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**

Table of Contents

List of Tables

List of Figures

List of Appendices

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).

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).

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.

- 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.

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

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

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

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										

	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).

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).

- 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.

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

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

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.

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.

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.

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

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

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

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

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

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

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

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

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

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

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

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.

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**

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.

- 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,

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.

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.

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

- 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.

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

- 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

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:

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.

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.

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-

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

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:

- 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

(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:

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).

- 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

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.

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

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.

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

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.

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).

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.

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

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

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

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

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

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

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

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.

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

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).

- 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).

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.

Appendix F:
Additional Supporting Documentation

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