMITTING

0 15 30 45 60 75
SCALE IN METRES

CENTRE OF QUARRY
N 7 915 063
E 554 574

QUARRY Q 19

N 7 915 123
E 554 621

N 7 915 070
E 554 456

N 7 915 084
E 554 721

N 7 915 046
E 554 671

TR-Q19-01

TR-Q19-02

BG03A REPLACE

N 7 914 984
E 554 467

DRAWING NO.	DRAWING TITLE
H349000-3000-10-012-0135	TOTE ROAD-STA 163+650 TO 164+350-PLAN & POFILE
H349000-3000-10-012-0134	TOTE ROAD-STA 162+950 TO 163+650-PLAN & POFILE

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 17 Oct 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH DATED ____. UNLESS OTHERWISE AGREED TO IN WRITING BY HATCH, ANY USE OF THIS DRAWING, (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING AND ALL INFORMATION, DESIGNS OR OTHER CONTENT EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M.M.S. HASSAN
LICENSEE
17/Oct/13
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	FOR PERMITTING	SH DS	2013-10-17

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY D. SINGH	DRAWN BY D. SINGH
DATE 2013-10-11	DATE 2013-10-11
CHECKED BY K. FALLAHI	DISCIP. ENGR. S. HASSAN
DATE 2013-10-17	DATE 2013-10-17
PROJ. DES. COORD. T. THERTELL	PROJ. ENGR. J. CLEGHORN
DATE 2013-10-17	DATE 2013-10-17
PROJ. MGR. S. PERRY	
DATE 2013-10-17	

Baffinland

MARY RIVER PROJECT

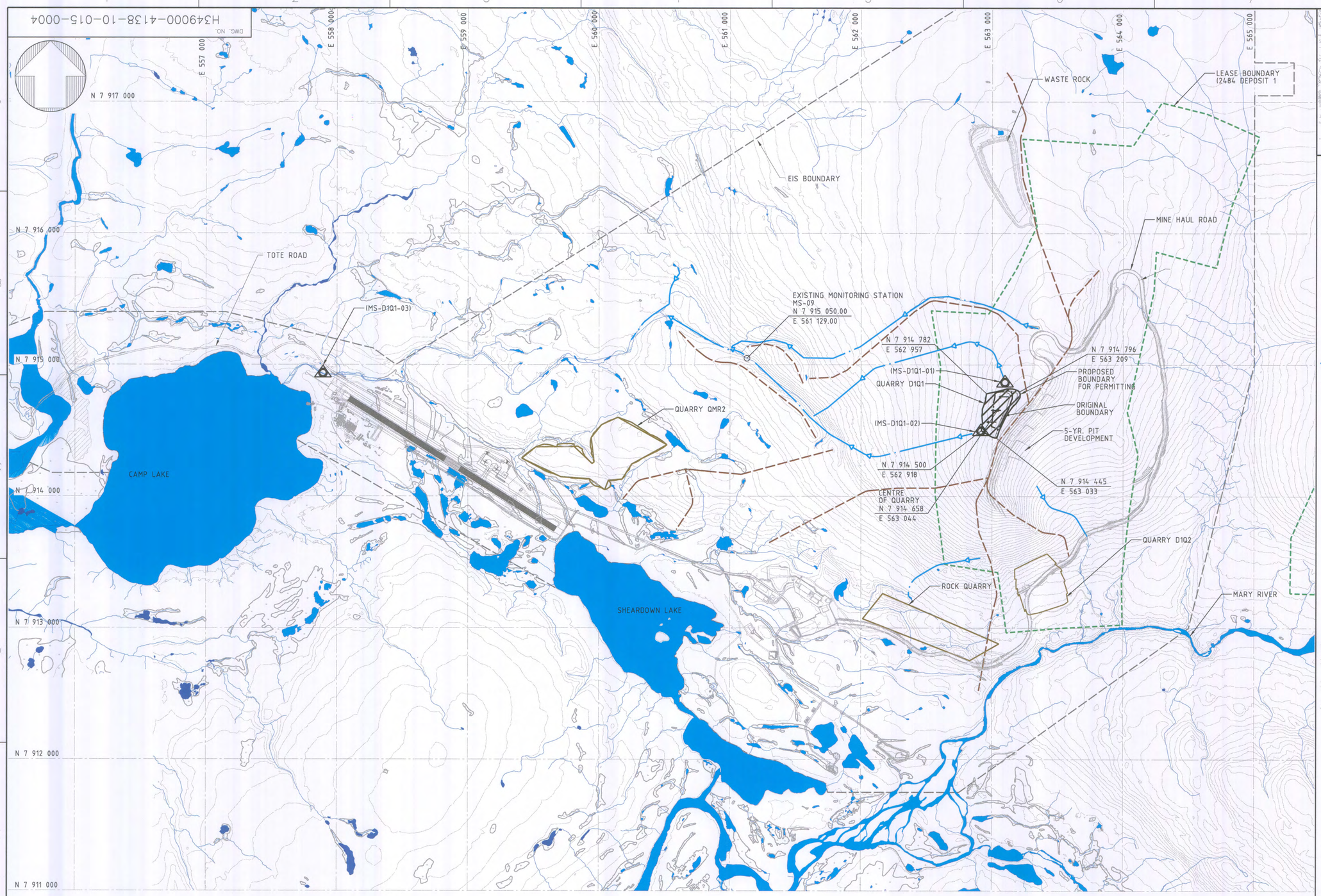
TOTE ROAD
QUARRY Q19
DRAINAGE PLAN

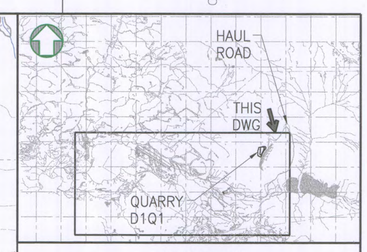
SCALE	DWG. NO.	REV.
1:1500 OR AS NOTED	H349000-3138-10-015-0004	0

ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

kith69254
17/10/2013 4:51:27 PM
c:\prj\projectwise\kith69254\dms747931\H349000-3138-10-015-0004.dgn

DWG. NO. H349000-4138-10-015-0004





KEY PLAN

LEGEND:

- EXISTING WATERBODY
- PROPOSED FOOTPRINT OF QUARRY AREA
- EIS BOUNDARY
- LEASE BOUNDARY (2484) DEPOSIT 1
- EXISTING BOUNDARIES FOR QUARRY AREAS AND ROCK QUARRY LOCATIONS
- EXISTING STREAM
- OVERLAND FLOW PATH
- EXISTING DRAINAGE TO BE DIVERTED/ABANDONED
- SURFACE DRAINAGE DIVERSION
- INTERNAL SURFACE DRAINAGE
- RIDGE LINE (HIGH POINT)
- PROPOSED CULVERT
- EXISTING CULVERT (LOCATION APPROXIMATE)
- PROPOSED WATER QUALITY MONITORING LOCATION (MS-D1Q1-01)

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 10 METRES.
4. AS-CONSTRUCTED INFORMATION PROVIDED BY GENIVAR IN 2008.

FOR PERMITTING

DRAWING NO.	DRAWING TITLE
H349000-4138-10-015-0003	MINE SITE-ROCK QUARRY/BORROW AREA NO.2- DRAINAGE PLAN
H349000-3000-10-012-0140	TOTE ROAD-STA. 167+150 TO 167+850-PLAN AND PROFILE
H349000-4000-00-014-0001	MINE SITE-OVERALL SITE LAYOUT -GENERAL ARRANGEMENT
H349000-4221-10-014-0001	MINE HAUL ROAD - OVERALL LAYOUT

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 17 Oct. 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT ANY DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF, OR RELIANCE ON, THIS DRAWING BY ANY PARTY OTHER THAN CLIENT, AND ANY MODIFICATION OR REISSUE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
17Oct.13
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	FOR PERMITTING	SH IK	2013-10-17

ISSUE AUTHORIZATION

HATCH

DESIGNED BY G JUBINVILLE DATE 2013-10-10
DRAWN BY G JUBINVILLE DATE 2013-10-10
CHECKED BY K. FALLAHI DATE 2013-10-17
DISCIP. ENGR. S. HASSAN DATE 2013-10-17
PROJ. DES. COORD. T. THERTELL DATE 2013-10-17
PROJ. ENGR. J. CLELAND DATE 2013-10-17
PROJ. MGR. S. PERRY DATE 2013-10-17

Baffinland

MARY RIVER PROJECT

MINE SITE
QUARRY D1Q1
DRAINAGE PLAN

SCALE 1:15000 OR AS NOTED
DWG. NO. H349000-4138-10-015-0004
REV. 0
ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

kity69254
10/17/2013 1:42:40 PM
c:\pr\projectwise\kity69254\dms7493\H349000-4138-10-015-0004.dgn

DWG. NO. H349000-4138-10-015-0005

N 7 915 000

E 562 000

E 563 000

E 564 000

E 565 000

N 7 914 000

N 7 913 000

QUARRY D1Q1

5-YR. PIT DEVELOPMENT

LEASE BOUNDARY (2484 DEPOSIT 1)

HAUL ROAD

N 7 913 565
E 563 421

N 7 913 447
E 563 174

CENTRE OF QUARRY
N 7 913 326
E 563 374

QUARRY D1Q2

N 7 913 202
E 563 580

N 7 913 102
E 563 284

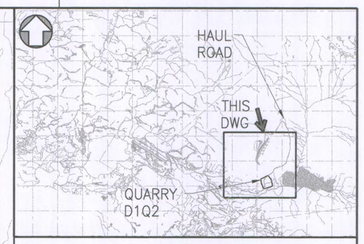
ROCK QUARRY

MS-D1Q2-02

MS-D1Q1-01

MARY RIVER

0 50 100 150 200 250
SCALE IN METRES



KEY PLAN

LEGEND:

- EXISTING WATERBODY
- PROPOSED FOOTPRINT OF QUARRY AREA
- EIS BOUNDARY
- LEASE BOUNDARY (2484) DEPOSIT 1
- EXISTING BOUNDARIES FOR QUARRY AREAS AND ROCK QUARRY LOCATIONS
- EXISTING STREAM
- OVERLAND FLOW PATH
- EXISTING DRAINAGE TO BE DIVERTED/ABANDONED
- SURFACE DRAINAGE DIVERSION
- INTERNAL SURFACE DRAINAGE
- RIDGE LINE (HIGH POINT)
- PROPOSED CULVERT
- EXISTING CULVERT (LOCATION APPROXIMATE)
- PROPOSED WATER QUALITY MONITORING LOCATION (MS-D1Q2-01)

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 10 METRES.
4. AS-CONSTRUCTED INFORMATION PROVIDED BY GENIVAR IN 2008.

FOR PERMITTING

DRAWING NO.	DRAWING TITLE
H349000-4138-10-015-0003	MINE SITE – ROCK QUARRY/BORROW AREA NO.2–DRAINAGE PLAN
H349000-4000-10-014-0001	MINE SITE OVERALL LAYOUT – GENERAL ARRANGEMENT
H349000-4221-10-014-0001	MINE HAUL ROAD – OVERALL LAYOUT

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 17 Oct. 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH ASSUMES NO RESPONSIBILITY OR LIABILITY ARISING FROM MODIFICATIONS TO THIS DRAWING OR ASSUMES NO RESPONSIBILITY ARISING FROM MODIFICATIONS TO THIS DRAWING BY ANY THIRD PARTY OR ANY MISUSE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS PROTECTED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
17/Oct/13
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	FOR PERMITTING	SH IK	2013-10-17

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY G JUBINVILLE DATE 2013-10-10
DRAWN BY G JUBINVILLE DATE 2013-10-10
CHECKED BY K. FALLAHI DATE 2013-10-17
DISCIP. ENGR. S. HASSAN DATE 2013-10-17
PROJ. DES. COORD. T. THERRIEN DATE 2013-10-17
PROJ. ENGR. J. CLELAND DATE 2013-10-17
PROJ. MGR. S. PERRY DATE 2013-10-17

Baffinland

MARY RIVER PROJECT

MINE SITE
QUARRY D1Q2
DRAINAGE PLAN

SCALE 1:5000 OR AS NOTED
DWG. NO. H349000-4138-10-015-0005
REV. 0
ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

klty69254
17/10/2013 2:53:49 PM
c:\pr\projectwise\klty69254\dms74793\H349000-4138-10-015-0005.dgn

DWG. NO. H349000-2130-10-035-0003

MATCHLINE SEE DRAWING H349000-2139-10-012-0002

N 7 975 999.63
E 503 561.22
FG 12.46

N 7 975 999.48
E 503 561.22
FG 12.46

N 7 976 012.36
E 503 561.64
FG 12.20

N 7 976 063.67
E 503 558.14
TOP EL. 12.78
4m WIDE
UTILITY BERM

N 7 976 064.53
E 503 561.51
FG 13.50

UTILITY BERM/
RAMP CROSSING
(SEE NOTE-7)
0+000

N 7 976 101.71
E 503 561.44
FG 13.60

N 7 976 141.27
E 503 557.95
BERM TOP EL. 12.78

N 7 976 149.73
E 503 558.73
TOP EL. 12.78
4m WIDE UTILITY BERM

N 7 976 160.17
E 503 559.18
BERM TOP EL. 12.78

N 7 976 203.48
E 503 559.02
BERM TOP EL. 12.78

N 7 976 270.10
E 503 559.02
BERM TOP EL. 11.84

N 7 976 222.20
E 503 559.02
BERM TOP EL. 12.78

N 7 976 284.76
E 503 559.21
EL. 10.77

N 7 976 302.26
E 503 526.84
BERM TOP EL. 11.84

N 7 976 302.48
E 503 556.55
EL. 10.79

N 7 976 302.36
E 503 559.21
EL. 9.01

N 7 976 304.36
E 503 559.88
EL. 9.01

B
2130-10-035-0004

F
2130-10-035-0004

WEST ACCESS RAMP

SOUTH ACCESS RAMP
(SEE NOTE-9)

N 7 976 101.71
E 503 574.70
FG 13.50

N 7 976 089.66
E 503 575.02
FG 13.50

N 7 976 095.74
E 503 596.33
FG 12.23

N 7 976 089.72
E 503 595.77
FG EL. 12.26

EXTEND FILL TO MATCH
FACE OF SOUTH BERM
SLOPE FILL

EXTEND FILL TO MATCH
FACE OF WEST BERM
SLOPE FILL

N 7 976 286.59
E 503 562.05
EL. 10.59

DITCH 2.83m
BOTTOM
WIDTH

N 7 976 302.36
E 503 562.05
EL. 9.01

N 7 976 302.50
E 503 564.29
EL. 10.51

N 7 976 304.36
E 503 561.38
EL. 9.01

N 7 975 996.00
E 503 588.22
FG 12.33

N 7 976 039.52
E 503 561.70
FG 12.20

N 7 976 064.53
E 503 574.70
FG 13.50

N 7 976 066.18
E 503 575.78
BERM TOP EL. 12.78

VARIES
MIN. 0.5%

5.0%

N 7 975 968.58
E 503 571.06
FG 12.36

N 7 975 968.58
E 503 588.15
FG 12.28

N 7 975 997.68
E 503 599.06
FG EL. 12.27

N 7 976 003.59
E 503 595.33
FG EL. 12.35

N 7 976 008.08
E 503 604.97
FG 12.43

N 7 976 039.52
E 503 574.70
FG 12.20

N 7 976 061.62
E 503 604.66
FG 12.43

TREATED
EFFLUENT POND

C
2130-10-035-0004

5.0m WIDE
UTILITY BERM
(TOP EL 12.78)
(SEE NOTE-6)

N 7 976 070.66
E 503 574.70
FG EL. 13.50

N 7 976 070.66
E 503 595.07
FG EL. 12.50

0+050

FUEL TANK FARM
(DWG
H349000-2613-10-035-0002)
(SEE NOTE-8)

UTILITIES BRIDGE
(GROUND SURFACE EL. 12.01

0+100

N 7 976 095.87
E 503 665.54
FG 12.00

N 7 976 066.18
E 503 663.63
BERM TOP EL. 12.78

N 7 976 066.22
E 503 666.18
FG 12.28

N 7 976 094.83
E 503 696.85
FG 11.77

N 7 976 081.41
E 503 665.62
FG 12.00

N 7 976 101.46
E 503 709.37
FG 11.55

N 7 976 117.04
E 503 709.54
FG 11.40

N 7 976 081.41
E 503 708.06
FG 11.66

D
2130-10-035-0004

EAST ACCESS RAMP

N 7 976 117.77
E 503 723.23
FG 11.20

N 7 976 144.87
E 503 727.89
FG 10.80

N 7 976 144.81
E 503 745.59
FG 10.80

N 7 976 081.41
E 503 745.59
FG 11.36

SKEW ANGLE
SEE DRAWING
H349000-2130-10-035-0004

N 7 976 276.54
E 503 722.23
FG 10.00

N 7 976 284.08
E 503 722.60
BC 10.01

N 7 976 295.62
E 503 731.65
IEL 8.11

N.7 976 298.06
E 503 740.52
EC 10.10

N 7 976 297.04
E 503 745.59
FG 10.25

N 7 976 305.20
E 503 745.59
FG 10.23

NORTH ACCESS
RAMP

N 7 976 313.57
E 503 730.29
IEL 7.57

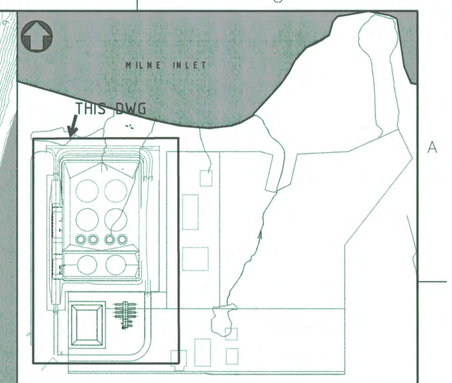
CULVERT MP CV1
(SEE DRAWING
H349000-2130-10-035-0004)

N 7 976 313.23
E 503 705.66
FG EL. 10.01

E 503 600

E 503 700

0 7.5 15 22.5 30 37.5
SCALE IN METRES



KEY PLAN

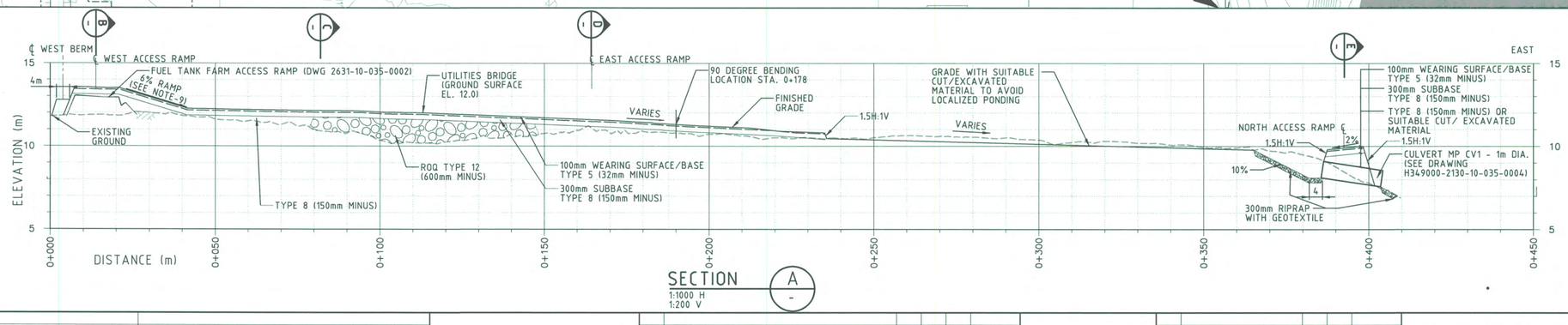
LEGEND:

- 11 — EXISTING GROUND CONTOUR
- EXISTING STREAM
- FILL SLOPE
- CUT SLOPE
- TOE OF SLOPE
- % — GRADING SLOPE
- CENTERLINE OF SWALE/DITCH
- FG — FINISHED GRADE ELEVATION
- IEL — INVERT ELEVATION
- BC — BEGINING OF CURVE
- EC — END OF CURVE
- 20 — CROSS SECTION DISTANCE
- 0+100 — PROFILE DISTANCE
- PROPOSED CULVERT
- FLOW DIRECTION
- EXISTING CULVERT

FOR CONSTRUCTION

NOTES

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND COORDINATES ARE IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVALS ARE 0.5 METRES.
4. FOR OVERALL GRADING REFER TO DRAWING H349000-2130-10-035-0001.
5. ALL DIMENSIONS AND ELEVATIONS SHOWN ARE IN METRES UNLESS NOTED OTHERWISE.
6. FOR UTILITY BERM GENERAL DETAILS, SEE DRAWING H349000-2000-00-014-0005 "MILNE PORT - UTILITY SERVICES - SITE LAYOUT".
7. FOR UTILITY BERM CIVIL WORKS AND CROSSING DETAILS, SEE DRAWINGS H349000-1000-10-041-0006/0007.
8. THIS DRAWING SHALL BE USED FOR THE FUEL TANK FARM INTERFACE SITE CIVIL WORKS. FOR CONSTRUCTION DETAILS INSIDE TANK FARM BOUNDARIES, REFER TO TANK FARM DRAWINGS.
9. SOUTH ACCESS RAMP TO BE MERGED WITH THE EXISTING ACCESS RAMP AND ADJUSTED AT SITE, CONSIDERING MAX 6% SLOPE.



SECTION A
1:1000 H
1:200 V

DRAWING NO.	DRAWING TITLE
H349000-2735-10-035-0001	OFF-SPEC EFFLUENT POND (PWSP) - PLAN
H349000-2134-10-035-0001	ACCOMODATION CAMP - EARTHWORKS & DRAINAGE - PLAN
H349000-2130-10-035-0002	LAYDOWN AREA, CAMP & SERVICE BUILDINGS - EARTHWORKS & DRAINAGE SECTIONS
H349000-2130-10-035-0001	LAYDOWN AREA, CAMP & SERVICE BUILDINGS - EARTHWORKS & DRAINAGE PLAN

REFERENCE DRAWINGS

PERMIT TO PRACTICE
HATCH LTD.
Signature
Date 19 AUG 13
PERMIT NUMBER: P 512
The Association of Professional Engineers, Geologists and Geophysicists of NWT/NU

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF BAFFINLAND IRON CORPORATION ("CLIENT") AND IS ISSUED PURSUANT TO THE AGREEMENT BETWEEN CLIENT AND HATCH LTD. ("HATCH"). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR EXPRESSLY STATED ON THIS DRAWING, HATCH MAKES NO REPRESENTATIONS OR WARRANTIES AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY DAMAGES OR LOSSES INCURRED BY ANY THIRD PARTY AS A RESULT THEREOF (INCLUDING, WITHOUT LIMITATION, CONSEQUENTIAL DAMAGES). (A) THIS DRAWING OR ANY INFORMATION, DATA, CONCEPTS OR DISCLOSURES EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.

NO.	DESCRIPTION	BY	CHK'D	APP'D	DATE

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
M. M. S. HASSAN
LICENSEE
NT/NU

REV.	ISSUE FOR	AUTH. BY	DATE
0	CONSTRUCTION	SH JY	2013-08-19

ISSUE AUTHORIZATION

HATCH™

DESIGNED BY K. FALLAHI DATE 2013-07-26
DRAWN BY A. VALENCIA DATE 2013-07-26
CHECKED BY A. SAHELI DATE 2013-08-19
DISCIP. ENGR. S. HASSAN DATE 2013-08-19
PROJ. DES. COORD. T. THERTELL DATE 2013-08-19
PROJ. ENGR. J. CLELAND DATE 2013-08-19
PROJ. MGR. S. PERRY DATE 2013-08-19

Baffinland

MARY RIVER PROJECT

MILNE PORT
FUEL TANK FARM INTERFACE
EARTHWORKS & DRAINAGE—PLAN & SECTION

SCALE 1:750 OR AS NOTED
DWG. NO. H349000-2130-10-035-0003
REV. 0
ORIGINAL SHEET SIZE: ISO A1 (841 x 594)

e:\pr\projectwise\ye7196\dms7479\H349000-2130-10-035-0003.dgn
yel 19 AUG 2013 2:19:37 PM

Fuel Balance

		3	3	3	4	4	4	5	5	5	6	6	6	7	7	7	8	8	8
		2013												2014					
	Total	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June
Motive Fuel Balance																			
Opening balance	2,077,000				2,077,000	2,077,000	1,597,928	1,118,857	5,581,618	4,863,744	14,116,669	12,863,819	11,610,969	10,358,119	9,099,102	7,840,086	6,581,069	5,276,219	3,971,369
Deliveries	29,230,083				-	-	-	5,000,000	-	10,000,000	-	-	-	-	-	-	-	-	-
Motive consumption - Before Oct.	(2,785,831)				-	(479,072)	(479,072)	(479,072)	(659,708)	(688,908)	-	-	-	-	-	-	-	-	-
Motive consumption - After Oct.	(18,280,650)				-	-	-	(58,167)	(58,167)	(58,167)	(1,252,850)	(1,252,850)	(1,252,850)	(1,259,017)	(1,259,017)	(1,259,017)	(1,304,850)	(1,304,850)	(1,304,850)
Motive consumption - Dock construction	(546,703)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Closing balance	9,693,898				2,077,000	1,597,928	1,118,857	5,581,618	4,863,744	14,116,669	12,863,819	11,610,969	10,358,119	9,099,102	7,840,086	6,581,069	5,276,219	3,971,369	2,666,519
Thermal Fuel Balance																			
Opening balance	200,000				200,000	200,000	130,000	74,000	5,025,000	4,976,000	18,472,880	16,715,180	14,957,480	13,199,780	11,442,080	9,684,380	7,926,680	6,168,980	4,411,280
Deliveries	42,000,000				-	-	-	5,000,000	-	14,000,000	-	-	-	-	-	-	-	-	-
Thermal consumption - Power and heat before Oct.	(727,120)				-	(70,000)	(56,000)	(49,000)	(49,000)	(503,120)	-	-	-	-	-	-	-	-	-
Thermal consumption - Power and heat after Oct.	(25,987,500)				-	-	-	-	-	-	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)
Thermal consumption - Explosives	(534,825)				-	-	-	-	-	-	(25,200)	(25,200)	(25,200)	(25,200)	(25,200)	(25,200)	(25,200)	(25,200)	(25,200)
Closing balance	14,950,555				200,000	130,000	74,000	5,025,000	4,976,000	18,472,880	16,715,180	14,957,480	13,199,780	11,442,080	9,684,380	7,926,680	6,168,980	4,411,280	2,653,580
Jet A Fuel Balance																			
Opening balance	150,000				150,000	100,000	50,000	-	1,350,000	1,300,000	1,250,000	1,200,000	1,150,000	1,100,000	1,050,000	1,000,000	950,000	900,000	850,000
Deliveries	2,150,000				-	-	-	1,400,000	-	-	-	-	-	-	-	-	-	-	-
Jet A fuel consumption	(1,050,000)				(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)
Closing balance	1,250,000				100,000	50,000	-	1,350,000	1,300,000	1,250,000	1,200,000	1,150,000	1,100,000	1,050,000	1,000,000	950,000	900,000	850,000	800,000
Total fuel closing balance, litres					2,377,000	1,777,928	1,192,857	11,956,618	11,139,744	33,839,549	30,778,999	27,718,449	24,657,899	21,591,182	18,524,466	15,457,749	12,345,199	9,232,649	6,120,099

	7	7	7	8	8	8
	2014					
	July	August	September	October	November	December
Motive Fuel Balance						
Opening balance	1,359,169	3,281,902	1,837,876	11,789,883	10,741,891	
Deliveries	3,230,083	-	11,000,000	-	-	
Motive consumption - Before Oct.	-	-	-	-	-	
Motive consumption - After Oct.	(1,307,350)	(1,307,350)	(1,307,350)	(911,317)	(911,317)	(911,317)
Motive consumption - Dock construction	-	-	(136,676)	(136,676)	(136,676)	(136,676)
Closing balance	1,359,169	3,281,902	1,837,876	11,789,883	10,741,891	9,693,898
Thermal Fuel Balance						
Opening balance	895,880	3,138,180	1,380,480	18,572,380	16,764,280	
Deliveries	4,000,000	-	19,000,000	-	-	
Thermal consumption - Power and heat before Oct.	-	-	-	-	-	
Thermal consumption - Power and heat after Oct.	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)	(1,732,500)
Thermal consumption - Explosives	(25,200)	(25,200)	(25,200)	(75,600)	(75,600)	(81,225)
Closing balance	3,138,180	1,380,480	18,572,380	16,764,280	14,950,555	
Jet A Fuel Balance						
Opening balance	800,000	750,000	700,000	650,000	1,350,000	1,300,000
Deliveries	-	-	-	750,000	-	-
Jet A fuel consumption	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)
Closing balance	750,000	700,000	650,000	1,350,000	1,300,000	1,250,000
Total fuel closing balance, litres	3,005,049	7,120,082	3,868,356	31,712,263	28,806,171	25,894,453

Baffinland HATCH

Site Retrograde Shipping Receipt

Shipper: Hatch Ltd		Consignee: NEAS

Barcode	QTY.	Description	Weight (kg)	6260
BH-0273	1	Sea Container (20') # 260369 10 Quatrex Bags - Kitchen Grease (5000kg total) HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	13608
BH-0268	1	Sea Container (20') # 361457 21 Bulk (Bladders and Hose) HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	13356
BH-0298	1	Sea Container (20') # 340709 21 Bulk (Bladders) HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	13426
BH-0267	1	Sea Container (20') # 283350 21 Bulk (Bladders) HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55

Onward Shipping Information

Destination:	Contact Person:
Valleyfield, Quebec	Benoit Dion
Trucking Information	Phone Number:
Port Valleyfield (NEAS Terminal) 950 Boul. Gerard Cadieux J6T 6L4	1 (514) 718 1230
	Email:
	bdion@sanexen.com
Shipper: _____	Checker: G. Pickinson
Sign: _____	Sign: _____

THIS RECEIPT IS NON-NEGOTIABLE

Baffinland HATCH

Site Retrograde Shipping Receipt

Shipper: Hatch Ltd		Consignee: NEAS

Barcode	QTY.	Description	Weight (kg)	9888
BH-0270	1	Sea Container (20') # 274878 10 Bulk (Bladders and Hose) HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	4808
BH-0269	1	Sea Container (20')# 222197 100 Bulk (Hose) HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	5897
BH-0233	1	Sea Container (20')# 232487 200 Crushed drums (8000kg total) HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	6260
BH-0232	1	Sea Container (20')# 367565 200 Crushed drums (8000kg total) HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55

Onward Shipping Information

Destination:	Contact Person:
ValleyfieLd, Quebec	Benoit Dion
Trucking Information	Phone Number:
Port Valleyfield (NEAS Terminal) 950 Boul. Gerard Cadieux J6T 6L4	1 (514) 718 1230
	Email:
	bdion@sanexen.com
Shipper: _____	Checker: _____
Sign: _____	Sign: _____

THIS RECEIPT IS NON-NEGOTIABLE

Baffinland HATCH

Site Retrograde Shipping Receipt

Shipper: Hatch Ltd		Consignee: NEAS

Barcode	QTY.	Description	Weight (kg)	4536
BH-0272	1	Sea Container (20') # 047433 7 Quatrex Bags - Contaminated Oily Solids (3500kg total) 1 Waste Oil Cube (1000 kg)	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	6895
BH-0271	1	Sea Container (20') # 286827 200 Crushed drums HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	7530
BH-0274	1	Sea Container (20') # 218017 200 Crushed drums HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	L	6.1
			W	2.44
			H	2.59
			m^3	38.55
Barcode	QTY.	Description	Weight (kg)	10400 total
BH-0206 - BH-0231	26	Pallets of Crushed Drums NOT REGULATED BY TDGA	L	1.3
			W	1.3
			H	1.06
			m^3	1.79

Onward Shipping Information

Destination:	Contact Person:
ValleyfieLd, Quebec	Benoit Dion
Trucking Information	Phone Number:
Port Valleyfield (NEAS Terminal) 950 Boul. Gerard Cadieux J6T 6L4	1 (514) 718 1230
	Email:
	bdion@sanexen.com
Shipper: _____ Sign: _____	Checker: _____ Sign: _____

THIS RECEIPT IS NON-NEGOTIABLE

Baffinland

HATCH™

Site Retrograde Shipping Receipt

Shipper: Hatch Ltd		Consignee: NEAS

Barcode	QTY.	Description	Weight (kg)	1090 total
BH-0205	1	Crate of Compressed Gas Cylinders 23 Oxygen Cylinders, UN 1072, CLASS 2.2 (5.1) 1 Nitrogen Cylinder, UN 1066, CLASS 2.2	L	0.95
			W	1.98
			H	1.65
			m^3	3.10
Barcode	QTY.	Description	Weight (kg)	33000 total
BH-0234 - BH-0266	33	Waste Oil Cubes NOT REGULATED BY TDGA	L	1.02
			W	1.02
			H	1.3
			m^3	1.35252
Barcode	QTY.	Description	Weight (kg)	41050 total
BH-0107 - BH-0176; BH-0292 - BH-0297	76	Quatrex Bags Several different types of hazardous waste	L	1.3
			W	1.3
			H	1.2
			m^3	2.03
Barcode	QTY.	Description	Weight (kg)	23050 total
BH-0183 - BH-0204	22	Pallets of Barrels Several different types of hazardous waste	L	1.35
			W	1.35
			H	1.18
			m^3	2.15

Onward Shipping Information

Destination:	Contact Person:
ValleyfieLd, Quebec	Benoit Dion
Trucking Information	Phone Number:
	1 (514) 718 1230
ort Valleyfield (NEAS Terminal)950 Boul. Gerard Cadieux J6T 6L	Email:
	bdion@sanexen.com
Shipper:	Checker:
Sign:	Sign:

THIS RECEIPT IS NON-NEGOTIABLE

IMDG DECLARATION

Shipper/consignor # NVG 000023 BAFFINLAND IRON MINES MARY-RIVER PROJECT FROM : MILNE INLET, Nunavut	Reference number(s) Movement document # JP 46337-4 Page 1 of 1 Pages
Consignee PORT OF VALLEYFIELD 950 Boul. Gérard Cadieux Valleyfield, Qc, Can, J6T 6L4	Carrier Nunavut Eastern Arctic Shipping (NEAS)
CONTAINER/VEHICLE PACKING CERTIFICATE **DECLARATION** It is declared that the packing of the goods into the container/vehicle has been carried out in accordance with the applicable provisions. **TO BE COMPLETED FOR SHIPMENTS IN CONTAINERS OR VEHICLES** Container/Vehicle #:	Name/status, company/organization of signatory BIM via Qikiqtaaluk Env. Place and date Mtl, September 2013 Signature on behalf of packer
Vessel No. and Date Port of loading Milne Inlet, Nunavut Port of discharge Valleyfield, Qc	(Reserved for text, instructions or other matter)

No. & Kind of Packages	DESCRIPTION OF GOODS (UN Number, PSN, Hazard Class, Packing Group, Flash Point, Marine Pollutant)	QUANTITY Gross mass (kg)	Net mass (kg)	Cube (m^3)
	See attached Annex			

Additional Information / Seal Number(s):

Emergency Telephone No. / 24-Hour Number: Canutech 1 (613) 996 6666 24/7

SHIPPER'S DECLARATION

I hereby declare that the contents of this consignment are fully and accurately described above by the Proper Shipping Name, and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations.

Name/status of declarant
BENOIT DION, P.M. for QE

Place and date
Mtl September 2013

Signature on behalf of shipper

ANNEX IMO DANGEROUS GOOD DECLARATION

Reference number(s) :
movement document : JP46337-4

No. & Kind of Packages	DESCRIPTION OF GOODS (UN Number, PSN, Hazard Class, Packing Group, Flash Point, Marine Pollutant)	QUANTITY		
		Gross mass (kg)	Net mass (kg)	Cube (m^3)
SINGLE AND/OR ON PALETT				
33 TOTE TANK	WASTE OIL, NOT REGULATED BY TDGA	33,000		33.0
1 OVERSIZE METAL DRUM	WASTE OIL, NOT REGULATED BY TDGA	400		0.4
1 QUATREX	FIRE EXTINGUISHER (UNCHARGED), NOT REGULATED BY TDGA	400		1.0
3 QUATREX	WASTE, BATTERIES, WET, FILLED WITH ACID, UN 2794, CLASS 8, P. G. III	1,500		3.0
1 DRUM	WASTE, BATTERIES, WET, FILLED WITH ACID, UN 2794, CLASS 8, P. G. III	350		0.2
1 QUATREX	COATED WIRE, NOT REGULATED BY TDGA	350		1.0
2 QUATREX	ELECTRICAL WASTE, NOT REGULATED BY TDGA	500		2.0
18 QUATREX	CONTAMINATED OILY SOLID, NOT REGULATED BY TDGA	2,700		18.0
4 OVERSIZE METAL DRUM	CONTAMINATED OILY SOLID, NOT REGULATED BY TDGA	600		1.4
15 QUATREX	OWS FILTER / NANOFILTERS, NOT REGULATED BY TDGA	15,000		15.0
19 QUATREX	OWS WASTE ACTIVATED CARBON, NOT REGULATED BY TDGA	17,000		19.0
12 DRUM	OWS WASTE ACTIVATED CARBON, NOT REGULATED BY TDGA	3,000		2.5
10 DRUM	OWS WASTE USED CLAY, NOT REGULATED BY TDGA	2,500		2.1
1 DRUM	OWS WASTE WATER, NOT REGULATED BY TDGA	250		0.3
1 QUATREX	WASTE, FLAMMABLE LIQUID, N.O.S. (FUEL MIX), UN 1993, CLASS 3, P. G. II, Flash Point 45°C closed cup	250		1.0
10 OVERSIZE METAL DRUM	WASTE, FLAMMABLE LIQUID, N.O.S. (FUEL MIX), UN 1993, CLASS 3, P. G. II, Flash Point 45°C closed cup	3,600		3.6
13 DRUM	WASTE, FLAMMABLE LIQUID, N.O.S. (FUEL MIX), UN 1993, CLASS 3, P. G. II, Flash Point 45°C closed cup	3,250		2.7
5 OVERSIZE METAL DRUM	AEROSOLS, FLAMMABLE, N.O.S., UN 1950, CLASS 2.1	1,250		1.8
1 DRUM	AEROSOLS, FLAMMABLE, N.O.S., UN 1950, CLASS 2.1	200		0.2
5 OVERSIZE METAL DRUM	WASTE GLYCOL, NOT REGULATED BY TDGA	1,500		1.8
1 DRUM	WASTE GLYCOL, NOT REGULATED BY TDGA	250		0.2
7 OVERSIZE METAL DRUM	OIL FILTER, NOT REGULATED BY TDGA	2,800		2.5
3 OVERSIZE METAL DRUM	HUMAN WASTE, NOT REGULATED BY TDGA	1,500		1.1
3 DRUM	HUMAN WASTE, NOT REGULATED BY TDGA	1,050		0.6
6 QUATREX	KITCHEN GREASE, NOT REGULATED BY TDGA	3,000		6.0
4 DRUM	KITCHEN GREASE, NOT REGULATED BY TDGA	1,000		0.8
23 CYLINDER	OXYGEN, COMPRESSED, UN 1072, CLASS 2.2 (5.1)	1,045		10.4
1 CYLINDER	NITROGEN, COMPRESSED, UN 1066, CLASS 2.2	45		0.5
26 PALETT	CRUSHED DRUMS (NOT TDG REGULATED)	10,400		11.7
CONTAINER # 260369				
10 QUATREX	KITCHEN GREASE, NOT REGULATED BY TDGA	5,000		10.0

Name /status of signatory : Benoit Dion QE for B.I.M.
Place and date : Montreal _____ 2013
Signature on behalf of shipper : _____

No. & Kind of Packages	DESCRIPTION OF GOODS (UN Number, PSN, Hazard Class, Packing Group, Flash Point, Marine Pollutant)	QUANTITY		
		Gross mass (kg)	Net mass (kg)	Cube (m^3)
CONTAINER # 047433				
1 TOTE TANK	WASTE OIL, NOT REGULATED BY TDGA	1,000		1.0
1 QUATREX	WASTE INSULATION, NOT REGULATED BY TDGA	250		1.0
4 QUATREX	CONTAMINATED OILY SOLID, NOT REGULATED BY TDGA	600		4.0
1 QUATREX	OWS FILTER / NANOFILTERS, NOT REGULATED BY TDGA	1,000		1.0
1 QUATREX	OWS WASTE ACTIVATED CARBON, NOT REGULATED BY TDGA	1,000		1.0
CONTAINER # 232487				
200 BULK	CRUSHED DRUMS, NOT REGULATED BY TDGA	4,000		13.5
CONTAINER # 367565				
200 BULK	CRUSHED DRUMS, NOT REGULATED BY TDGA	4,000		13.5
CONTAINER # 286827				
200 BULK	CRUSHED DRUMS, NOT REGULATED BY TDGA	4,000		13.5
CONTAINER # 218017				
200 BULK	CRUSHED DRUMS, NOT TDG REGULATED BY TDGA	4,000		13.5
CONTAINER # 283350				
21 BULK (BLADDERS)	HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	11,500		13.5
CONTAINER # 274878				
10 BULK (BLADDERS & HOSE)	HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	11,500		13.5
CONTAINER # 361457				
21 BULK (BLADDERS & HOSE)	HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	11,500		13.5
CONTAINER # 222197				
100 BULK (HOSE)	HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	11,500		13.5
CONTAINER # 340709				
21 BULK (BLADDERS)	HYDROCARBON CONTAMINATED SOLID, NOT REGULATED BY TDGA	11,500		13.5
Emergency Telephone No. / 24 -hour Number : **Canutec 1-613-996-6666**				

Name /status of signatory : Benoit Dion QE for B.I.M.
Place and date : Montreal _____ 2013
Signature on behalf of shipper : _____

MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

This Movement document/manifest conforms to all federal and provincial transport and environmental legislation.
Ce document de mouvement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement et le transport.

JP46337-4

Movement Document / Manifest Reference No.
N° de référence du document de mouvement/manifeste

A Generator / consignor / Producteur / expéditeur — Registration No. / Provincial ID No. / N° d'immatriculation - d'id. provincial 1: NUG: 100023

Company name / Nom de l'entreprise: BAFFINLAND IRON MINES

Mailing address / Adresse postale: 2275 Upper Midde — City / Ville: Oakville — Province: ON — Postal code / Code postal: L6H 0C3

E-mail / Courrier électronique: NICOLAS.KUZYK@baffinland.com — Tel. No. / N° de tél.: ( )

Shipping site address / Adresse du lieu de l'expédition: Port of Milne Inlet

City / Ville: Milne Inlet — Province: Nunavut — Postal code / Code postal: N/A

Intended Receiver / consignee / Réceptionnaire / destinataire prévu 2: Port Valleyfield (NEAS TERMINAL) — Registration No. / Provincial ID No. / N° d'immatriculation - d'id. provincial

Mailing address / Adresse postale: 950 Gérard Cadieux — City / Ville: Valleyfield — Province: Qc — Postal code / Code postal: J6T 6L4

E-mail / Courrier électronique: lnadeau@nanuk.ca — Tel. No. / N° de tél.: 450 373 6718

Receiving site address / Adresse du lieu de l'expédition: 950 Gérard-Cadieux, Valleyfield

City / Ville: Valleyfield — Province: Qc — Postal code / Code postal: J6T 6L4

B Carrier / Transporteur — Registration No. / Provincial ID No. / N° d'immatriculation - d'id. provincial 23: V2R

Company name / Nom de l'entreprise: NUNAVUT EASTERN ARCTIC SHIPPING (NEAS)

Mailing address / Adresse postale: 2100 Pierre Dupuy — City / Ville: M41 — Province: Qc — Postal code / Code postal: H3C 3R5

E-mail / Courrier électronique: lnadeau@nanuk.ca — Tel. No. / N° de tél.: ( )

Vehicle / Véhicule	Registration No. / N° d'immatriculation	Prov. 24
Trailer - Rail car No. 1 / 1e remorque - wagon		
Trailer - Rail car No. 2 / 2e remorque - wagon		

Port of entry / Point d'entrée: International use only — Port of exit / Point de sortie: International use only 25

Carrier Certification: *I certify that I have received waste or recyclable material from the generator / consignor for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct.* 26
***Attestation du transporteur:** J'atteste avoir reçu les déchets ou matières recyclables du producteur / expéditeur en vue de leur livraison au réceptionnaire / destinataire, tels qu'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.*

Name of authorized person (print) / Nom de l'agent autorisé (caractères d'imprimerie): — Tel. No. / N° de tél.: ( )

Year / Année | Month / Mois | Day / Jour | Signature:

Reference Nos. of other movement document(s)/manifest(s) used / N° de référence des autres documents de mouvement/manifestes utilisés 27

C Receiver / consignee / Réceptionnaire / destinataire — Registration No. / Provincial ID No. / N° d'immatriculation - d'id. provincial 28

Receiver / consignee information same as in Part A / Les renseignements du réceptionnaire / destinataire est la même qu'à la Partie A
☐ Yes / Oui ☐ No, complete the box below / Non, remplir la case ci-dessous

Company name / Nom de l'entreprise

Mailing address / Adresse postale

City / Ville — Province — Postal code / Code postal

E-mail / Courrier électronique — Tel. No. / N° de tél.: ( )

Receiving site address / Adresse du lieu de destination

Date received / Date de réception: Year / Année | Month / Mois | Day / Jour — Time / Heure 29: ☐ A.M. ☐ P.M.

If waste or recyclable material to be transferred, specify intended company name / Si les déchets ou matières recyclables doivent être transférés, préciser le nom du destinataire 30 — Registration No./Provincial ID No. / N° d'immatriculation/d'id provincial

	Prov. code / Code prov. 3	Shipping name / Appellation réglementaire 4	Class / Classe Sub. class(es) / Classe(s) sub. 5	UN No. / N° NU 6	Packing / risk gr. / Gr. d'emballage/ de risque 7	Quantity shipped / Quantité expédiée	Units / L or / ou Kg / Unités 8	Packaging/Contenant No. / N° 9	Codes Int.– ext.	Phys. state / État phys. 10
(i)		See attached annex								
(ii)										
(iii)										
(iv)										

	Quantity received / Quantité reçue	Units / L or / ou Kg / Unités 31	Comments / Commentaires 32	Handling Code / Code de manutention 33	Shipment / Envoi Accepted / Accepté 34	Shipment / Envoi Refused / Refusé 34	Decont. Pack. Cont. 35	Decont. Veh. Véh. 35
(i)								
(ii)								
(iii)								
(iv)								

If handling code "Other" (specify) / Si code de manutention « autre » (spécifier) 36

	Notice No. / N° de notification 11	Notice Line No. / N° de ligne de la notification	Shipment / Envoi 12	Of / De	D or R code / Code D ou R 13	C code / Code C 14	Basel Annex VIII or OECD Code / Annexe VIII de Bâle ou Code OCDE 15	H code / Code H 16	Y code / Code Y 17	National code in country of / Code du pays: Export / Exportation 18	Import / Importation	Customs code(s) / Code(s) de douanes 19
(i)												
(ii)												
(iii)	International use only											
(iv)												

***Receiver / consignee certification:** I certify that the information contained in Part C is correct and complete. / **Attestation du réceptionnaire / destinataire:** J'atteste que tous les renseignements à la partie C sont exacts et complets.*

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie) 37

Signature — Tel. No. / N° de tél.: ( )

Special handling / Manutention spéciale 22: ☐ Attached / Ci-joint ☐ As follows / Ci-contre :

***Generator / consignor certification:** I certify that the information contained in Part A is correct and complete. / **Attestation du producteur / expéditeur:** J'atteste que tous les renseignements à la partie A sont exacts et complets.*

Name of authorized person (print) / Nom de l'agent autorisé (caractère d'imprimerie): BENOIT DION (FOR BIM) — Signature — Tel. No. / N° de tél. 20: 1 514 718 1230

21 Date shipped / Date d'expédition: Year / Année | Month / Mois | Day / Jour — Time / Heure: ☐ A.M. ☐ P.M

Scheduled arrival date / Date d'arrivée prévue: Year / Année | Month / Mois | Day / Jour

MOE 04-1917 (07/07)

Instructions for completion and distribution on reverse / Instructions pour compléter et distribuer au verso

Copy / Copie 1 (white / blanche)

Line	Prov. Code	Shipping Name	Class	UN	P.G	Quant. Shipped (kg)	Packaging				Phys. State
							Mary-River	Milne Inlet	Total	Type	
	A01	WASTE OIL	N/R	-	-	34,000	14	20	34	07	L
	A01	WASTE OIL	N/R	-	-	400	1		1	01	L
	M07	FIRE EXTINGUISHERS (uncharged)	2.2	1044	-	400	1		1	05	G
	E15	BATTERIES, WET, FILLED WITH ACID	8	2794	III	1,500	2	1	3	05	S
	E15	BATTERIES, WET, FILLED WITH ACID	8	2794	III	350		1	1	01	S
	O02	COATED WIRE	N/R	-	-	350	1		1	05	S
	O02	ELECTRICAL WASTE	N/R	-	-	500	1	1	2	05	S
	L02	CONTAMINATED OILY SOLID	N/R	-	-	3,600	15	9	24	05	S
	L02	CONTAMINATED OILY SOLID	N/R	-	-	600	2	2	4	01	S
	B05	OWS FILTER / NANOFILTER	N/R	-	-	16,000	6	10	16	05	S
	B05	OWS WASTE ACTIVATED CARBON	N/R	-	-	26,000	16	10	26	05	S
	B05	OWS WASTE ACTIVATED CARBON	N/R	-	-	3,000		12	12	01	S
	B05	OWS WASTE USED CLAY	N/R	-	-	2,500		10	10	01	S
	L03	OWS WASTE WATER	N/R	-	-	250		1	1	05	L
	O02	WASTE INSULATION	N/R	-	-	250	1		1	05	S
	B04	WASTE FLAMMABLE LIQUID	3	1993	III	250	1		1	05	L
	B04	WASTE FLAMMABLE LIQUID	3	1993	III	3,600	9	1	10	01 (OS)	L
	B04	WASTE FLAMMABLE LIQUID	3	1993	III	3,250	5	8	13	01 (DR)	L
	L02	AEROSOLS, FLAMMABLE, N.O.S.	2.1	1950	-	1,250	3	2	5	01 (OS)	G
	L02	AEROSOLS, FLAMMABLE, N.O.S.	2.1	1950	-	200	1		1	01 (DR)	G
	D01	WASTE GLYCOL	N/R	-	-	1,500	5		5	01 (OS)	L
	D01	WASTE GLYCOL	N/R	-	-	250		1	1	01 (DR)	L
	A05	OIL FILTER	N/R	-	-	2,800	3	4	7	01	S
	O02	HUMAN WASTE	N/R	-	-	1,500	1	2	3	01 (OS)	L/S
	O02	HUMAN WASTE	N/R	-	-	1,050	3		3	01 (DR)	L/S
	A04	KITCHEN GREASE	N/R	-	-	8,000	10	6	16	05	S
	A04	KITCHEN GREASE	N/R	-	-	500		2	2	01	S
	M07	OXYGEN, COMPRESSED	2.2 (5.1)	1072	-	1,045	18	5	23	07	G
	M07	NITROGEN, COMPRESSED	2.2	1066	-	45	1		1	06	G
	L02	HYDROCARBON CONTAMINATED SOLID (MARINE CONT.)	N/R	-	-	57,500	0	5	5	07	S
	O02	CRUSHED DRUMS (MARINE CONTAINER)	N/R	-	-	8,000	0	4	4	07	S
	O02	CRUSHED DRUMS (PALETT)	N/R	-	-	10,400	0	26	26	07	S

Note : PACKAGING TYPE : 01 drum; 02 tank; 03 bulk; 04 carton; 05 bag; 06 roll-off or lugger; 07 other

Prepared by : Benoit Dion, BIM (via QE)

Date : Montreal, _____



Calcium Chloride Salt Bag Inventory at Mary River Camp

Completed on: July 12/2012

	20kg Bags	22.7kg Bags	25kg Bags	
Number of 48 Bag Pallets	1,248	0	336	
Number of 56 Bag Pallets	8,904	728	0	
Number of Loose Bags	3,544	103	708	
Total Number of Bags	13,696	831	1,044	
Total Salt kg	273,920	18,864	26,100	318,884
				319

Milne Inlet Inventory

	Pallet Count	Count of 20kg Bags		
Number of 40 Bag Pallets	1,411	56,440		
Number of 56 Bag Pallets				
Number of Loose Bags				
Total Number of Bags		56,440		
Total Salt kg		1,128,800		1,128,800
				1,129

Total Project Inventory	**1,447,684**

kg
tn

kg
tn

kg

Month	Ore Mined (wmt)	Waste Mined (wmt)	Total Mined (wmt)	Drill pattern	BCM/hole	wmt/hole (ore)	wmt/hole (waste)	# Holes	Factor (10%)	Total Holes	Boosters	Ez Dets	kg emulsion/hole	kg emulsion	% AN	kg AN	kg pkg Emulsion
January	0	250,000	250,000	2.5 x 2.9	36	163	102	2,463	246	2,709	2,709	2,709	30.6	82,895.0			82,895
February	0	250,000	250,000	3.3 x 3.8	63	282	176	1,424	142	1,566	1,566	1,566	37.8	59,195.0	77%	45,535	
March	0	250,000	250,000	3.3 x 3.8	63	282	176	1,424	142	1,566	1,566	1,566	37.8	59,195.0	77%	47,356	
April	0	250,000	250,000	3.3 x 3.8	63	282	176	1,424	142	1,566	1,566	1,566	37.8	59,195.0	77%	47,356	
May	0	250,000	250,000	3.3 x 3.8	63	282	176	1,424	142	1,566	1,566	1,566	37.8	59,195.0	77%	47,356	
June	0	250,000	250,000	3.3 x 3.8	63	282	176	1,424	142	1,566	1,566	1,566	37.8	59,195.0	77%	47,356	
July	0	250,000	250,000	3.3 x 3.8	63	282	176	1,424	142	1,566	1,566	1,566	37.8	59,195.0	77%	47,356	
August	0	250,000	250,000	3.3 x 3.8	63	282	176	1,424	142	1,566	1,566	1,566	37.8	59,195.0	77%	47,356	
September	0	250,000	250,000	3.3 x 3.8	63	282	176	1,424	142	1,566	1,566	1,566	37.8	59,195.0	77%	47,356	
October	252,000	120,000	372,000	3.3 x 3.8	63	282	176	1,577	158	1,735	1,735	1,735	37.8	65,583.0	77%	47,356	
November	243,000	125,000	368,000	3.3 x 3.8	63	282	176	1,573	157	1,730	1,730	1,730	37.8	65,394.0	77%	47,356	
December	252,000	125,000	377,000	3.3 x 3.8	63	282	176	1,605	161	1,766	1,766	1,766	37.8	66,755.0	77%	47,356	
Total	747,000	2,620,000	3,367,000					18,610	1,858	20,468	20,468	20,468				519,095	82,895

Product	Units	Quantity
Boosters	#	20,468
Ez Dets	#	20,468
Package Emulsion	kg	82,895
AN	kg	519,095

* Current schedule projects the emulsion plant to be completed by January 31. It is assumed that from February 1 through to the end of the year bulk emulsion will be used. Prior to February 1, 2014 packaged emulsion will be used.

RECLAIM Unit Cost Table
for additional construciton cost data check the associations below, or use the Estimator Worksheet

ITEM	Detail	COST CODE	UNITS	LOW $	HIGH $	SPECIFIED $	
excavate Rock, Bulk							COMMENTS
	drill, blast, load short haul (<500m) Dump	RB1	m3	10.10	15.12	#N/A	quarry operations for bulk fill
	RB1 + long haul, up to 1500 m	RB2	m3	10.69	15.77	#N/A	
	RB1 + spread and compact	RB3	m3	10.69	15.77	#N/A	
	RB1 + long haul + spread and compact	RB4	m3	11.29	27.27	#N/A	
	RB1 + Specified activity	RBS	m3	#N/A	#N/A	#N/A	
excavate Rock, Controlled							
	drill, blast, load short haul (<500m) Dump	RC1	m3	25.00	35.64	#N/A	low - foundation excavation, high - spillway excavation
	RC1 + long haul, up to 1500 m	RC2	m3	11.29	16.31	#N/A	
	RC1 + spread and compact	RC3	m3	10.69	15.77	#N/A	
	RC1 + long haul + spread and compact	RC4	m3	11.99	16.99	#N/A	
	RC1 + Specified activity	RCS	m3	#N/A	#N/A	156.60	$145/M3-drift excavation
excavate Soil, Bulk							$145/M3-drift excavation
	clear & grub	SBC	m2	3.00			
	excavate, load short haul (<500m) dump	SBC	m3	3.46	5.24	#N/A	LOW cost: excavation of loose soil, high volume
	SB1 + long haul, up to 1500 m	SB2	m3	4.30	6.45	#N/A	LOW cost: excavation of loose soil, 1.5 km haul, high volume
	SB1 + spread and compact	SB3	m3	4.00	5.73	#N/A	
	SB1 + long haul + spread and compact	SB4	m3	4.86	9.67	#N/A	LOW cost: excavation of loose soil, 1.5 km haul, high volume, const. of simple soil cover
	SB1 + Specified activity	SBS	m3	2.49	6.89	11.83	LOW cost: rehandle waste rock dump into pit, >500,000 m3, 2 km haul
	other			0.00	0.00	0.00	SPECIFIED cost: rehandle waste rock, haul 3 km, place & compact on dam
	Soil, tailings	SBT	m3	1.20	3.27	14.00	LOW cost: doze frost heaves HIGH cost: contour - wet or frozen, Specialized -haul/place wet infill
excavate Soil, Controlled							
	excavate, load short haul (<500 m), dump	SC1	m3	6.06	8.26	#N/A	
	SC1 + long haul, up to 1500 m	SC2	m3	7.51	10.41	#N/A	
	SC1 + spread and compact	SC3	m3	6.06	12.59	#N/A	HIGH cost: for simple soil covers
	SC1 + long haul + spread and compact	SC4	m3	6.80	20.57	#N/A	HIGH cost: for complex covers & dam construction, spillway repair, LOW volume
	SC1 + Specified activity	SCS	m3	#N/A	22.00	17.01	SPECIFIED cost: backfill adit with waste rock, High - sand bedding layer for liners
Geo-synthetics							
	geotextile, filter cloth	GST	M2	1.07	3.00	#N/A	high - FOB Yellowknife
	geogrid	GSG	M2	5.11	0.00	#N/A	
	liner, HDPE	GSHDPE	M2	6.36	0.00	#N/A	
	liner, ES3	GSES3	m2	17.90			low, FOB Yellowknife
	liner, PVC	GSPVC	M2	0.00	0.00	#N/A	

RECLAIM Unit Cost Table
for additional construciton cost data check the associations below, or use the Estimator Worksheet

geosynthetic installation	GSI	m2	0.90	12.50	#N/A	low, geotextile, high - ES3 or HDPE
bentonite soil ammendment	GSBA	tonne	273.24	308.88	#N/A	FOB Edmonton, add shipping & mixing
Shaft, Raise & Portal Closures						
Shaft & Raises	SR	m2	572	1,890	#N/A	LOW cost: pre-cast concrete slabs, little site prep. HIGH cost: for hand construction,
Portals	POR	m3	0	221	1,080.00	HIGH cost: for excavate & backfill collapsed portal
Concrete work						
Small pour, no forms	CS	m3	321	643	#N/A	
Large pour, no forms	CL	m3	254	378	#N/A	
Small pour, Formed	CSF	m3	378	1,890	#N/A	
Large pour, Formed	CLF	m3	313	443	#N/A	
Vegetation						
Hydroseed, Flat	VHF	ha	1,723	5,346	#N/A	
Hydroseed, Sloped	VHS	ha	1,996	5,999	#N/A	
veg. Blanket/erosion mat	VB	ha	11,880	14,256	10,000.00	
Tree planting	VT	ha	11,880	14,256	#N/A	
Wetland species	VW	ha	59,400	89,100	#N/A	
Pumps						
Small, <	PS	each	3,240	6,480	#N/A	
Large, >	PL	each	5,400	108,000	#N/A	large - 250 hp Gould w/diesel motor
PiPes						
Small, < 6 inch diameter	PPS	m	0.54	5.40	#N/A	LOW cost: pipe removal, HIGH cost: supply new pipe
Large, > 6 inch diameter	PPL	m	1.08	194.40	#N/A	LOW cost: pipe removal, HIGH cost: supply 24" 100 psi HDPE pipe, FOB add shipping & installation
pump sand BackFill	BF	m3	5.94	17.82	#N/A	
Fence	F	m	12.00	17.82	#N/A	
Signs	S	each	11.88	35.64	#N/A	
rock, Drill and Blast only	DB	m3	11.88	23.76	#N/A	
excavate Rip Rap						
drill, blast, load short haul (<500 m) dump and spread	RR1	m3	11.83	17.66	#N/A	
RR1 + long haul	RR2	m3	11.99	18.31	#N/A	HIGH cost: quarry & place rip rap in channel
excavate rock from waste dump, short haul, spread	RR3	m3	4.54	6.24	#N/A	LOW cost: removal of 18 in minus from dump, long haul and spread
RR3 + long haul	RR4	m3	5.05	6.75	#N/A	
specified rip rap source	RR5	m3	#N/A	#N/A	#N/A	
Import LimeStone	ILS	tonne	9.50	14.26	#N/A	

RECLAIM Unit Cost Table
for additional construciton cost data check the associations below, or use the Estimator Worksheet

Import LiMe	ILM	tonne	180.00	535.00	#N/A	LOW cost: bulk shipping, high volume, FOB Vancouver/Edmonton HIGH cost: bags delivered to central Yukon, small volume
Grouting	G	m3	213.84	259.20	#N/A	HIGH cost: cement, FOB Yellowknife
Dozing						
doze Rock piles	DR	m3	0.92	2.11	#N/A	LOW cost: doze crest off dump
doze overburden/Soil piles	DS	m3	0.84	3.36	#N/A	HIGH cost: push up to 300 m
		each	0.00	0.00	#N/A	
		each	0.00	0.00	#N/A	
Buildings - Decontaminate						
Chemicals	BDC	m3	#N/A	#N/A	#N/A	
Asbestos	BDA	m2	22.68	45.36	#N/A	LOW cost: removal of asbestos siding & flooring HIGH cost: removal of
			0.00	0.00	0.00	
Buildings - Remove						
areas are per floor on 3 m average height			0.00	0.00	0.00	LOW cost: removal and on-site disposal - small wooden structures
Mine building or camp	BR	m2			100.00	includes removal of material to landfill or off site if uncontaminated
Contaminated bld	BRCd	m2			200.00	includes disposal in contaminated waste dump
Wood - teardown	BRW1	m2	23.22	35.64	#N/A	
Wood - burn	BRW2	m2	5.94	11.88	#N/A	
Masonry	BRM	m2	25.54	35.64	#N/A	
Concrete	BRC	m2	35.64	53.46	26.73	Specified= piling foundation price is half the price of concrete foundation
Steel - teardown	BRS1	m2	38.02	57.02	259.20	SPECIFIED cost: demolition shear $/hour operating
Steel - salvage	BRS2	m2	59.40	89.10	#N/A	
Power & Pipe Lines						
Power lines, remove	POWR	each	22.57	4,989.60	20,000.00	Specified: power line: price/km
			0.00	0.00	#N/A	
Laboratory Chemicals						
Remove from site	LCR	pallet	1,890.00	2,505.60	#N/A	
Dispose on site	LCD	each	#N/A	#N/A	#N/A	
PCB - Remove from site	PCBR	litre	35.64	41.58	#N/A	LOW cost: shipping, handling & disposal from Yellowknife
			0.00	0.00	0.00	
Fuel						
Remove from site	FR	kg	0.00	1.10	#N/A	
Burn on site	FB	kg	#N/A	#N/A	#N/A	
Oil						
Remove from site	OR	litre	0.38	1.10	#N/A	

RECLAIM Unit Cost Table
for additional construciton cost data check the associations below, or use the Estimator Worksheet

Burn on site	OB	litre	0.38	0.59	#N/A	
Process Chemicals						
Remove from site	PCR	kg	0.38	2.21	#N/A	
Dispose on site	PCD	kg	#N/A	#N/A	#N/A	
Explosives						
Remove from site	ER	kg	0.00	2.38	#N/A	
Dispose on site	ED	kg	#N/A	#N/A	#N/A	
Contaminated Soils						
Remediate on site	CSR	m3	41.58	129.60	#N/A	LOW cost: bio-remediate on-site. HIGH cost: ship off-site to landfil as haz. waste
consolidate & cover	Use cost code items 1 - 4		0.00	0.00	0.00	
cover in place	Use cost code items 1 - 4		0.00	0.00	0.00	
Test, remove & replace contaminated soil	rems	m2			100.00	
Mobilize Heavy Equipment						
Road access	MHER	$/km	3.03	9.09	2.21	SPECIFIED cost: $/tonne/km in cargo plane
Air access	MHEA	each	#N/A	#N/A	1,485.00	SPECIFIED cost: helicopter cost, $/hr of operation
Mobilize Camp						
<20 persons Road access	MC<R	each	#N/A	#N/A	#N/A	
<20 persons Air access	MC<A	each	#N/A	#N/A	#N/A	
Mobilize Workers						
mobilize	MM<	person	208.44	1,069.20	1,664.00	Specified; round trip Ottawa to Iqaluit
>20 persons	MM>	person	1,069.20	1,425.60	#N/A	
ACCoModation	ACCM	month	1,426	2,138	#N/A	LOW cost, accom in existing camp, per man, HIGH cost: - supply new camp
Mobilize Misc. Supplies	MMS	each	#N/A	#N/A	#N/A	LOW cost: winter road - limited use, LOW snowfall
Winter Road	WR	km	1,426	2,830	1,853.00	Speicalized winter road to 40,000 kg capactiy
Visual site Inspection	VI	each	3,802	7,668	6,400.00	From 2011 AR Plan
Survey site Inspection	SI	each	#N/A	#N/A	16,666.67	and site inspection report, spread from year 2 to 6, from 2011 AR Plan
Water Sampling	WS	each	5,940	9,720	200.00	From 2011 AR Plan - for surface, UG & DS
site inspection RePorT	RPT	each	#N/A	11,880	#N/A	and site inspection report, spread from year 2 to 6, from 2011 AR Plan
Security Guard	SG	pers/mon	5,940	8,316	#N/A	
Maintain Pumping	MP	month	3,564	#N/A	#N/A	
Clear SpillWay	CSW	each	2,020	5,702	#N/A	
Build Treatment Plant						
Small (< 1000 m3/d)	BTPS	lump sum	1,080,000	2,160,000	#N/A	
Large (> 1000 m3/d)	BTPL	lump sum	2,160,000	3,780,000	#N/A	

RECLAIM Unit Cost Table
for additional construciton cost data check the associations below, or use the Estimator Worksheet

Operate Treatment Plant	OTP	m3	0.31	1.78	#N/A	
SCariFY road and	SCFY	km	3,807	5,346	10,000.00	
install water breaks			0.00	0.00	0.00	
contour & restore natural drainage	rest				5,000.00	
Water Treatment Chemicals						
ferric sulphate	ferric	kg	0.72	0.00	0.00	
ferrous sulphate	ferrous	kg	0.48	0.00	0.00	
lime	lime	kg	0.32	0.00	0.00	
hydrogen peroxide, 50%	hperox	kg	1.54	0.00	0.00	
Sodium Metabisulfate	Nametab	kg	1.07	0.00	0.00	
Caustic soda, 50%	caustic	kg	0.67	0.00	0.00	
Sulfuric acid, 93%	sulfuric	kg	0.28	0.00	0.00	
flocculant	flocc	kg	5.82	0.00	0.00	
copper sulphate	copper	kg	0.00	0.00	0.00	
typical shipping, to Whitehorse or Yellowknife		kg	0.08	0.00	0.00	
			0.00	0.00	0.00	
Typical Labour & Equipment Rates						
Site manager/Supervisor	Sman	$/hr	75.60	86.40	155.13	
Mine superintendent (cont)	super	$/hr	56.00	64.80	186.88	
Environmental coordinator	env-co	$/hr			100.00	
Certified Diesel Mechanic	mech	$/hr			79,73	
Equipment operator	oper	$/hr	48.60	59.40	124.50	
labour - skilled	lab-s	$/hr	37.80	41.04	54.88	specified - water treatment plant operator
Warehouse man	war	$/hr			64.46	
Engineering& Science support	eng	$/hr			100.00	
Admin.	admin	$/hr	45.36	52.92	65.33	
Cook	cook		0.00	0.00	77.63	
Cat 266 loader	loader	$/hr			115.00	low - 988 loader, high - 992 loader
Cat 980H loader	loadh	$/hr			165.00	low - fuel not included
Cat 930G loader	loadg	$/hr			68.00	
Cat D8T Dozer	dozert	$/hr			176.00	
Cat D7 Dozer	dozer	$/hr			149.00	fuel & oper. Incl.
Cat 14H Grader	grader	$/hr			110	fuel & oper. Incl.
Cat 345 Excavator	scoop	$/hr			217	
flat bed truck with hiab	hiab	$/hr	131			fuel & oper NOT included
Kenwoth Truck (W/O pup)	kenw	$/hr			111	
Kenwoth Truck (C/O pup)	kenc	$/hr			138	
Bobcat	bob	$/hr			66	
Blended Rd work Equipmt Rate	blend	$/hr			138	
Kenwoth with fuel tancker	kenf	$/hr			129	
helicopter	hel	$/hr			1590	

Project Specific Unit Rates															
	Labour				Equipment				Fuel				Total cost/unit	Functional Unit	
Reclamation Activities	Units	# Units	Unit Rate	Cost	Units	# Units	Unit Rate	Cost	Units	# Units	Unit Rate	Cost			Basis for 2014 Estimate
Grade and contour area to natural drainage	Person Day	12	$971	$11,647	Hours	72	$154	$11,066	Liter	2880	$1.25	$3,600	$26,313	$/Ha	Assume 12hrs/day/person at blended labour rate. Assume 12 person days to complete task. Assume 72 hrs of grader/dozer work at blended equipment rate. Assume 40 L/hr fuel consumption for equipment. Assume $1.25/L fuel cost. Estimate based on historical productivity.
Remove Culverts	Person Day	1	$971	$971	Hours	4	$154	$615	Liter	160	$1.25	$200	$1,785	$/culvert	Assume 12hrs/day/person at blended labour rate. Assume 1.0 person days to remove culvert. Assume 4 hrs of heavy equipment work at blended equipment rate to backfill/restore natural contours. Assume 40 L/hr fuel consumption for equipment. Assume $1.25/L fuel cost. Estimate based on historical productivity.
Remove Mooring Buoys	Person Day	4	$971	$3,882	Hours	24	$154	$3,689	Liter	960	$1.25	$1,200	$8,771	$/mooring buoy	Assume 12hrs/day/person at blended labour rate. Assume 4.0 person days to of labour to remove main lines and floats to complete task. Assume 24 hrs of equipment work at blended equipment rate. Assume 40 L/hr fuel consumption for equipment. Assume $1.25/L fuel cost. Estimate based on historical productivity.
Decontaminate and dispose of 'typical' mechanical equipment	Person Day	0.25	$971	$243	Hours	2	$154	$307	Liter	80	$1.25	$100	$650	$/pcs	Assume 12hrs/day/person at blended labour rate. Assume 2 hours for a person to prepare 'typical' equipment for final disposal (remove hazardous materials/fluids, prepare for safe disposal). Assume 1 hour to move equipment locally to final disposal location and apply cover. Assume 2 hours of equipment work at blended equipment rate to prepare 'typical' equipment for final disposal, positions appropriately and apply cover. Assume 40 L/hr fuel consumption for equipment. Assume $1.25/L fuel cost. Estimate based on historical productivity.

SCHEDULE 2
REVISED JANUARY, 2013 NUNA LABOUR – HOURLY CHARGE-OUT RATES EFFECTIVE JANUARY 1. 2013
BAFFINLAND IRON MINES CORPORATION, MARY RIVER PROJECT

Supervision & Administration	**Hourly Rate**
Senior Project Manager	$137.24
Project Manager	$118.84
Assistant Project Manager	$109.01
Senior Superintendent	$134.38
Superintendent	$109.44
Engineer	$90.65
Foreman	$90.89
Safety Superintendent	$98.58
Safety Supervisor	$87.87
Training Superintendent	$90.65
Trainer	$81.84
Maintenance Planner	$80.93
Mechanical Foreman	$87.42
Technician	$73.13
Nurse/EMT	$67.84
Administrator	$70.94
Warehouse	$68.39

Earthworks	**Hourly Rate**
Shovel or Senior Operator	$75.40
Excavator Operator	$69.00
Crane Operator	$85.33
Loader Operator (988+)	$72.99
Loader Operator (<988)	$69.00
Dozer Operator (<D8)	$69.00
Grader Operator	$69.00
Finish Operator (Grader, Dozer, Excavator)	$71.89
Operator (multi-purpose)	$71.10
Rock Trucks (<789)	$63.17
Trucks - All Others	$63.17
Plant Operator (crushing, asphalt)	$73.32
Crusher Labour (bobcat, hammer)	$60.69
Labour (skilled) (packer, bobcat, training in shop)	$60.69
Labour (entry level)	$53.81

SCHEDULE 2
REVISED JANUARY, 2013 NUNA LABOUR – HOURLY CHARGE-OUT RATES EFFECTIVE JANUARY 1. 2013
BAFFINLAND IRON MINES CORPORATION, MARY RIVER PROJECT

Maintenance	**Hourly Rate**
Mechanic	$ N/C
Millwright	$84.59
Crusher Mechanic	$79.24
Welder	$ N/C
Carpenter	$75.47
Electrician	$83.99
Serviceman (fuel & lube)	$71.60
Camp Serviceman	$64.03
Tireman	$69.71

Note: N/C - No Charge - Included in Equipment Rate.

Owner/Third Party	
Mechanic	$103.37
Welder	$97.50

SCHEDULE 2
REVISED JANUARY, 2013 NUNA LABOUR – HOURLY CHARGE-OUT RATES EFFECTIVE JANUARY 1. 2013
BAFFINLAND IRON MINES CORPORATION, MARY RIVER PROJECT

Haul Trucks	**Hourly Rate**
Kenworth Gravel Truck (c/w pup)	$145.89
Freightliner Gravel truck (c/w pup)	$145.89
Kenworth Gravel Truck (w/o pup)	$117.62
Freightliner Gravel truck (w/o pup)	$117.62
Kenworth with Fuel Tanker	$145.89
Cat 773D Truck	$192.27
Loaders	
Cat 980H	$175.30
Cat 966	$122.14
Cat 988	$236.37
Cat 930G	$72.39
Dozers	
Cat D8T	$186.61
Cat D6	$124.41
Cat D7	$158.34
Graders	
Cat 14H	$126.67
Cat 16H	$151.55
Excavators	
Cat 345	$230.71
Mobile Equipment	
Ford Mechanic Truck F550	$58.81
Fuel Tanker	$29.41
Kenworth Lube/ Fuel Truck	$106.31
Sterling Roll-off/Vacuum Truck	$110.83
Cat Packer	$87.09
Wobbly Wheel Packer	$87.09
Clemro Crusher	$865.20
Water Truck	$76.90
Kenworth Gravel Truck c/w Sanding Unit Insert	$145.89
Winch Truck and Scissor Deck	$145.89
Bobcat	$70.13
Single-Axle Fuel Truck	$70.13

SCHEDULE 2
REVISED JANUARY, 2013 NUNA LABOUR – HOURLY CHARGE-OUT RATES EFFECTIVE JANUARY 1. 2013
BAFFINLAND IRON MINES CORPORATION, MARY RIVER PROJECT

Support Equipment	**Monthly Rate**	
Shanco Baffinland Camp	$109,551.64	
Pick-up Truck	$3,511.67	
Freightliner Bus	$4,448.11	
Hot Box - Maxi Heater, 8kW	$3,745.78	
OHV 350 Frostfighter	$322.33	
Light Tower, 8 kW	$1,697.59	
Small Portable Lights (L100 and L101)	$292.93	Each
Lincoln Welder 300D	$585.84	
Grove 60 Ton Crane	$13,034.46	+ $182.26/hour
Ambulance Insert and Pick Up	$4,295.44	
Camp Genset	$19,899.46	
Job Shacks with Genset	$2,341.11	
Shop and Lube Rack	$1,940.75	Does not include portable lights, heater or lube racks
Shop at Mary River	$1,357.17	Does not include portable lights, heater or lube racks
Mobile Welding Trainer (W041)	$3,161.07	
Communication & Handhelds System	$28,274.31	