# APPENDIX E.9
# 2013 MARGINAL CLOSURE COST ESTIMATE

# Baffinland Iron Mines Corporation
# Mary River Project

# 2013 Work Plan Marginal Closure Cost Summary

| | | | | | | |
|---|---|---|---|---|---|---|
| 2013-04-04 | C | Client Review | A. Grzegorczyk | T. Mackay | S. Perry | N/A |
| 2013-03-22 | B | Client Review | A. Grzegorczyk | T. Mackay | S. Perry | N/A |
| 2013-02-26 | A | Internal/Client Review | A. Grzegorczyk | T. Mackay | S. Perry | N/A |
| **Date** | **Rev.** | **Status** | **Prepared By** | **Checked By** | **Approved By** | **Approved By** |

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Annotated 2013 Abandonment and Reclamation Plan for Advanced Exploration Activities - Appendix G-3 Cost Estimation Details for Closure (AMEC, 2013)

# 1. Purpose

The purpose of this document is to provide a summary of the closure and reclamation costs required to meet the reclamation objectives for the Mary River Project in 2013 and determine the reclamation deposit to be lodged with the regulators before the 2013 field work starts. The cost was developed taking into consideration current site conditions as well as a cost consideration for Baffinland Iron Mine Corporation's 2013 Work Plan (February, 2013).

# 2. Context

An abandonment and reclamation closure cost estimate has been developed and submitted to the NWB on March 31, 2013. This A&R estimate reflects closure cost estimate for the site as is (before any additional works occurs on the site in 2013). This document is entitled: "The 2013 Abandonment and Reclamation Plan for Advanced Exploration Activities (AMEC, 2013)". An annotated version of this cost estimate is attached in Appendix I.

On February 13, 2013, Baffinland submitted its 2013 Work Plan to NWB and to the Qikiqtani Inuit Association (QIA). In order to proceed with the execution of this work plan, the NWB has informed Baffinland that the Company must obtain a new Type B Water Licence. This application was submitted and the review is in progress.

The year 2013 is a thus regulatory transition year that will see the granting of a new Type B Water Licence (likely early May) to allow for the site preparation that will include the construction of limited infrastructure prior to the anticipated receipt of the Type A Water Licence (likely late June or early July).

In consideration of the additional infrastructure to be constructed at the site during 2013, a 2013 Marginal Cost estimate was developed to estimate the closure cost associated with this additional work that is not captured in the Abandonment and Reclamation (A&R) cost estimates for the project already developed by AMEC.

## 2.1 2013 Marginal Closure Cost Revisions

An initial marginal closure cost estimate was developed and presented to Aboriginal Affairs and Northern Development Canada (AANDC) and the Nunavut Water Board (NWB) on March 13, 2013 to represent the cost required to reclaim project components not already captured in the current Type B Water Licence. It was highlighted in this meeting that at the present time the estimate was very conservative and efficiencies may still be found knowing that the previous A&R Cost estimate has already been done and double counting was possible. Subsequent to that meeting, an in-depth analysis of the 2013 Abandonment and Reclamation Plan for Advanced Exploration Activities (AMEC, 2013) was conducted to determine specifically what was accounted for in that estimate to ensure no 'double counting' of reclamation costs with the 2013 Marginal Closure Cost estimate. Based on this analysis, efficiencies were found (mainly in mobilization costs) that allowed for a revised cost estimate to be developed while still meeting all reclamation objectives stated for the Project. A revised

A&R cost estimate was then developed, submitted and presented to the QIA on March 25, 2013 incorporating found efficiencies and eliminating double counting. Based on feedback from the QIA, adherence to QIA A&R policy as the landowner (see Appendix B for QIA A&R policy concordance), adherence to Mine Site Reclamation Policy for Nunavut (INAC, 2002), and further analysis and revision of the closure cost estimate, a final revision of the closure estimate is presented in this document. This estimate represents the current understanding of the project and stakeholder concerns.

Note that the estimate of closure costs will be an iterative process that will be reviewed and re-evaluated as annually to allow for project changes and updated costs. The next revision is expected in Q1 2014 before the start of 2014 field operations that will capture all project components expected on-site in 2014 as well as any redefined costs.

# 3. Approach

The closure cost estimate presented herein spans the applicability of the existing Type B Water Licence, proposed revised Type B Water Licence, as well as the incorporation of the anticipated Type A Water Licence.

The proposed closure security currently allocated under the Type B Water Licence, as described in the 2013 Abandonment and Reclamation Plan for Advanced Exploration Activities (AMEC, 2013), has been split to allow for security to be carried out of the Type B Water Licence and into the Type A Water Licence. Since all cost required to reclaim the site based on current site conditions are captured in the 2013 Abandonment and Reclamation Plan for Advanced Exploration Activities (AMEC, 2013) which is available on the NWB Public Registry (http://www.nunavutwaterboard.org/en/public_registry), only a marginal cost was developed taking into consideration additional activities or components in the 2013 Work Plan not already captured in the Abandonment and Reclamation Plan for Advanced Exploration Activities Plan (AMEC, 2013). Based on this approach, three (3) closure costs were developed. These are:

- Marginal Closure Cost Estimate for the proposed 2013 Work Plan for activities conducted in 2013 not accounted for in 2013 Abandonment and Reclamation Plan for Advanced Exploration Activities (AMEC, 2013)
- Revised Type B Closure Cost Estimate (after removal of items that carry over to the Type A Water Licence)
- Closure Cost Estimate associated with activities that carry over from the Type B Water Licence to the Type ‘A’ Water Licence

Only the 2013 Work Plan Marginal Closure Cost was developed using solely the RECLAIM methodology (development sponsored by AANDC), the Remaining Type ‘B’ Cost and Type ‘A’ Carry Over Cost were both calculated using a hybrid system of RECLAIM and AMEC Assessment Methodology

AMEC Assessment Methodology is based on project components and a cost estimate for each activity that is required to reclaim each project component to meet reclamation objectives. For each activity required for each project component, a cost is developed based on the number of person-days and equipment hours estimated to complete that activity. A contingency is then applied based on the confidence in the time based estimate (high contingency, lower confidence). The sum of the costs for completing each activity to reclaim that project component represents the reclamation cost for that component

RECLAIM methodology considers each project component as well and reclamation cost is based on a functional unit for that project component (e.g. m2 for building foot print, m3 for earthworks, etc.). Then based on experience/data available to the developers or the users a unit cost is assigned for reclaiming that functional unit. Unit cost is inclusive of fuel/labour/equipment. A global contingency is applied based on user experience (e.g. Hatch) and the level of confidence the user has in the accuracy the representative costs for reclamation of the project. In this case, a contingency of 10% for all activities was chosen by Hatch based on the type of activities being carried out to meet reclamation objectives.

A hybrid method was used in the 'Remaining Type B' Closure Cost estimate and the 'Carry Over to Type A' estimate by taking the total man-hour and equipment hour cost (in dollars) developed in the AMEC Assessment Methodology for each activity and/or component and then carrying that cost over into RECLAIM at identical values. For example, if the cost to reclaim a quarry was estimated as $20,000 in the AMEC Assessment Methodology, then it was assigned 20,000 units @ $1 in the RECLAIM model. The contingency values were not carried over from the AMEC Assessment Methodology, because RECLAIM methodology applies contingency at global estimate level.

In addition to the 10% global contingency applied to all closure estimates using the RECLAIM model, Hatch also included a 5% of capital costs allowance for Project Management. This was deemed to be sufficient to cover anticipated Project Management costs. Hatch also included a 1% of capital cost allowance for bonding, a 1% of capital costs allowance for insurance and a 5% of capital cost allowance for engineering in the 'Carry Over to Type A' estimate. Hatch is in the position that these total additional allowances area reasonable allocation of costs based on the level of required work.

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

### 3.1 Closure Scenario

The Marginal Closure Cost estimate is based on a scenario that assumes all planned activities for 2013 have taken place on site. See Appendix D for full list of assumptions of the closure scenario for the 2013 Marginal Closure Cost. The closure scenario is specifically critical in relation to fuel as fuel inventory fluctuates throughout 2013. As per QIA A&R Policy, it is assumed all fuel on site will not be available at time of reclamation (see Appendix B for QIA A&R Policy concordance). Therefore to be conservative, the 2013 Work Plan Marginal Closure Cost estimate considers the worst case scenario with fuel and includes a cost allocation for fuel removal after fuel tanks are full after the 2013 sealift, i.e., highest quantity of fuel on site after commencement of 2013 Work Plan.

## 4. Closure Cost Summary

Table 4-1 and Table 4-2 represent a summary of the closure cost estimate for the Mary River Project to meet the reclamation objectives outlined in section 5 and in the "2013 Abandonment and Reclamation Plan for Advanced Exploration Activities" (AMEC, 2013) document. The estimated closure and reclamation cost required project wide is calculated by breaking down project components and required reclamation activities by area and by assumed land and water liability.

**Table 4-1: Closure and Reclamation Cost Total Summary**

| 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 License in 2013 | TOTAL 2013 Closure Estimate for Mary River Project |
|---|---|---|---|---|---|
| Total | $1,247,000 | $23,651,000 | $12,343,000 | **$35,995,000** | **$37,241,000** |
| Land | $1,229,000 | $21,547,000 | $12,294,000 | $33,840,000 | $35,069,000 |
| Water | $18,000 | $2,105,000 | $50,000 | $2,154,000 | $2,172,000 |
| Land | 98.6% | 91.1% | 99.6% | 94.0% | 94.2% |
| Water | 1.4% | 8.9% | 0.4% | 6.0% | 5.8% |

**All figures rounded to the nearest 000's*

## Table 4-2: 2013 Closure Cost Estimate Detailed Summary

| Closure Component | A<br>Revised Type B Closure Cost Estimate | B<br>Carry-over to Type A Closure Cost Estimate from Type B Estimate | C<br>2013 Work Plan Marginal Closure Estimate | D<br>TOTAL Security for Type A Water License in 2013 (B + C) | E<br>TOTAL 2013 Closure Estimate for Mary River Project (A + D) |
|---|---|---|---|---|---|
| **Direct Costs** | | | | | |
| Project Area | | | | | |
| Milne Port | $0 | $6,452,520 | $2,621,753 | $9,074,273 | $9,074,273 |
| Tote Road | $0 | $1,938,492 | $63,737 | $2,002,229 | $2,002,229 |
| Mary River Mine Site | $0 | $3,237,514 | $1,334,514 | $4,572,028 | $4,572,028 |
| Remote Sites/Rail Camps | $238,960 | $0 | $0 | $0 | $238,960 |
| Steensby Camp | $699,141 | $0 | $0 | $0 | $699,141 |
| Mineral Exploration Areas | $68,915 | $0 | $0 | $0 | $68,915 |
| General Site Area | $0 | $2,686,739 | $0 | $2,686,739 | $2,686,739 |
| *Subtotal* | *$1,007,016* | *$14,315,265* | *$4,020,004* | *$18,335,269* | *$19,342,285* |
| Additional Reclamation Activities | | | | | |
| Chemicals, Fuel and Soil Management | $0 | $90,000 | $5,046,215 | $5,136,215 | $5,136,215 |
| Water management | $14,808 | $0 | $43,175 | $43,175 | $57,983 |
| Post-closure monitoring and maintenance | $0 | $1,654,952 | $457,971 | $2,112,923 | $2,112,923 |
| Mobilization | $0 | $4,057,700 | $1,340,873 | $5,398,573 | $5,398,573 |
| *Subtotal* | *$14,808* | *$5,802,652* | *$6,888,233* | *$12,690,885* | *$12,705,693* |
| ***Sub-Total of Direct Costs*** | ***$1,021,824*** | ***$20,117,917*** | ***$10,908,237*** | ***$31,026,154*** | ***$32,047,978*** |
| **Indirect Costs** | | | | | |
| Project management | $51,091 | $803,011 | $478,368 | $1,281,379 | $1,332,470 |
| Bonding | $10,218 | $160,602 | $0 | $160,602 | $170,820 |
| Insurance | $10,218 | $160,602 | $0 | $160,602 | $170,820 |
| Engineering | $51,091 | $803,011 | $0 | $803,011 | $854,102 |
| Contingency | $102,182 | $1,606,022 | $956,736 | $2,562,758 | $2,664,941 |
| ***Sub-total of Indirect Costs*** | ***$224,801*** | ***$3,533,248*** | ***$1,435,105*** | ***$4,968,352*** | ***$5,193,154*** |
| **TOTAL COSTS** | **$1,246,625** | **$23,651,165** | **$12,343,342** | **$35,994,507** | **$37,241,132** |
| **Liability Breakdown** | | | | | |
| Land | $1,228,560 | $21,546,546 | $12,293,691 | $33,840,237 | $35,068,797 |
| Water | $18,066 | $2,104,618 | $49,651 | $2,154,269 | $2,172,335 |
| Land | 98.6% | 91.1% | 99.6% | 94.0% | 94.2% |
| Water | 1.4% | 8.9% | 0.4% | 6.0% | 5.8% |

*All costs in Canadian Dollars (CAD).*

# 5. Closure and Reclamation Objectives

An Interim Mine Closure and Reclamation Plan will be prepared before mining commences to address mine closure. This interim plan will incorporate 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 will address temporary and long-term closure as well as final cessation of operations. Public health and safety will be considered throughout all stages of progressive rehabilitation, closure and post-closure.

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 four years, followed by a minimum of five 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 B
- 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 site drawings representing current and intended development at Milne Port and the Mine Site.
- Refer to Appendix B for the 2013 Marginal Closure Cost estimate concordance with QIA Abandonment and Reclamation (A&R) Policy.
- Refer to Appendix C for full screenshots of the 2013 Marginal Closure Cost Mining RECLAIM model and a please refer to respectively.
- Refer to Appendix D for the 2013 Marginal Closure Cost Mining RECLAIM model list of assumptions.
- Refer to Appendix E for full screenshots of the Remaining Type ‘B’ Closure Cost Mining RECLAIM model.
- Refer to Appendix F for the Remaining Type ‘B’ Closure Cost Mining RECLAIM model list of assumptions.
- Refer to Appendix G for full screenshots of the Type ‘A’ Carry Over Closure Cost Mining RECLAIM Model
- Refer to Appendix H for Type ‘A’ Carry Over Closure Cost Mining RECLAIM Model list of assumptions
- Refer to Appendix I for an annotated 2013 Abandonment and Reclamation Plan for Advanced Exploration Activities – Appendix G.3 Cost Estimation Details for Closure (AMEC, 2013) to use for cross referencing Remaining Type ‘B’ Closure Cost Mining and Type ‘A’ Carry Over Closure Cost

AG:s

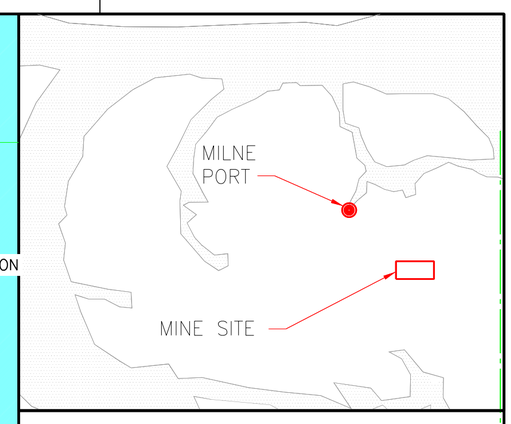
# Appendix A

## Mary River Project Drawings

| | | |
|---|---|---|
| **A.1** | **Milne Port – Site Layout** | **H349000-2000-00-015-0002** |
| **A.2** | **Mine Site – Site Layout** | **H349000-4000-00-015-0002** |
| **A.3** | **Mine Site – Enhanced Layout** | **H349000-4000-00-015-0003** |

H349000-2000-00-015-0002

MILNE INLET




KEYPLAN

EFFLUENT DISCHARGE LOCATION TO RECEIVING ENVIRONMENT
N:7976482.047
E:503211.450

SEALIFT BARGE LANDING AREA

DRAINAGE DIVERSION DITCH

FUEL TANK FARM

RAMP TO BEACH

LAYDOWN A1 EARTHWORKS CONTRACTOR YARD

10 ML P-50 DIESEL

5 ML P-50 DIESEL

EXISTING HTO CABIN

LAYDOWN B1

LAYDOWN A1 AREA

SERVICES AREA PAD B3
SITE FACILITIES, INCLUDING:

- MAINTENANCE/WAREHOUSE BUILDING
- OILY WATER TREATMENT PLANT
- WELDING SHOP BUILDING
- WORKSHOP OFFICE BUILDING

EXISTING POLISHING WASTE STABILIZATION POND

750,000L JET A FUEL

INCINERATOR

POWER GENERATORS

POLISHING WASTE STABILIZATION POND

HAZARDOUS WASTE BERM

EXISTING BLADDER FARM

TENT CAMP

LINED STORAGE AREA

EXISTING TRAILER CAMP

CAMP INFRASTRUCTURE PAD B2
SITE FACILITIES, INCLUDING:

- ACCOMMODATION COMPLEX
- EMERGENCY RESPONSE OFFICE
- EMERGENCY RESPONSE GARAGE
- SEWAGE TREATMENT PLANT
- POTABLE WATER TREATMENT PLANT
- WASTE MANAGEMENT FACILITY

LINED STORAGE

EXISTING WASTE WATER TREATMENT FACILITY

LAYDOWN AREA

AIRSTRIP

WASTE DISPOSAL LAND FARM

EXISTING LAND LEASE BOUNDARY

ROCK QUARRY NO.1

PROJECT DEVELOPMENT AREA

POTABLE WATER SUPPLY

CONSTRUCTION PAD C CONCRETE BATCH PLANT

TOTE ROAD

PROPOSED EXTENT OF QUARRY

PERMITTED OPEN BURN PIT AREA

BORROW PITS

BORROW SOURCE NO.1

MILNE INLET TOTE ROAD

BORROW PITS

PHILLIPS CREEK

0 50 100 150 200 250
SCALE IN METERS

## NOTES:

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL IS 1.5 METRES.
4. AS-CONSTRUCTED INFORMATION PROVIDED BY GENIVAR IN 2008.

## LEGEND:

- WATER
- PROPOSED QUARRY
- LAYDOWN AREA (CONSTRUCTION PHASE)
- ADVANCED EXPLORATION UNDER EXISTING TYPE 'B' WATER LICENSE
- EARLY WORKS (MAY TO JULY 2013) UNDER NEW TYPE 'B' WATER LICENSE (IN PROCESS)
- CONSTRUCTION PHASE UNDER FUTURE TYPE 'A' WATER LICENSE (JULY TO DECEMBER 2013)
- EXISTING BORROW AREA (IOL COMMERCIAL LEASE)
- EXISTING ROCK QUARRY (IOL COMMERCIAL LEASE)
- RIVER/STREAM/DRAINAGE
- PROJECT DEVELOPMENT AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- ROAD

Baffinland Iron Mines Corporation

# MARY RIVER PROJECT

MILNE PORT

SITE LAYOUT

| SCALE | DWG. NO. | REV. |
|---|---|---|
| 1:5000 OR AS NOTED | H349000-2000-00-015-0002 | A |

DWG. NO. H349000-4000-00-015-0002

TOM RIVER

CAMP LAKE

SHEARDOWN NW LAKE

MARY RIVER

WASTE ROCK DUMP BOUNDARY AT THE END OF OPERATION

PROJECT DEVELOPMENT AREA

DEPOSIT NO.1 MINING LEASE 2484

PROPOSED OPEN PIT OUTLINE

NEW HAUL ROAD

EXISTING WEATHERED ORE AND WASTE ROCK STOCKPILE

2008 BULK SAMPLE PIT

OPEN PIT DEVELOPMENT

EXISTING HAUL ROAD

BORROW PIT #3

BORROW PIT •2

BORROW PIT •1

BORROW PIT •5

BORROW PIT •4

STORAGE AREA

INCINERATOR

POTABLE WATER PUMP HOUSE

HAZARDOUS WASTE CONTAINMENT BERM

BARRELED FUEL LINED CONTAINMENT

SEALIFT LAYDOWN AREA

EXISTING LAYDOWN AREA

LAYDOWN AREA

BULK FUEL STORAGE FACILITY

NEW AERODROME APRON

QUARRY QMR2

RAW WATER INTAKE

ORIGINAL CAMP

EXISTING CAMP FACILITIES

WASTE WATER TREATMENT FACILITY

HELIPAD

EXISTING POLISHING WASTE STABILIZATION PONDS (PWSPs)

EXISTING AERODROME

AERODROME RUNWAY AND APRON

CRUSHER AND STOCKPILE PAD

CONSTRUCTION LAYDOWN AREA

CAMP INFRASTRUCTURE
- ACCOMMODATION COMPLEX
- EMERGENCY RESPONSE
- MEDICAL CENTRE
- SEWAGE TREATMENT PLANT & OFF-SPEC POND
- POTABLE WATER TREATMENT PLANT

PIT 1 HAUL ROAD

EXISTING HAUL ROAD

ROCK QUARRY NO.2

EXISTING EXPLOSIVES MAGAZINES

UTILITY BERM

ORE CRUSHING AND LOADING

EXISTING SEWAGE DISCHARGE PIPELINE

SITE SERVICE FACILITIES, INCLUDING:
- POWER PLANT
- MINE TANK FARM & DYKE
- MAINTENANCE BUILDING
- WAREHOUSE
- TRUCK WASH FACILITY

EXISTING LAND ROAD

EXISTING LANDFILL

EXPLOSIVES PADS
EXPLOSIVES MAGAZINE
EMULSION PLANT

RAIL PHASE PRIMARY AND SECONDARY CRUSHING

RAIL PHASE STOCKPILE AND INFRASTRUCTURE

EXISTING HAUL ROAD

TREATED EFFLUENT POND

0 200 400 600 800 1000
SCALE IN METRES

MILNE PORT

MINE SITE

KEYPLAN

LEGEND:

- WATER
- PROPOSED QUARRY
- LAYDOWN AREA (CONSTRUCTION PHASE)
- ADVANCED EXPLORATION UNDER EXISTING TYPE 'B' WATER LICENSE
- EARLY WORKS (MAY TO JULY 2013) UNDER NEW TYPE 'B' WATER LICENSE (IN PROCESS)
- CONSTRUCTION PHASE UNDER FUTURE TYPE 'A' WATER LICENSE (JULY TO DECEMBER 2013)
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- EXISTING ROCK QUARRY (IOL COMMERCIAL LEASE)
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- PROJECT DEVELOPMENT AREA
- BAFFINLAND'S COMMERCIAL LEASE ON INUIT OWNED LAND
- ROAD

Baffinland Iron Mines Corporation

# MARY RIVER PROJECT

MINE SITE

SITE LAYOUT

| SCALE | DWG. NO. | REV. |
|---|---|---|
| 1:15000 OR AS NOTED | H349000-4000-00-015-0002 | A |

c:\prj\projectwise\eis59970\dms88860\H349000-4000-00-015-0002.dgn
28/05/2013 4:57:57 PM
eis59970

DWG. NO. H349000-4000-00-015-0003

CAMP INFRASTRUCTURE
- ACCOMMODATION COMPLEX
- EMERGENCY RESPONSE
- MEDICAL CENTRE
- SEWAGE TREATMENT PLANT & OFF-SPEC POND
- POTABLE WATER

CONSTRUCTION LAYDOWN AREA

SHEARDOWN NW LAKE

PROPOSED OPEN PIT OUTLINE

DEPOSIT NO. 1
MINING LEASE 2484

EXISTING ROAD

NEW HAUL ROAD

ORE CRUSHING AND LOADING

SITE SERVICE FACILITIES, INCLUDING:
POWER PLANT
MINE TANK FARM & DYKE
MAINTENANCE BUILDING
WAREHOUSE
TRUCK WASH FACILITY

EXISTING EXPLOSIVES MAGAZINES

UTILITY BERM

RAIL PHASE STOCKPILE AND INFRASTRUCTURE

EXISTING LAND FILL ROAD

EXISTING LANDFILL

EXPLOSIVES PADS
EXPLOSIVES MAGAZINE
EMULSION PLANT

TREATED EFFLUENT POND

0 50 100 150 200 250
SCALE IN METRES

MILNE PORT

MINE SITE

KEYPLAN

## NOTES:

1. TOPOGRAPHY PROVIDED BY TERRAPOINT CANADA INC.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL IS 1.5 METRES.
4. AS-CONSTRUCTED INFORMATION PROVIDED BY GENIVAR IN 2008.
5. FOR RAIL PHASE OVERALL GA SEE DWG. H340960-4000-00-014-0001

## LEGEND:

- WATER
- PROPOSED QUARRY
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- ROAD

Baffinland Iron Mines Corporation

# MARY RIVER PROJECT

MINE SITE

ENHANCED LAYOUT

| SCALE | DWG. NO. | REV. |
|---|---|---|
| 1:5000 OR AS NOTED | H349000-4000-00-015-0003 | A |

# Appendix B

## QIA A&R Policy Concordance Table for 2013 Marginal Cost Estimate

**Table 1: QIA A&R Policy Concordance Table**

| QIA Required Assumption | Compliance with 2013 Work Plan Marginal Closure Cost - RECLAIM Model |
|---|---|
| Use of RECLAIM | Recognized non-compliance |
| Incorporation of QIA's CLARC A&R objectives and criteria | The 2013 Work Plan Marginal Closure Cost estimate has been developed with adequate level of detail as to guide QIA through the review of the A&R plan. Supporting documentation will be provided as per request and as soon it becomes available for release. |
| A scenario where QIA assumes authority over project components on IOL | For the 2013 Work Plan Marginal Closure Cost, it is assumed all activity is on IOL. Land and water liability allocation has been determined. |
| Security costs should equal 100% of the cost for an independent third-party contractor to reclaim the site | The Marginal Closure for the 2013 Work Plan is based on activities scheduled to occur in 2013 that were not captured in the 2013 A&R Plan (AMEC, January 2013) and therefore the Remaining Type 'B' Cost or Type 'A' Carry Over Cost. 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. |
| 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, brought up for the 2013 Work Plan for reclamation activities (recognized non-compliance). This equipment will then be de-mobilized off site at the end of site closure and brought back to the Canadian Consolidation Hub. This de-mobilization cost has been captured in the model. |
| 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 2013 Work Plan Marginal Closure Cost estimate was based on the level information available at the time of development. Supporting documentation will be provided upon request and as soon it becomes available for release. |

| QIA Required Assumption | Compliance with 2013 Work Plan Marginal Closure Cost - RECLAIM Model |
|---|---|
| Camp operation costs must be supported by site-specific invoicing or cost quotations | Supporting documentation used to develop the 2013 Work Plan Marginal Closure Cost estimate was based on the level information available at the time of development. Supporting documentation will be provided upon request and as soon it become available to release. |
| Assumed use of on-site fuel for reclamation purposes is not acceptable | The 2013 Work Plan Marginal Closure Cost estimate considers the worst case scenario to include the cost allocation for fuel removal after fuel tanks are full after the 2013 sealift, i.e., highest quantity of fuel on site after commencement of 2013 Work Plan. Based on this scenario, 31.2 ML will be on site after commencement of 2013 Work Plan. However, AMEC model accounts for demobilization of 3.46ML, and therefore the 2013 Work Plan Marginal Closure Cost estimate includes a cost allocation for removal of 27.7 ML of Type 1 fuel from site, at a $0.10/L backhaul rate (same as AMEC Model). |
| Salvage values for on-site equipment and materials are not accepted as a security credit | No salvage value was considered in the 2013 Work Plan Marginal Closure Cost 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 2013 Work Plan Marginal Closure Cost estimate was based on the level of information available at the time of development. Supporting documentation will be provided upon request and as soon it become available to release. |
| 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. |
| Progressive reclamation credits may be applied against a security amount once proven through QIA assessment and authorization | Understood. No progressive reclamation credits were applied in the development of the 2013 Work Plan Marginal Closure Cost estimate. |

| QIA Required Assumption | Compliance with 2013 Work Plan Marginal Closure Cost - RECLAIM Model |
|---|---|
| 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 C

## 2013 Marginal Closure Cost – Mining RECLAIM Closure Cost Model Screenshots

## C.1 Summary of Closure 2013 Work Plan Marginal Cost Estimate

| Area | Component | Activity | 2013 Work Plan Cost (Total) | % Allocation for 2013 | Cost Associated 2013 | Water Liability | Land Liability |
|---|---|---|---|---|---|---|---|
| Mary River | | | | | | | |
| Open Pit | Inspection of Quarries | Carry out | $0 | 100% | $0 | | $0 |
| | Berm at crest | Install | | | | | $0 |
| | Signs | Place | | | | | $0 |
| | Demolition scrap | Dump | | | | | $0 |
| | | Place overburden | $338,748 | 100% | $338,748 | | $338,748 |
| | Spillway | Excavate | | | | | $0 |
| | Quarries | Site contouring | $0 | 100% | $0 | | $0 |
| | | Place overburden | $0 | 100% | $0 | | $0 |
| | Access roads | Scarify | | | | | |
| Rock Pile | Inspection | Carry out | | | | | |
| | Flat surface | Scarify | | | | | |
| Buildings | Fuel storage & foundations | Decommissioning | $503,681 | 50% | $251,840 | | $251,840 |
| | Camp & foundations | Decommissioning | $940,474 | 50% | $470,237 | | $470,237 |
| | Fuel and camp | Site contouring | $130,013 | 50% | $65,006 | | $65,006 |
| | Other contaminated buildings | Remove | $6,000 | 50% | $3,000 | | $3,000 |
| | Other non-contaminated buildings | Remove | $193,368 | 50% | $96,684 | | $96,684 |
| | Break Basement Slabs | Remove | $129,587 | 50% | $64,794 | | $64,794 |
| | All buildings | Site contouring | $46,861 | 50% | $23,430 | | $23,430 |
| Road | Road | Remove Culverts | $0 | 50% | $0 | | $0 |
| | | Fill with cobble & grade | $41,550 | 50% | $20,775 | | $20,775 |
| Landfill | Soil | Place cover | $0 | 100% | $0 | | $0 |
| Specialize Items | Construction Materials | Sealift | $0 | 50% | $0 | | $0 |
| Manpower | | | | | | | |
| Milne Inlet | | | | | | | |
| Stockpile | Cover Dump | Overburden cover | $0 | 100% | $0 | | $0 |
| Buildings | Fuel storage & foundations | Decommissioning | $3,803,298 | 50% | $1,901,649 | | $1,901,649 |
| | Camp & foundations | Decommissioning | $778,661 | 50% | $389,330 | | $389,330 |
| | Fuel and camp | Site contouring | $252,008 | 50% | $126,004 | | $126,004 |
| | Other contaminated buildings | Remove | $80,400 | 50% | $40,200 | | $40,200 |
| | Other non-contaminated buildings | Remove | $187,039 | 50% | $93,519 | | $93,519 |
| | Break Basement Slabs | Remove | $98,420 | 50% | $49,210 | | $49,210 |
| | All buildings | Site contouring | $35,590 | 50% | $17,795 | | $17,795 |
| Road | Road | Fill with cobble & grade | $8,090 | 50% | $4,045 | | $4,045 |
| Landfill | Soil | Place cover | | | $0 | | $0 |
| Specialize Items | Construction Materials | Credit for bladder farm | $0 | 100% | $0 | | $0 |
| Manpower | | | | | $0 | | $0 |
| 50 km Road Camp | | | | | | | |
| Buildings | Fuel storage & foundations | Decommissioning | | | | | |
| | Camp & foundations | Decommissioning | $127,474 | 50% | $63,737 | | $63,737 |
| | Fuel and camp | Site contouring | $0 | | | | |
| | Other contaminated buildings | Remove | $0 | 50% | $0 | | $0 |
| | Other non-contaminated buildings | Remove | $0 | | | | $0 |
| | Break Basement Slabs | Remove | $0 | 50% | $0 | | $0 |
| | All buildings | Site contouring | | | | | |
| Road | Road | Fill with cobble & grade | | | | | |
| Landfill | Soil | Place cover | | | | | |
| Specialize Items | Construction Materials | Sealift | | | | | |
| Manpower | | | | | | | |

**Figure 1: Summary of 2013 Work Plan Marginal Closure Cost Estimate, 2013 Breakdown**

| Area | Component | Activity | 2013 Work Plan Cost (Total) | % Allocation for 2013 | Cost Associated 2013 | Water Liability | Land Liability |
|---|---|---|---|---|---|---|---|
| **Chemicals** | | | | | | | |
| Haz. Mat. | Hazardous material audits | Phase 1 | $0 | 100% | $0 | | $0 |
| | | Phase 2 | $0 | 100% | $0 | | $0 |
| Wastes | Waste oils | Remove | $51,282 | 100% | $51,282 | | $51,282 |
| | Fuel - Type 1, e.g. diesel dregs | Remove | $2,771,220 | 100% | $2,771,220 | | $2,771,220 |
| | Fuel - Type 1, e.g. gasoline dregs | Remove | | | | | |
| | waste batteries | Remove | $4,029 | 100% | $4,029 | | $4,029 |
| | assay & environmental lab reagents | Remove | $23,136 | 100% | $23,136 | | $23,136 |
| | machine shop, paints, solvents etc | Remove | $10,627 | 100% | $10,627 | | $10,627 |
| Soils | Contaminated soils investigation | Technical | $0 | 100% | $0 | | $0 |
| | | Drilling & sampling | $0 | 100% | $0 | | $0 |
| | HC contaminated soils | Remove | $0 | 100% | $0 | | $0 |
| Explosives | Explosives | Reclaim Explosives | $2,185,920 | 100% | $2,185,920 | | $2,185,920 |
| | Explosives | Salvage (Explosives) | $0 | 100% | $0 | | $0 |
| **Water** | | | | | | | |
| Water & pipelines - Water Liability | Pipelines | Remove | $44,280 | 50% | $22,140 | $22,140 | |
| | Water Supply Embankment | Removal | $21,035 | 100% | $21,035 | $21,035 | |
| **On-going water** | | | | | | | |
| On-Going Water - Water Liability | Water | Supplies | $0 | 100% | $0 | $0 | |
| | | Labour | $0 | 100% | $0 | $0 | |
| | Site | Access | $0 | 100% | $0 | $0 | |
| **Mobilization** | | | | | | | |
| Vehicles | Mary River vehicles | Move to MI | $173,688 | 100% | $173,688 | | $173,688 |
| Crew | Crew | Transportation | $121,900 | 100% | $121,900 | | $121,900 |
| | | Accommodation | $0 | 100% | $0 | | $0 |
| Fuel | Fuel | For Reclamation Activities | $0 | 100% | $0 | | $0 |
| Sealift | Sealift | Activity | $3,000,000 | 100% | $3,000,000 | | $3,000,000 |
| | | Manpower | $0 | 100% | $0 | | $0 |
| Site | Site | General Site Clean-up | $0 | 100% | $0 | | $0 |
| Credit from 2013 A&R Plan (AMEC, January 2013) | Credit for Fuel | | $0 | 100% | $0 | | $0 |
| | Credit for Sealift | | ($1,954,715) | 100% | ($1,954,715) | | ($1,954,715) |
| **Post-Closure** | | | | | | | |
| Post closure monitoring - Land Liability | Site | | $457,971 | 100% | $457,971 | | $457,971 |

**Figure 2: Summary of 2013 Work Plan Marginal Closure Cost Estimate, 2013 Breakdown (Cont'd)**

## C.2 Open Pit

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

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost |
|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: CONTROL ACCESS | | | | | | | | |
| Fence | m | | #N/A | 0.00 | $0 | | $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 | | | #N/A | | | | | |
| 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 | | | #N/A | | | | | |
| Dump demolition materials (pit or landfill or qı | m3 | | #N/A | 0 | $0 | | $0 | $0 |
| Place overburden over demolition material | m3 | 33546 | RB1L | 10.098 | $338,748 | 100% | $338,748 | $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 | | | #N/A | | | | | |
| 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 | | | #N/A | | | | | |
| remove stationary equipment (sump pump) | each | | #N/A | 0 | $0 | | $0 | $0 |
| remove power lines | each | | #N/A | 0 | $0 | | $0 | $0 |
| Embankment/dam - Soil A | m3 | | #N/A | 0 | $0 | | $0 | $0 |
| Embankment/dam - Soil B | m3 | | #N/A | 0 | $0 | | $0 | $0 |
| supply/install pump & piping system | each | | #N/A | 0 | $0 | | $0 | $0 |
| operate pumps to flood pit | each | | #N/A | 0 | $0 | | $0 | $0 |
| Llme addition, _____ kg/m3 of water | tonne | | #N/A | 0 | $0 | | $0 | $0 |
| Lime, purchase and shipping | tonne | | #N/A | 0 | $0 | | $0 | $0 |
| Other | | | #N/A | 0 | $0 | | $0 | $0 |
| RECLAIM QUARRIES | | | #N/A | | | | | |
| Contour slopes | m3 | | DSH | 3.3588 | $0 | 100% | $0 | $0 |
| Berm at crest | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Place overburder | m3 | | SBCL | 3 | $0 | 100% | $0 | $0 |
| Vegetate | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OTHER ITEMS | | | #N/A | | | | | |
| Stability inspection | each | | sis | 16667 | $0 | 100% | $0 | $0 |
| Reclaim road to primary crusher (scarificatior | ha | | scs | 1000 | $0 | 100% | $0 | $0 |
| | | | **Subtotal** | | $338,748 | 100% | $338,748 | $0 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 3: 2013 Work Plan Closure Cost Estimate for Open Pit**

## C.3 Buildings and Equipment

**Building / Equip Name: *Mary River*** **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 | 100% | $0 | $0 |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Other (sealift for equipmt) | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | #N/A | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate maintenance shop | m2 | 1427 | BRCDS | 200 | $0 | 100% | $0 | $0 |
| Decontaminate power plant | each | 30 | BRCDS | 200 | $6,000 | 100% | $6,000 | $0 |
| Decontaminate bulk fuel storage | m2 | 2221.5 | BRCDS | 200 | $444,300 | 100% | $444,300 | $0 |
| Decontaminate ANFO plant | each | 0 | BRCDS | 200 | $0 | 100% | $0 | $0 |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Other | m2 | | BRCDS | 200 | $0 | 100% | $0 | $0 |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | 557 | BRS1H | 57.024 | $31,762 | 0% | $0 | $31,762 |
| maintenance shop | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| power plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| bulk fuel storage | each | 0 | MBTS | 44704 | $0 | 100% | $0 | $0 |
| ANFO plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| offices/warehouse/accom | m2 | 11229 | BRS1H | 57.024 | $640,322 | 100% | $640,322 | $0 |
| consolidate & dump boneyard debris | m3 | 334 | BRS1H | 57.024 | $19,046 | 100% | $19,046 | $0 |
| other (Airstrip Extension ) | m2 | 2500 | BRS1H | 57.024 | $142,560 | 100% | $142,560 | $0 |
| OBJECTIVE: BREAK BASEMENT SLABS | | | | | | | | |
| crushing plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| conveyors & transfer towers | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | 557 | BRCS | 26.73 | $14,889 | 0% | $0 | $14,889 |
| maintenance shop | m2 | 1427 | BRCS | 26.73 | $38,144 | 100% | $38,144 | $0 |
| power plant | m2 | 30 | BRCS | 26.73 | $802 | 100% | $802 | $0 |
| bulk fuel storage | m2 | 2221.5 | BRCS | 26.73 | $59,381 | 100% | $59,381 | $0 |
| ANFO plant | m2 | $0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| offices/warehouse/accom | m2 | $11,229 | BRCS | 26.73 | $300,151 | 100% | $300,151 | $0 |
| Other | m2 | 2834 | BRCS | 26.73 | $75,753 | 100% | $75,753 | $0 |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | |
| Place soil cover | m3 | | SBTH | 3.27 | $0 | 100% | $0 | $0 |
| Vegetate | ha | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | #N/A | | | | | |
| crushing plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| conveyors & transfer towers | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | 557 | SB4H | 9.666 | $5,384 | 100% | $5,384 | $0 |
| maintenance shop | m2 | 1427 | SB4H | 9.666 | $13,793 | 100% | $13,793 | $0 |
| power plant | m2 | 30 | SB4H | 9.666 | $290 | 100% | $290 | $0 |
| bulk fuel storage | m2 | 2221.5 | SB4H | 9.666 | $21,473 | 100% | $21,473 | $0 |
| ANFO plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| offices/warehouse/accom | m2 | $11,229 | SB4H | 9.666 | $108,540 | 100% | $108,540 | $0 |
| other | m2 | 2834 | SB4H | 9.666 | $27,393 | 100% | $27,393 | $0 |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | |
| Remove culverts | each | 0 | PPLH | 194.4 | $0 | 100% | $0 | $0 |
| Remove bridges | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Scarify and install water breaks (Laydown Area) | ha | 35.48 | scs | 1000 | $35,480 | 0% | $0 | $35,480 |
| remove/doze down berms | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| create wildilfe passage ramps | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Vegetate | ha | | #N/A | 0 | $0 | 100% | $0 | $0 |
| other (Laydown Area) | ha | 6.07 | SCS | 1000 | $6,070 | 100% | $6,070 | $0 |
| SPECIALIZED ITEMS | | | | | | | | |
| Sealift for construction materials | m3 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| Dispose of misc. debris and laydown area refuse | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| | | | | **Subtotal** | $1,991,533 | 96% | $1,909,402 | $82,131 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 4: 2013 Work Plan Closure Cost Estimate for Buildings and Equipment Mary River Mine Site**

**Building / Equip Name: *Milne*** **Bldg / Equip #: *2***

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 | 100% | $0 | $0 |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Other (sealift for equipmt) | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate maintenance shop | m2 | 268 | BRCDS | 200 | $53,600 | 100% | $53,600 | $0 |
| Decontaminate power plant | each | 134 | BRCDS | 200 | $26,800 | 100% | $26,800 | $0 |
| Decontaminate bulk fuel storage | m2 | 16774.57031 | BRCDS | 200 | $3,354,914 | 100% | $3,354,914 | $0 |
| Decontaminate ANFO plant | each | $0 | BRCDS | 200 | $0 | 100% | $0 | $0 |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Other | m2 | | BRCDS | 200 | $0 | 100% | $0 | $0 |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | 446 | BRS1H | 57.024 | $25,433 | 0% | $0 | $25,433 |
| maintenance shop | m2 | | BRS1H | 57.024 | $0 | 100% | $0 | $0 |
| power plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| bulk fuel storage | each | o | MBTS | 44704 | $0 | 100% | $0 | $0 |
| ANFO plant | m2 | | #N/A | 0 | 0 | 1 | 0 | 0 |
| offices/warehouse/accom | m2 | 9297 | BRS1H | 57.024 | 530152.128 | 1 | 530152.128 | 0 |
| consolidate & dump boneyard debris | m3 | 334 | BRS1H | 57.024 | 19046.016 | 1 | 19046.016 | 0 |
| other (Airstrip Extension ) | m2 | 2500 | BRS1H | 57.024 | 142560 | 1 | 142560 | 0 |
| OBJECTIVE: BREAK BASEMENT SLABS | | | | | | | | |
| crushing plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| conveyors & transfer towers | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | 446 | BRCS | 26.73 | $11,922 | 0% | $0 | $11,922 |
| maintenance shop | m2 | 268 | BRCS | 26.73 | $7,164 | 100% | $7,164 | $0 |
| power plant | m2 | 134 | BRCS | 26.73 | $3,582 | 100% | $3,582 | $0 |
| bulk fuel storage | m2 | 16774.57031 | BRCS | 26.73 | $448,384 | 100% | $448,384 | $0 |
| ANFO plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| offices/warehouse/accom | m2 | 9297 | BRCS | 26.73 | $248,509 | 100% | $248,509 | $0 |
| Other | m2 | 2834 | BRCS | 26.73 | $75,753 | 100% | $75,753 | $0 |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | |
| Place soil cover | m3 | | SBTH | 3.27 | $0 | 100% | $0 | $0 |
| Vegetate | ha | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | |
| crushing plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| conveyors & transfer towers | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | 446 | SB4H | 9.666 | $4,311 | 100% | $4,311 | $0 |
| maintenance shop | m2 | 268 | SB4H | 9.666 | $2,590 | 100% | $2,590 | $0 |
| power plant | m2 | 134 | SB4H | 9.666 | $1,295 | 100% | $1,295 | $0 |
| bulk fuel storage | m2 | 16774.57031 | SB4H | 9.666 | $162,143 | 100% | $162,143 | $0 |
| ANFO plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| offices/warehouse/accom | m2 | $9,297 | SB4H | 9.666 | $89,865 | 100% | $89,865 | $0 |
| other | m2 | 2834 | SB4H | 9.666 | $27,393 | 100% | $27,393 | $0 |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | |
| Remove culverts | each | 0 | PPLH | 194.4 | $0 | 100% | $0 | $0 |
| Remove bridges | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Scarify and install water breaks (Laydown Area) | ha | | SCS | 1000 | $0 | 0% | $0 | $0 |
| remove/doze down berms | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| create wildilfe passage ramps | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Vegetate | ha | | #N/A | 0 | $0 | 100% | $0 | $0 |
| other (Laydown Area) | ha | 8.09 | SCS | 1000 | $8,090 | 100% | $8,090 | $0 |
| SPECIALIZED ITEMS | | | | | | | | |
| Credit for reclaiming bladder farm | $ | 0 | TBUS | #N/A | $0 | 100% | $0 | $0 |
| Sealift for construction materials | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Dispose of misc. debris and laydown area refuse | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| | | | | **Subtotal** | $5,243,506 | 99% | $5,206,152 | $37,354 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 5: 2013 Work Plan Closure Cost Estimate for Buildings and Equipment – Milne Inlet**

**Building / Equip Name: *50 km Road Camp*** **Bldg / Equip #: *3***

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 | 100% | $0 | $0 |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Other (sealift for equipmt) | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate maintenance shop | m2 | | BRCDS | 200 | $0 | 100% | $0 | $0 |
| Decontaminate power plant | m2 | | BRCDS | 200 | $0 | 100% | $0 | $0 |
| Decontaminate bulk fuel storage | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Other (Waste Management Building) | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| maintenance shop | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| power plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| bulk fuel storage | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| ANFO plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| offices/warehouse/accom | m2 | 1522 | BRS1H | 57.024 | $86,791 | 100% | $86,791 | $0 |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| other (Airstrip Extension ) | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OBJECTIVE: BREAK BASEMENT SLABS | | | | | | | | |
| crushing plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| conveyors & transfer towers | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| maintenance shop | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| power plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| bulk fuel storage | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| ANFO plant | m2 | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| offices/warehouse/accom | m2 | 1522 | BRCS | 26.73 | $40,683 | 100% | $40,683 | $0 |
| Other | m2 | 0 | BRCS | 26.73 | $0 | 100% | $0 | $0 |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | |
| Place soil cover | m3 | | SBTH | 3.27 | $0 | 100% | $0 | $0 |
| Vegetate | ha | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | 100% | $0 | $0 |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| thickeners | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| water treatment plant | m2 | | SB4H | 9.666 | $0 | 100% | $0 | $0 |
| maintenance shop | m2 | | SB4H | 9.666 | $0 | 100% | $0 | $0 |
| power plant | m2 | | SB4H | 9.666 | $0 | 100% | $0 | $0 |
| bulk fuel storage | m2 | | SB4H | 9.666 | $0 | 100% | $0 | $0 |
| ANFO plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| offices/warehouse/accom | m2 | | SB4H | 9.666 | $0 | 100% | $0 | $0 |
| other | m2 | | SB4H | 9.666 | $0 | 100% | $0 | $0 |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | |
| Remove culverts | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Remove bridges | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Scarify and install water breaks (Laydown Area) | ha | | SCS | 1000 | $0 | 100% | $0 | $0 |
| remove/doze down berms | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| create wildilfe passage ramps | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| Vegetate | ha | | #N/A | 0 | $0 | 100% | $0 | $0 |
| other | | | #N/A | 0 | $0 | 100% | $0 | $0 |
| SPECIALIZED ITEMS | | | | | | | | |
| | | | #N/A | | | 100% | | |
| Dispose of misc. debris and laydown area refuse | each | | #N/A | 0 | $0 | 100% | $0 | $0 |
| | | | | **Subtotal** | $127,474 | 100% | $127,474 | $0 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 6: 2013 Work Plan Closure Cost Estimate for Buildings and Equipment – Tote Road Camp**

## C.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 | | P1AS | 1200 | $0 | 100% | $0 | $0 |
| Phase 2 audit | each | | #N/A | 100000 | $0 | 100% | $0 | $0 |
| HAZARDOUS MATERIALS TO BE CONSOLIDATED FOR REMOVAL | | | | | | | | |
| Waste oils | litre | 23162.5 | PCRH | 2.214 | $51,282 | 100% | $51,282 | $0 |
| Fuel - Type 1, eg diesel dregs | litre | 27,712,201 | FRs | 0.1 | $2,771,220 | 100% | $2,771,220 | $0 |
| Fuel - Type 1, eg gasoline dregs | litre | | #N/A | 0 | $0 | 100% | $0 | $0 |
| waste batteries | kg | 1820 | PCRH | 2.214 | $4,029 | 100% | $4,029 | $0 |
| assay & environmental lab reagents | kg | 10450 | PCRH | 2.214 | $23,136 | 100% | $23,136 | $0 |
| machine shop, paints, solvents etc | kg | 4800 | PCRH | 2.214 | $10,627 | 100% | $10,627 | $0 |
| contaminated soils - hydrocarbon | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| metal contam. soil at conc. load-out | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 |
| HAZARDOUS MATERIALS | | | | | | | | |
| Transportation to disposal facility | T | | #N/A | 0 | $0 | | $0 | $0 |
| Disposal fees | allow | | #N/A | | $0 | | $0 | $0 |
| other | | | #N/A | 0 | $0 | | $0 | $0 |
| CONTAMINATED SOILS | | | | | | | | |
| Contam. soil investigation - technical | each | 0 | #N/A | 34957 | $0 | 100% | $0 | $0 |
| Contam. soil investigation - drilling & sampling | each | 0 | #N/A | 34957 | $0 | 100% | $0 | $0 |
| CONTAMINATED SOIL REMOVAL | m3 | | | | $0 | | $0 | $0 |
| contaminated soils - hydrocarbon | m3 | 0 | remss | 100 | $0 | 100% | $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 | | | #N/A | | | | | |
| Reclaim Explosives | kg | 920,000 | ERH | 2.376 | $2,185,920 | 100% | $2,185,920 | $0 |
| Salvage (Explosives) | kg | 0 | #N/A | 170160 | $0 | 100% | $0 | $0 |
| | | | **Subtotal** | | $5,046,215 | 100% | $5,046,215 | $0 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 7: 2013 Work Plan Closure Cost Estimate for Chemicals**

## C.5 Water Management

### Water Management :

| | ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost |
|---|---|---|---|---|---|---|---|---|---|
| A | 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 (Pond) | m3 | 70 | RPS | 300.5 | $21,035 | | $0 | $21,035 |
| B | OBJECTIVE: UPGRADE SPILLWAY | | | #N/A | | | | | |
| | 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 |
| E | 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 |
| F | 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 |
| G | OBJECTIVE: REMOVE PIPELINES | | | | | | | | |
| | Remove pipes | m | 8200 | PPSH | 5.4 | $44,280 | | $0 | $44,280 |
| | Concrete plug deep pipes | m3 | | #N/A | 0 | $0 | | $0 | $0 |
| | Other | | | #N/A | 0 | $0 | | $0 | $0 |
| H | 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 |
| I | 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 | | | | | |
| | Excavation | m3 | | #N/A | 0 | $0 | | $0 | $0 |
| | supply geomembrame, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 |
| | upper and lower bedding layers | m3 | | #N/A | 0 | $0 | | $0 | $0 |
| | install geomembrane, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 |
| | erosion protection layer | m3 | | #N/A | 0 | $0 | | $0 | $0 |
| J | 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** | $65,315 | 0% | $0 | $65,315 |
| | | | | | | | Pct Land | Total Land | Total Water |

**Figure 8: 2013 Work Plan Closure Cost Estimate for Water Management**

## C.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 | 500 | MHERH | 9.0936 | $4,547 | 100% | $4,547 | $0 |
| Dump trucks | km | 200 | MHERH | 9.0936 | $1,819 | 100% | $1,819 | $0 |
| Dozers | km | 500 | MHERH | 9.0936 | $4,547 | 100% | $4,547 | $0 |
| Demolition shears | km | | #N/A | 0 | $0 | | $0 | $0 |
| Crane | km | 300 | MHERH | 9.0936 | $2,728 | 100% | $2,728 | $0 |
| Light duty vehicles | km | 5100 | MHERH | 9.0936 | $46,377 | 100% | $46,377 | $0 |
| Other (loaders) | km | 1800 | MHERH | 9.0936 | $16,368 | 100% | $16,368 | $0 |
| Other | km | 10700 | MHERH | 9.0936 | $97,302 | 100% | $97,302 | $0 |
| **Equipment, regional centre to site** | | | #N/A | | | | | |
| Excavators | km | | #N/A | 0 | $0 | | $0 | $0 |
| Dump trucks | km | | #N/A | 0 | $0 | | $0 | $0 |
| Dozers | km | | #N/A | 0 | $0 | | $0 | $0 |
| Demolition shears | km | | #N/A | 0 | $0 | | $0 | $0 |
| Crane | km | | #N/A | 0 | $0 | | $0 | $0 |
| Light duty vehicles | km | | #N/A | 0 | $0 | | $0 | $0 |
| Other | km | | #N/A | 0 | $0 | | $0 | $0 |
| Other | km | | #N/A | 0 | $0 | | $0 | $0 |
| MOBILIZE CAMP | | | | | | | | |
| | allow | | #N/A | | $0 | | $0 | $0 |
| MOBILIZE WORKERS | | | | | | | | |
| crew travel time | manday | | #N/A | 0 | $0 | | $0 | $0 |
| crew transportation | each | 53 | flightS | 2300 | $121,900 | 100% | $121,900 | $0 |
| MOBILIZE MISC. SUPPLIES | | | #N/A | | | | | |
| Fuel | litre | 0 | fss | 0.95 | $0 | 100% | $0 | $0 |
| Sealift per season | allow | 1 | SLcS | 3000000 | $3,000,000 | 100% | $3,000,000 | $0 |
| Sealift manpower per season | allow | 0 | #N/A | 0 | $0 | 100% | $0 | $0 |
| Manpower for the season w/o sealift | h | 0 | MPSSS | 808.9 | $0 | 100% | $0 | $0 |
| WORKER ACCOMODATIONS | | | #N/A | | | | | |
| | $ | 0 | cos | 250 | $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 | 1 | #N/A | 20000 | $20,000 | | | |
| | | | #N/A | C&M cost | $20,000 | | | |
| **Total C&M cost** | years | 0 | #N/A | 20000 | $0 | 100% | $0 | $0 |
| **Dredit for Fuel** | | | | | | | | |
| **Credit for Sealift** | | | | | ($1,954,715) | | | |
| | | | | **Subtotal** | $1,340,873 | 246% | $3,295,588 | $0 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 9: 2013 Work Plan Closure Cost Estimate for Mobilization**

## C.7 Post Closure

### Post-Closure Monitoring & Maintenance:

| | ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost |
|---|---|---|---|---|---|---|---|---|---|
| A | OBJECTIVE: MONITORING & INSPECTIONS | | | | | | | | |
| | Annual geotechnical insp. | each | | #N/A | $0 | $0 | | $0 | $0 |
| . | Survey inspection | each | | #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 | $4,918 | $0 | | $0 | $0 |
| . | Other (sea lift at the end of post closure) | | | #N/A | $0 | $0 | | $0 | $0 |
| B | OBJECTIVE: COVER MAINTENANCE | | | | | | | | |
| . | Repair erosion - infill gullies | allow | | #N/A | $0 | $0 | | $0 | $0 |
| . | Repair erosion - upgrade diversion ditches | allow | | #N/A | $0 | $0 | | $0 | $0 |
| . | Remove problem vegetation | allow | | #N/A | $0 | $0 | | $0 | $0 |
| . | Repair animal damage | allow | | #N/A | $0 | $0 | | $0 | $0 |
| . | Repair/upgrade access controls | allow | | #N/A | $0 | $0 | | $0 | $0 |
| | Other | | 1 | #N/A | $100,000 | $100,000 | 100% | $100,000 | $0 |
| C | SPILLWAY MAINTENANCE | | | | | | | | |
| | Repair erosion | m3 | | #N/A | $0 | $0 | | $0 | $0 |
| | Clear spillway | each | 0 | CSWH | $5,702 | $0 | 100% | $0 | $0 |
| | Other | | | #N/A | $0 | $0 | | $0 | $0 |
| D | POST-CLOSURE WATER TREATMENT | | | | | | | | |
| | Annual water treatment cost, from Ongoing water | | | #N/A | $0 | $0 | | $0 | $0 |
| | Subtotal, Annual post-closure costs | | | | | $100,000 | | $100,000 | $0 |
| | Discount rate for calculation of net present value of post-closure | | | 3.00% | | | | | |
| | Number of years of post-closure activity | | | 5 | years | | | | |
| | **Present Value of payment stream** | | | | | $457,971 | $1 | $457,971 | $0 |
| | | | | | | | Pct Land | Total Land | Total Water |

**Figure 10: 2013 Work Plan Closure Cost Estimate for Post Closure Monitoring**

# Appendix D

## 2013 Marginal Closure Cost – Mining RECLAIM Closure Cost Model Assumptions

## D.1 Introduction

The Marginal Closure for the 2013 Work Plan is based on activities scheduled to occur in 2013 that were not captured in the 2013 A&R Plan (AMEC, January 2013) and therefore the Remaining Type 'B' Cost or Type 'A' Carry Over Cost. As shown by the closure cost allocation, the majority of required capital costs for reclamation activities and their associated indirect costs are captured in the 2013 A&R Plan (AMEC, January 2013) and therefore the Remaining Type 'B' Cost or Type 'A' Carry Over Cost. The 2013 Work Plan Marginal Closure Cost accounts for only the additional reclamation activities, required to meet reclamation objectives, not covered in the 2013 A&R Plan (AMEC, January 2013). This was done to avoid double counting and to ensure 2013 activities that were not considered in the development 2013 A&R Plan (AMEC, January 2013) were accounted for.

The marginal financial cost of the Mary River Project 2013 Work Plan closure and reclamation 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 A&R Plan (AMEC, January 2013), 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 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 2013 Work Plan will not be completed in 2013. The cost presented in this document only covers the cost of reclamation of activities scheduled to occur in 2013. Although a total cost for all the 2013 Work Plan activities was considered, activities that extend into 2014 are not considered to apply for 2013.

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

The financial cost obtained is based on the information available at the time of publishing.

Several assumptions and estimations have been made and are described in 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.

Mary River Project 2013 Marginal closure and reclamation for the activities expected to occur in 2013 as part of the 2013 Work Plan is estimated to cost $12,343,342

The breakdown of cost for 2013 activities is summarized up in Table 3.

**Table 3: Marginal Cost for 2013 Work Plan, Mary River Project Closure and Reclamation**

| | | Marginal Cost for 2013 Work Plan | Water Liability | Land Liability |
|---|---|---|---|---|
| Capital Cost for Infrastructure | | $9,567,364 | $43,175 | $9,524,189 |
| Mobilization | | $1,340,873 | $0 | $1,340,873 |
| **INDIRECT COSTS** | **Percentages** | **Marginal Cost for 2013 Work Plan** | **Water Liability** | **Land Liability** |
| Project Management | 5% | $478,368 | $2,159 | $476,209 |
| Bonding | 0% | $0 | $0 | $0 |
| Insurance | 0% | $0 | $0 | $0 |
| Engineering's | 0% | $0 | $0 | $0 |
| Contingency | 10% | $956,736 | $4,318 | $952,419 |
| Sub-total of Indirects | | $1,435,105 | $6,476 | $1,428,628 |
| | | | | |
| | **TOTALS** | **$12,343,342** | **$49,651** | **$12,293,691** |

## D.2 Assumptions

### *D.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 Section 5 of this document, the 2012 Preliminary Mine Closure and Reclamation Plan (February 2012) submitted in the Type 'A' Water License Application in support of the Mary River Project:

- 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 2013, cost for reclamation would have to be given prior to the commencement of that activity). The cost of reclamation of that item is based on RECLAIM methodology. It amounts to the cost of reclaiming a defined functional unit of a project component
- Due to use of the RECLAIM software, closure costs are based on pre-determined RECLAIM 'unit' costs associated to reclaim the site when specified costs are unknown. Unit costs are always selected at the maximum level when possible in RECLAIM due to project characteristics (mainly climate and remoteness)
- 2013 Marginal Closure Cost does not include additional cost allocation for Bonding, Insurance, Engineering of 2013 Marginal Closure activities. This was deemed included in the 2013 A&R Plan (AMEC, January 2013). 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'
- As per RECLAIM methodology, a 10 % multiplier was added to the sub-totals of 'Reclamation Cost for Infrastructure' and 'Mobilization' (see Appendix D-Table 3) to account for funds for contingency ($956,736). This is deemed sufficient based on Hatch's confidence that the cost assigned for the activities required to meet reclamation objectives is adequate and 10% would be sufficient to allow for unknowns or unaccounted for costs.
- As per RECLAIM methodology, a 5 % multiplier was added to the sub-totals of 'Reclamation Cost for Infrastructure' and 'Mobilization' (see Appendix D -Table 3) to account for funds for Project Management ($478,368). 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 as RECLAIM does not allow for it
- 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. (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)
- The closure activities for the marginal 2013 activities can be completed in two years and would be conducted concurrently to the timeframe presented in 2013 A&R Plan (AMEC, January 2013).
- 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%
- Assume the number of years of post-closure monitoring as five years (concurrent with post-closure monitoring presented in the 2013 A&R Plan (AMEC, January 2013))

### *D.2.2 Open Pit*

D.2.2.1 Objective: Control Access

Assume no berm and fence will be needed at end of 2013 as no open pit will be present

D.2.2.2 Objective: Cover/Contour Slopes (chosen for the price of placing inert materials in the pit)

Scrap materials will be produced by the demolition of buildings. Although these materials will not be placed in the open-pit, the price of loading and dumping has been included in the open pit spreadsheet.

Cost allocated covers cost of placing overburden over all buildings brought on site as part of the 2013 Work Plan and as listed on Master Building Matrix (H349000-1000-00-144-0001)

Assume that 1.5 m of overburden will be placed over the materials from buildings.

D.2.2.3 Objective: Spillway

Assume no spillway needed at open pit.

D.2.2.4 Objective: Reclaim Quarries

2013 Marginal Closure Cost does not include a cost associated with quarries as it is covered in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. AMEC has considered 2 quarries at Milne and Mine Site (See appendix G3 Borrow & Quarry Areas tab). The estimate considers the following remedial items:

- Grade and contour primary borrow sites at Milne Inlet, Mary River, Midway and quarry, with a total of $159,120, and a contingency of $23,868
- Grade and contour road side borrow areas within alignment, with a total of $220,116, and a contingency of $66,035
- Borrow materials from permitted borrow areas, with a total of $47,350, and a contingency of $9,470

Note that Quarries will be expanded during 2013. The 2013 Marginal Closure Cost assumes that AMEC model allows for cost of all required reclamation at Quarries needed for 2013. At this point, no treatment for ARG/ML is anticipated (AMEC, 2010). If future investigations prove to the contrary, batch treatments will be added to the open pit cost.

D.2.2.5 Objective: Stability Inspection

2013 Marginal Closure Cost does not include a stability inspection at project quarries as it is covered in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $55,000, with $5,500 as contingency. The stability inspection is described as geotechnical monitoring of permitted & road side borrow area reclamation, and it assumes a geotechnical inspection in Year 2 to further develop 'post completion of EBA recommendations' and in subsequent year to confirm feature stability.

### *D.2.3 Underground Mine*

D.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.

### *D.2.4 Tailings*

D.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.

### *D.2.5 Stockpile*

D.2.5.1 Rock Pile Assumptions

There will be no waste rock pile in 2013.

2013 Marginal Closure Cost does not include the cost of covering the Milne Inlet or Mary River stockpiles as this cost is allocated in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $182,256, with $18,253 as contingency at Milne Inlet and a total cost $95,569 for the Mary River Stockpile.

The reclamation of the Milne Inlet Stockpile has been described as ‘Grade residual ore stockpiles at Milne Inlet (Lump stockpile is 2900 cubic meters and fines 1060 cubic meters. Dozing the stockpiles across pad area will increase pad height by 0.44 m and the maximum height of pad will be 2.44 meters), and haul and place cover on ore pad area at Milne Inlet (Specify Cover thickness of 0.5 m, and the approximate footprint of Milne Inlet Stockpile 68,500 $m^2$, with 2H:1V slopes and an approximate surface area of 76,500 $m^2$)’

### *D.2.6 Buildings 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).

2013 Marginal Closure Cost includes cost allocated with the site contouring of the footprint of buildings listed in the Master Building Matrix (H349000-1000-00-144-0001) that only covers all buildings new for 2013 Work Plan.

Assume yield of 50 $m^3$ per 1000 $m^2$ of buildings footprint.

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 document H349000-1000-00-144-0001: Mary River Project Master Building Matrix.

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

D.2.6.1 Objective: Reclaim Project Roads and Laydowns

2013 Marginal Closure Cost does not include any cost associated with reclamation of roads (such as remove culverts and Fill with cobble & grade) as it is covered in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $2,086,590 with $389,217 as contingency, including the following roads and associated activities:

- #1 Deposit Haul Roads - Inspect and repair any erosion and/or permafrost damage, stabilize inside ditches with cobble, Remove round culverts, install water bars and stabilize water crossings, Install safety berms, and Re-grade pad & repair any erosion
- Milne Inlet Tote Road - Inspect and repair any erosion and/or permafrost damage, Remove all box culverts crossing and stabilize slopes, install water bars, and Remove round culverts
- General access Roads - Grade and contour road surfaces and remove culverts

No additional cost for reclamation has been included for culverts in 2013 Marginal Closure Cost. NOTE: In some circumstances, culverts may be replaced with larger culverts. It has been assumed that cost of reclamation would be the same and is covered in the 2013 A&R Plan (AMEC, January 2013).

2013 Marginal Closure Cost includes cost allocation for the reclamation of parking laydown areas by scarifying and installing water breaks. Assume required parking and laydown area at Mine Site = 60702.8 $m^2$. Assumption based on conservative estimate of 15 acres (6.07 hectares) needed at Mine Site (estimated value based volume of required equipment and materials).

2013 Marginal Closure Cost includes cost allocation for the reclamation of parking laydown areas by scarifying and installing water breaks. Assume required parking and laydown area at Milne Inlet = 8.09 ha. Assumption based on conservative estimate of 20 acres (8.09 hectares) needed at Milne based volume of required equipment and materials.

Assume all laydown areas and parking areas have the same unit cost as road reclamation.

D.2.6.2 Objective: Reclaim Fuel Storage at Mine Site

2013 A&R Plan (AMEC, January 2013) closure cost estimate considers fuel storage at the Mine Site. The Mine Site Fuel Farm includes 1.5 million L (11x114, 000 L bladders in lined containment; a double walled 75,000 L in lined containment) (See appendix G3 Fuel Storage Facilities, cells 1-7). Specifically, the cost is listed as $256,648 with $46,234 as contingency.

AMEC Closure estimate consider the following remedial activities:

- Return excess fuel at Mine Site to Milne Inlet (total cost of $88,524, with $8,852 as contingency)
- Drain, fold, and containerize Mine Site bladder tanks (total cost of $38,376, with $3,838 as contingency)
- Execute civil works to transport potential hydrocarbon contaminated soil form the Mine Site bulk fuel farm to the Milne Inlet land farm (total cost of $15,340, with $1,534 as contingency)
- Execute civil works to transport potential hydrocarbon contaminated soil from Mine Site non-bulk fuel farm lined containment areas to the Milne Inlet land farm (total cost of $88,524, with $8,852 as contingency)
- Re-contour surface (total cost of $6,564, with $656 as contingency)

2013 Marginal Closure Cost includes a cost for decommissioning the additional 4 x 500,000 L diesel tank at the Mine Site. Based on preliminary fuel farm design, the footprint for the Mine Site dike is 2,962 m2.

2013 Marginal Closure Cost includes a cost for site contouring of the additional 4 x 500,000 L diesel tanks located at the Mine Site. Based on preliminary fuel farm design, the footprint for the Mine Site dike is 2,962 m2.

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

D.2.6.3 Objective: Reclaim Mine Site Mine Site Buildings

2013 Marginal Closure Cost includes an allowance for decommissioning and preparing for disposal all buildings (offices/warehouse/accommodation complex) included in the Master Building Matrix (H349000-1000-00-144-0001) for the Mine Site that are not classified as contaminated. Master Building Matrix only covers buildings new for 2013 Work Plan.

Accommodation complex sizing is based on the most conservative (largest footprint) proposal based on camp supplier bid documentation.

The unit cost applied in the RECLAIM Model considers the teardown of steel buildings, with an associated cost of 57.02$/$m^2$.

2013 Marginal Closure Cost includes cost allocation for decontaminating and reclaiming contaminated buildings at the Mine Site:

- Power Plant
- Maintenance Shop

Footprint based on Master Building Matrix (H349000-1000-00-144-0001) that only covers buildings new for 2013 Work Plan.

2013 Marginal Closure Cost includes cost allocation for removal of other non-contaminated buildings:

- Water treatment Plant
- Additional bulk fuel storage (after decommissioning)
- Consolidate and dump boneyard debris
- Airstrip Extension

The area footprint has been based on the Master Building Matrix, which considers only new facilities during 2013. However, current bulk fuel storage has been accounted in 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $38,376, with $3,838 as contingency. Therefore only additional bulk fuel storage installed in 2013 is considered in the 2013 Marginal Closure Cost.

2013 Marginal Closure Cost includes cost allocation for reclaiming the following infrastructure by breaking of basement of slabs:

- Water treatment Plant
- Maintenance Shop
- Power Plant
- Additional bulk fuel storage (after decommissioning)
- Consolidate and dump boneyard debris
- Airstrip/Apron Extension

The area footprint has been estimated based on Master Building Matrix (H349000-1000-00-144-0001) that only covers buildings new for 2013 Work Plan.

D.2.6.4 Objective: Decommission Mine Site Landfill

2013 Marginal Closure Cost does not include applying a cover of the Mine Site Landfill as this is covered in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $140,556, with another $21,083 as contingency. The landfill cover is described as 1.5 m thick of sand and gravel to keep the landfill in permafrost (assumes the upper 1 m will be an active freeze/thaw area). The plan and cost estimate also assume $84,864 (+$25,459 contingency) to expand the berm system around the landfill. The cost of landfill operation during closure is $71,604 (+$10,741 contingency).

D.2.6.5 Objective: Reclaim Fuel Storage at Milne Inlet

2013 A&R Plan (AMEC, January 2013) closure cost estimate considers fuel storage at Milne. The Milne Inlet Fuel Farm includes 5 ML fuel tank in a lined containment facility, and 8.25 ML (73x114, 000 L bladders in lined containment facility). Specifically, the cost is listed as $26,283 with $104,595 as contingency.

2013 A&R Plan (AMEC, January 2013) estimate consider the following remedial activities:

- Milne Inlet fuel farm Oil Water Separation Operation (total cost of $199,280, with $59,784 as contingency)
- Drain, flush and dismantle and remove 5 ML fuel storage tank (total cost of $130,141, with $6,028 as contingency)
- Re-contour surface impacted by 5 ML fuel storage tank (total cost of $5,568, with $835 as contingency)
- Drain, fold, and containerize Milne bladder tanks (total cost of $44,704, with $4,470 as contingency)
- Remove Piping associated with fuel farm and 5 ML fuel tank (total cost of $9,636, with $964 as contingency)
- Remove Piping from 5 ML Fuel Storage Tank (total cost of $4,818 with $964 as contingency)
- Re-grading pipeline area (total cost of $5,020 with $1,004 as contingency)
- Remove all hazardous material/fuel storage geomembrane fuel liners and package for sea (total cost of $11,424 with $1,142 as contingency)
- Execute civil works to convert the fuel farm to hydrocarbon impacted soil land farm (total cost of $54,432 with $16,330 as contingency)
- 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 with $10,422 as contingency)
- Re-contour surface (total cost of $26,520 with $2,562 as contingency)

2013 Marginal Closure Cost includes a cost for decommissioning the additional 1 x 5 ML tank, and 3 x 10 ML and 1 x 0.75 ML tank. Based on preliminary fuel farm design, the footprint for the Milne dike was scaled resulting in an area of 22,366 $m^2$.

2013 Marginal Closure Cost includes a cost for site contouring of the additional 1x5 ML tank, and 3 x 10 ML and 1 x 0.75 ML tank area. Based on preliminary fuel farm design, footprint for the Milne dike was scaled resulting in an area of 22,366 $m^2$.

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

D.2.6.6 Objective: Reclaim Buildings at Milne Inlet

2013 Marginal Closure Cost includes an allowance for decommissioning and preparing for disposal all buildings (offices/warehouse/accommodation complex) included in the Master Building Matrix (H349000-1000-00-144-0001) for the Milne Inlet that are not classified as contaminated. Master Building Matrix only covers buildings new for 2013 Work Plan. Accommodation complex sizing is based on the most conservative (largest footprint) proposal based on camp supplier bid documentation.

The unit cost applied in the RECLAIM Model considers the teardown of steel buildings, with an associated cost of 57.02$/m2

2013 Marginal Closure Cost includes cost allocated with reclaiming the footprint of other contaminated buildings, such as:

- Maintenance Shop (footprint includes the footprint in 50 km Road camp)
- Power Plant
- Additional bulk fuel storage (after decommissioning)

The area footprint has been estimated based on Master Building Matrix (H349000-1000-00-144-0001) that only covers buildings new for 2013 Work Plan. However, current bulk fuel storage at Milne Inlet has been accounted in 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $44,704, with $4,470 as contingency. Therefore only additional bulk fuel storage installed in 2013 is considered in the 2013 Marginal Closure Cost.

2013 Marginal Closure Cost includes an allocation for reclaiming the following infrastructure of other non-contaminated buildings:

- Water treatment Plant
- Consolidate and dump boneyard debris
- Airstrip Extension

The area footprint have been based on the Master Building Matrix (H349000-1000-00-144-0001

2013 Marginal Closure Cost includes cost allocated with breaking of basement slabs for the following buildings:

- Water treatment Plant
- Maintenance Shop (footprint includes the footprint in 50 km Road camp)
- Power Plant
- Bulk fuel storage
- Consolidate and dump boneyard debris
- Airstrip Extension

The area footprint has been estimated based on Master Building Matrix (H349000-1000-00-144-0001) that only covers buildings new for 2013 Work Plan.

D.2.6.7 Objective: Reclaim Buildings at Tote Road Camp

2013 Marginal Closure Cost includes the area foot print of accommodation complex at Tote Road Camp based on Temporary Structure List developed by Hatch Construction Management Team.

The unit cost selected in the RECLAIM Model considers the teardown of steel buildings, with an associated cost of 57.02$/$m^{2.}$

D.2.6.8 Objective: Dispose Mobile Equipment

It has been assumed that all the mobile equipment will be disposed of offsite. The total cost of sealift is included in the mobilization estimate.

The return on salvaged scrap material from the demolition of buildings and equipment was not taken into account in this estimate.

2013 Marginal Closure Cost includes a cost allocation for moving all mobile equipment located at the Mine Site from the Mine Site to the Milne Inlet for sealift.

Assume all temporary and foldaway structures will be disposed of off-site.

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

### *D.2.7 Chemicals*

D.2.7.1 Objective: Project Environmental Site Assessment

2013 Marginal Closure Cost does not include a Phase I, II or II Phase II Environmental Site Assessment as it is covered in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $90,000, with $27,000 as contingency. Phase I and phase II hazardous material audit is describe as a complete phase 1 to phase 3 environmental assessments to identify hydrocarbon contaminated soil and to develop soil remediation criteria and land farm design. It has been assumed that the Phase I to III will cover the scope of a left-on-site hazardous material or contaminated soil audit.

D.2.7.2 Objective: Hazardous Materials to be Consolidated for Removal

2013 Marginal Closure Cost includes a cost allocation for removing waste oil on site based on annual generation rates established in the Waste Management Plan for Construction, Operation, and Closure (H349000-1000-07-126-0007).

2013 Marginal Closure Cost includes a cost allocation for removal of 2 ML of Type 1 fuel from site. This is based on the assumption that 10 ML of fuel will be on-site at time of closure and 2ML/year will be needed for closure (over four years).

2013 Marginal Closure Cost includes a cost allocation for removing waste batteries on site based on annual generation rates established in the Waste Management Plan for Construction, Operation, and Closure (H349000-1000-07-126-0007).

2013 Marginal Closure Cost includes a cost allocation for removing environmental lab reagents on site based on annual generation rates established in the Waste Management Plan for Construction, Operation, and Closure (H349000-1000-07-126-0007).

2013 Marginal Closure Cost includes a cost allocation for removing solvents, paints etc on site based on annual generation rates established in the Waste Management Plan for Construction, Operation, and Closure (H349000-1000-07-126-0007).

D.2.7.3 Objective: Contaminated Soil Removal

2013 Marginal Closure Cost does not include a cost for the removal of contaminated soils as it is covered in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $626,080, with $93,912 as contingency. The removal of contaminated soils is described as: till hydrocarbon impacted soil - Land farm operation, and assumes mechanic and operator execute the work required to till the hydrocarbon impacted soil work.

D.2.7.4 Objective: Reclamation of Explosives

2013 Marginal Closure Cost includes a cost allocation for removing off-site 20% of the explosives brought on-site for the 2013 Work Plan in 2013. Assume 200,000 kg of pre-packaged explosives will be needed and 4,400,000 kg of Ammonium Nitrate will be needed (estimated based on Hatch Logistical allowances).

### *D.2.8 Water Management*

D.2.8.1 Objective: Remove Pipelines

All pipes will be removed. The total length of pipes is 8,200 m according to Hatch YX001 Site Service Basis for Estimate.

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.

D.2.8.2 Objective: Infill Partially Constructed Settling Pond

2013 Marginal Closure Cost includes 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 are as follows:

- Pond 1: Approx. 0.7 million of cubic meters (Page 9)
- Pond 2: Approx. 0.5 million cubic meters (Page 10)
- Pond 3: Approx. 0.15 million cubic meters (Page 10)
- TOTAL: 1.35 million cubic meters

Therefore: 675,000 m3 will be constructed potentially in 2013.

Assume the cost per hour of a CAT D8T Dozer is $176 and the cost per hour of an equipment operator is $124.50, same as 2013 A&R Plan (AMEC, January 2013).

Assume it would take 70 hours to infill the partially constructed pond.

Therefore it the cost of equipment and labour to reclaim the pond would be $21,035.

### *D.2.9 Mobilization*

D.2.9.1 Objective: Mobilize Heavy Equipment

At the end of reclamation, all heavy equipment at Mine Site mine will be transported to Milne Inlet for shipment or final disposal. It is thus estimated that each piece of equipment will travel once the length of Tote Road.

Assume at the end of reclamation all mobile equipment will be disposed of off-site. The cost of this is captured in the sealift costs.

Based on current contractual agreements, equipment will be picked up from distribution hub by owners (equipment is rented for 2013 Work Plan activities) and therefore land freight was not included.

D.2.9.2 Objective: Fuel Required for Reclamation

2013 Marginal Closure Cost does not include a cost allocation for additional fuel. RECLAIM unit costs are inclusive of fuel, equipment and labour.

D.2.9.3 Objective: Mobilize Camps

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

D.2.9.4 Sealift per Season

2013 A&R Plan (AMEC, January 2013) considers sealift for existing materials on site. However, 2013 Marginal Closure Cost does include a cost allocation for sealift of new mobile equipment and construction support equipment brought on-site in 2013. This is in addition to the cost allocated in the 2013 A&R Plan (AMEC, January 2013). The cost associated with sealift has been assumed based on need of three ships @ 12,000 rev ton/ship to transport equipment off-site (based on Hatch Logistical Estimates). It has been assumed a cost per ship of $1,000,000/ship or $83.30/rev ton.

D.2.9.5 Objective: Mobilize Workers

2013 A&R Plan (AMEC, January 2013) considers commercial flights for 25 person camp (MR & MI) during reclamation (See appendix G3 Camp Operations, cells 7, 14 & 35). 2013 Marginal Closure Cost includes a cost allocation for this by doubling this value to account for additional personnel.

2013 Marginal Closure Cost does not include a cost associated with manpower as the Unit Cost in RECLAIM is inclusive of fuel, labour and equipment.

D.2.9.6 Objective: Worker Accommodation

2013 Marginal Closure Cost does not include a cost associated with camp operation as it is covered in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed as $2,007,017, with $221,931 as contingency. The following activities are included under camp operation in the 2013 A&R Plan:

- 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)

D.2.9.7 Objective: General Site Clean-up

2013 Marginal Closure Cost does not include a general site clean up as it is covered in the 2013 A&R Plan (AMEC, January 2013) closure cost estimate. Specifically, the cost is listed

as $70,543, with $10,581 as contingency. The general site cleanup is described as loader use for redirecting coarse clean up of streams and clean up residual fine waste on ground.

### *D.2.10 Mobilization Adjustments from 2013 A&R Plan (AMEC, January 2013)*

#### D.2.10.1 Fuel

The 2013 Work Plan Marginal Closure Cost estimate considers the worst case scenario to include the cost allocation for fuel removal, i.e., highest quantity of fuel on site after commencement of 2013 Work Plan.

Based on this scenario, 31.2 ML will be on site after commencement of 2013 Work Plan. However, AMEC model accounts for 3.46ML, and therefore the 2013 Work Plan Marginal Closure Cost estimate includes a cost allocation for removal of 27.7 ML of Type 1 fuel from site, at a $0.10/L backhaul rate (same as AMEC Model, January 2013)).

#### D.2.10.2 Sealift

2013 A&R Plan (AMEC, January 2013) closure cost estimate considers 305 $/rev. ton for a Dedicated Charter Freight Sealift, and 198 $/rev. ton for Freight Sealift. 2013 Marginal Closure Cost assume a rate of 83.3 $/rev ton. The difference has been applied as credit. Quantities of sealift material in 2013 A&R Plan (AMEC, January 2013) remain the same.

Credit calculation is as follows:

**Table 4: AMEC Sealift Cost Estimate (January 2013)**

| | Rev Ton, $ | Rev. Ton | Total, $ | Contingency, % | Contingency, $ | Total, $ |
|---|---|---|---|---|---|---|
| **Freight Sealift Milne Inlet to Valleyfield Year 2** | | | | | | |
| Dedicated Charter Freight Sealift of 3rd party contractor equipment and supplies to Milne Inlet, and to demobilize contractor equipment currently located at MR and MI, | $305 | 2492 | 760,060 | 10% | 76006 | 836,066 |
| Demobilize by sealift site contractor and specified BIM equipment currently located at MR and MI, | $198 | 6455 | 1,278,090 | 10% | 127809 | 1,405,899 |

| | Rev Ton, $ | Rev. Ton | Total, $ | Contingency, % | Contingency, $ | Total, $ |
|---|---|---|---|---|---|---|
| **Freight Sealift Milne Inlet to Valleyfield Year 4** | | | | | | |
| Demobilize decommissioned material and 3rd party contractor equipment from MI | $198 | 2028 | 401,544 | 10% | 40154.4 | 441,698 |
| **Demobilize Freight Sealift Steensby Port to Port of Valleyfield - Year 3** | | | | | | |
| Vessel Costs Steensby - 1 freight backhaul sealift in Year 3 | $198 | 1965 | 389,070 | 10% | 38907 | 427,977 |
| **Freight Sealift Milne Inlet to Port of Valleyfield Year 6** | | | | | | |
| Vessel & stevedoring costs for backhaul of land farm timer, tilling equipment (i.e. loader with tiller drag), accommodation trailer and residual Milne Inlet camp & support supplies and equipment. Milne Inlet to Port of Valleyfield | $198 | 228 | 45,144 | 10% | 4514.4 | 49,658 |
| **TOTAL** | | | | | | $3,161,298 |
| | | | | | | |
| **AMEC Sealift Cost Estimate (January 2013) at $83.30/rev tone** | | | | | | |

| | Rev Ton, $ | Rev. Ton | Total, $ | Contingency, % | Contingency, $ | Total, $ |
|---|---|---|---|---|---|---|
| **Freight Sealift Milne Inlet to Valleyfield Year 2** | | | | | | |
| Dedicated Charter Freight Sealift of 3rd party contractor equipment and supplies to Milne Inlet, and to demobilize contractor equipment currently located at MR and MI, | 83.30 | 2492 | 207,584 | 10% | 20758 | 228,341 |
| Demobilize by sealift site contractor and specified BIM equipment currently located at MR and MI, | 83.30 | 6455 | 537,702 | 10% | 53770 | 591,471 |
| **Freight Sealift Milne Inlet to Valleyfield Year 4** | | | | | | |
| Demobilize decommissioned material and 3rd party contractor equipment from MI | 83.30 | 2028 | 168,932 | 10% | 16893 | 185,825 |
| **Demobilize Freight Sealift Steensby Port to Port of Valleyfield - Year 3** | | | | | | |
| Vessel Costs Steensby - 1 freight backhaul sealift in Year 3 | 83.30 | 1965 | 163,685 | 10% | 16368 | 180,052 |

| | Rev Ton, $ | Rev. Ton | Total, $ | Contingency, % | Contingency, $ | Total, $ |
|---|---|---|---|---|---|---|
| **Freight Sealift Milne Inlet to Port of Valleyfield Year 6** | | | | | | |
| Vessel & stevedoring costs for backhaul of land farm timer, tilling equipment (i.e. loader with tiller drag), accommodation trailer and residual Milne Inlet camp & support supplies and equipment. Milne Inlet to Port of Valleyfield | 83.30 | 228 | 18,992 | 10% | 1899 | 20,891 |
| **TOTAL** | | | | | | $1,206,583 |
| | | | | | | |
| Difference - Applied as Credit | | | | | $1,954,714.96 | |

### *D.2.11 Post Closure*

D.2.11.1 Objective: Monitoring and Inspections

2013 Marginal Closure Cost does not include any cost associated with post closure monitoring. It has been assumed that the marginal activities considered in 2013 Marginal Closure Cost will not require any monitoring additional to the 2013 A&R Plan (AMEC, January 2013). Specifically, the 2013 A&R Plan (AMEC, January 2013) closure cost estimate includes $21,100/year + $4,790 contingency/year for five years of post -closure environmental monitoring (including water sampling).

D.2.11.2 Objective: Cover Maintenance

An allowance for cover maintenance during five years of post-closure of building debris disposal area cover equals $100,000 (same as PDW Closure Plan) was included in the 2013 Marginal Closure Cost. This allowance includes:

- Repair erosion - infill gullies
- Repair erosion - upgrade diversion ditches
- Repair animal damage
- Repair/upgrade access controls

Note: Total includes a Net Present Value Calculation

# Appendix E

## Remaining Type 'B' Closure Cost – Mining RECLAIM Closure Cost Model Screenshots

## E.1 Summary of Revised Type B Closure Cost Estimate

**SUMMARY OF COSTS**

**CAPITAL COSTS**

| COMPONENT TYPE | COMPONENT NAME | | TOTAL COST | LAND LIABILITY | WATER LIABILITY |
|---|---|---|---|---|---|
| OPEN PIT | Mary River Mine Pit | | $0 | $0 | $0 |
| | Bulk Sample Pit | | $0 | $0 | $0 |
| | Mineral Exploration Areas | | $59,589 | $59,589 | $0 |
| UNDERGROUND MINE | - | | $0 | $0 | $0 |
| TAILINGS | - | | $0 | $0 | $0 |
| ROCK PILE | Mary River Stockpile | | $0 | $0 | $0 |
| BUILDINGS AND EQUIPMENT | Milne Site | | $0 | $0 | $0 |
| | Tote Road | | $0 | $0 | $0 |
| | Mary River Mine | | $0 | $0 | $0 |
| | Railway | | $0 | $0 | $0 |
| | Steensby Port | | $0 | $0 | $0 |
| | Mineral Exploration Areas | | $9,326 | $9,326 | $0 |
| | Remote Sites | | $102,792 | $102,792 | $0 |
| | Mid-Rail Camp | | $136,168 | $136,168 | $0 |
| | Steensby Inlet Camp | | $699,141 | $699,141 | $0 |
| CHEMICALS AND SOIL MANAGEMENT | | | $0 | $0 | $0 |
| WATER MANAGEMENT | | | $14,808 | $0 | $14,808 |
| POST-CLOSUREMONITORING AND MAINTENANCE | | | $0 | $0 | $0 |
| | **SUBTOTAL** | | **$1,021,824** | **$1,007,016** | **$14,808** |
| | | **PERCENTAGES** | | **99%** | **1%** |
| MOBILIZATION/DEMOBILIZATION | | | $0 | 0 | 0 |
| PROJECT MANAGEMENT | | 5% | $51,091 | $50,351 | $740 |
| Bonding | | 1% | $10,218 | $10,070 | $148 |
| Taxes (GST on supplies) - est. | | allowance | $0 | $0 | $0 |
| Insurance | | 1% | $10,218 | $10,070 | $148 |
| ENGINEERING | | 5% | $51,091 | $50,351 | $740 |
| CONTINGENCY | | 10% | $102,182 | $100,702 | $1,481 |
| Market Price Factor Adjustment | | 0% | $0 | $0 | $0 |
| **GRAND TOTAL - CAPITAL COSTS** | | | **$1,246,625** | **$1,228,560** | **$18,066** |

**Figure 11: Summary of Revised Type B Closure Cost Estimate**

## E.2 Open Pit

**Open Pit Name:** *Mineral Exploration Areas* **Pit #** *3*

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| 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 qua | 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 | |
| Level Pads, backfill sumps and grade to natur | $ | 18000 | TBUS | 1 | $18,000 | 100% | $18,000 | $0 | Mineral Exploration Areas tab, cells 4 |
| 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 | |
| Llme addition, _____ kg/m3 of water | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| Lime, purchase and shipping | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| RECLAIM QUARRIES | | | | | | | | | |
| Contour slopes | m3 | | #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 | |
| OTHER ITEMS | | | | | | | | | |
| Stability inspection | | | #N/A | 0 | $0 | | $0 | $0 | |
| Drill Holes fillled and Residual Casings Cuts | $ | 30376 | TBUS | 1 | $30,376 | 100% | $30,376 | $0 | Mineral Exploration Areas tab, cells 3 |
| Inspection and final reclamation of exploration | $ | 11213 | TBUS | 1 | $11,213 | 100% | $11,213 | $0 | Mineral Exploration Areas tab, cells 6 |
| | | | | **Subtotal** | $59,589 | 100% | $59,589 | $0 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 12: Revised Type B Open Pit Reclamation Costs**

## E.3 Buildings and Equipments

**Building / Equip Name:** *Mineral Exploration Areas* **Bldg / Equip #:** *6*

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: DISPOSE MOBILE EQUIPMENT | | | | | | | | |
| Decontaminate and ship off-site | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | $0 | $0 | |
| Other (sealift for equipmt) | each | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate maintenance shop | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate power plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate bulk fuel storage | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | $0 | $0 | |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | $0 | $0 | |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| other | | | #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 | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | |
| Place soil cover | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | $0 | $0 | |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| other | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | |
| Remove culverts | each | | #N/A | 0 | $0 | $0 | $0 | |
| Remove bridges | each | | #N/A | 0 | $0 | $0 | $0 | |
| Scarify and install water breaks | ha | | #N/A | 0 | $0 | $0 | $0 | |
| remove/doze down berms | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| create wildlife passage ramps | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | $0 | $0 | |
| other | | | #N/A | 0 | $0 | $0 | $0 | |
| SPECIALIZED ITEMS | | | | | | | | |
| Prepare core for Long-term site storage | $ | 1756 | TBUS | 1 | $1,756 | 100% | $1,756 | $0 Bulk Mineral Exploration Areas tab, cells 5 |
| Salt mixing stations | $ | 7570 | TBUS | 1 | $7,570 | 100% | $7,570 | $0 Bulk Mineral Exploration Areas tab, cells 7 |
| | | | | Subtotal | $9,326 | 100% | $9,326 | $0 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 13: Revised Type B Buildings and Equipment Reclamation Costs Mineral Exploration Areas**

**Building / Equip Name:** ***Remote Sites*** **Bldg / Equip #:** ***7***

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: DISPOSE MOBILE EQUIPMENT | | | | | | | | |
| Decontaminate and ship off-site | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | $0 | $0 | |
| Other (sealift for equipmt) | each | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate maintenance shop | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate power plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate bulk fuel storage | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | $0 | $0 | |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | $0 | $0 | |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| other | | | #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 | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | |
| Place soil cover | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | $0 | $0 | |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| other | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | |
| Remove culverts | each | | #N/A | 0 | $0 | $0 | $0 | |
| Remove bridges | each | | #N/A | 0 | $0 | $0 | $0 | |
| Scarify and install water breaks | ha | | #N/A | 0 | $0 | $0 | $0 | |
| remove/doze down berms | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| create wildlife passage ramps | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | $0 | $0 | |
| other | | | #N/A | 0 | $0 | $0 | $0 | |
| SPECIALIZED ITEMS | | | | | | | | |
| Decommission remote sites | $ | 102792 | TBUS | 1 | $102,792 | 100% | $102,792 | $0 Remote Sites tab, cells 1 to 5 |
| | | | | **Subtotal** | $102,792 | 100% | $102,792 | $0 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 14: Revised Type B Buildings and Equipment Reclamation Costs – Remote Sites**

**Building / Equip Name:** *Mid-Rail Camp* **Bldg / Equip #:** *8*

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: DISPOSE MOBILE EQUIPMENT | | | | | | | | |
| Decontaminate and ship off-site | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | $0 | $0 | |
| Other (sealift for equipmt) | each | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate maintenance shop | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate power plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate bulk fuel storage | each | | #N/A | 0 | $0 | $0 | $0 | |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | $0 | $0 | |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | $0 | $0 | |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | $0 | $0 | |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| power plant | $ | 1756 | TBUS | 1 | $1,756 | 100% | $1,756 | $0 Camps & Related Facilities tab, cell 47 |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| offices/warehouse/accom | $ | 15804 | TBUS | 1 | $15,804 | 100% | $15,804 | $0 Camps & Related Facilities tab, cell 46 |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| Related Infrastructure | $ | 3512 | TBUS | 1 | $3,512 | 100% | $3,512 | $0 Camps & Related Facilities tab, cell 48 |
| OBJECTIVE: BREAK BASEMENT SLABS | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| Other | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | |
| Place soil cover | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | $0 | $0 | |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| other | m2 | | #N/A | 0 | $0 | $0 | $0 | |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | |
| Remove culverts | each | | #N/A | 0 | $0 | $0 | $0 | |
| Remove bridges | each | | #N/A | 0 | $0 | $0 | $0 | |
| Scarify and install water breaks | ha | | #N/A | 0 | $0 | $0 | $0 | |
| remove/doze down berms | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| create wildlife passage ramps | m3 | | #N/A | 0 | $0 | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | $0 | $0 | |
| other | | | #N/A | 0 | $0 | $0 | $0 | |
| SPECIALIZED ITEMS | | | | | | | | |
| Decomission Decommission Laydown Areas | $ | 878 | TBUS | 1 | $878 | 100% | $878 | $0 Camps & Related Facilities tab, cell 50 |
| General site Clean up | $ | 2634 | TBUS | 1 | $2,634 | 100% | $2,634 | $0 Camps & Related Facilities tab, cell 51 |
| Camp Operation | $ | 7404 | TBUS | 1 | $7,404 | 100% | $7,404 | $0 Camp Operations tab, cell 18 to 22 |
| Fly waste from Mid Rail Camp to Mary River Camp for landfillir | $ | 104180 | TBUS | 1 | $104,180 | 100% | $104,180 | $0 Camps & Related Facilities tab, cell 49 |
| | | | **Subtotal** | | $136,168 | 100% | $136,168 | $0 |
| | | | | | | Pct Land | Total Land | Total Water |

**Figure 15: Revised Type B Buildings and Equipment Reclamation Costs - Mineral Mid-Rail Camp**

**Building / Equip Name:** ***Steensby Inlet Camp*** **Bldg / Equip #:** ***9***

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: DISPOSE MOBILE EQUIPMENT | | | | | | | | | |
| Decontaminate and ship off-site | $ | 4218 | TBUS | 1 | $4,218 | 100% | $4,218 | $0 | Camps & Related Facilities tab, cell 60 |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other (sealift for equipmt) | $ | 2020 | TBUS | 1 | $2,020 | 100% | $2,020 | $0 | Camps & Related Facilities tab, cell 59 |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate maintenance shop | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate power plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate bulk fuel storage | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | $ | 2020 | TBUS | 1 | $2,020 | 100% | $2,020 | $0 | Camps & Related Facilities tab, cell 54 |
| bulk fuel storage | $ | 1670 | TBUS | 1 | $1,670 | 100% | $1,670 | $0 | Camps & Related Facilities tab, cell 57 |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | $ | 23448 | TBUS | 1 | $23,448 | 100% | $23,448 | $0 | Camps & Related Facilities tab, cell 53 |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Related Infrastructure | $ | 2634 | TBUS | 1 | $2,634 | 100% | $2,634 | $0 | Camps & Related Facilities tab, cell 55 |
| OBJECTIVE: BREAK BASEMENT SLABS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | | |
| Place soil cover | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| other | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | | |
| Remove culverts | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Remove bridges | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Scarify and install water breaks | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| remove/doze down berms | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| create wildlife passage ramps | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| other | | | #N/A | 0 | $0 | | $0 | $0 | |
| SPECIALIZED ITEMS | | | | | | | | | |
| Decomission Decommission Laydown Areas | $ | 7644 | TBUS | 1 | $7,644 | 100% | $7,644 | $0 | Camps & Related Facilities tab, cell 56 |
| General site Clean up | $ | 4218 | TBUS | 1 | $4,218 | 100% | $4,218 | $0 | Camps & Related Facilities tab, cell 58 |
| Camp Operation | $ | 18304 | TBUS | 1 | $18,304 | 100% | $18,304 | $0 | Camp Operations tab, cell 18 to 22 |
| Resupply by Helicopter | $ | 57239 | TBUS | 1 | $57,239 | 100% | $57,239 | $0 | Camps & Related Facilities tab, cell 59 |
| Demobilize Freight Sealift Steensby Port to Port of Valleyfield | $ | 575726 | TBUS | 1 | $575,726 | 100% | $575,726 | $0 | Camps & Related Facilities tab, cell 60 |
| | | | | **Subtotal** | $699,141 | 100% | $699,141 | $0 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 16: Revised Type B Buildings and Equipment Reclamation - Steensby Inlet**

## E.4 Water

**Water Management :**

| | ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 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 | |
| B | 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 | |
| E | 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 | |
| F | 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 | |
| G | OBJECTIVE: REMOVE PIPELINES | | | | | | | | | |
| | Remove pipes | $ | 14808 | TBUS | 1 | $14,808 | | $0 | $14,808 | Water tab, cell 2 |
| | Concrete plug deep pipes | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| | Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| H | 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 | |
| I | OBJECTIVE: COLLECT DRAINAGE FOR TREATMENT | | | | | | | | | |
| | Excavate channel | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| | doze & spread excavated material | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| | Vegetate, spread material | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| | Rip rap in channel base | each | | #N/A | 0 | $0 | | $0 | $0 | |
| | Construct contaminated water storage pond | | | | | | | | | |
| | Excavation | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| | supply geomembrame, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| | upper and lower bedding layers | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| | install geomembrane, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| | erosion protection layer | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| J | 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** | $14,808 | 0% | $0 | $14,808 | |
| | | | | | | | Pct Land | Total Land | Total Water | |

**Figure 17: Revised Type B Water Management Reclamation Costs**

# Appendix F

## Remaining Type 'B' Closure Cost – Mining RECLAIM Closure Cost Model Assumptions

## F.1 Introduction

The costs for the Type B Closure Cost Estimate and the Closure Cost Estimate associated with activities that carry over from the Type 'B' Water Licence to the Type 'A' Water Licence were determined using the already agreed upon costs presented in Baffinland Iron Mines Corporation, Mary River Project, 2013 Abandonment And Reclamation Plan For Advanced Exploration Activities, January 2013 (hereon referred to as: 2013 A&R Plan (AMEC, January 2013)). Appendix G3, Cost Estimation Details for Closure of the 2013 A&R Plan (AMEC, January 2013) For Advanced Exploration Activities was used for detailed cost analysis. All capital costs described in 2013 A&R Plan (AMEC, January 2013) were captured in the RECLAIM models.

RECLAIM makes use of separate worksheets to organize the information, and calculate the closure and reclamation costs based on Unit Costs predefined for several activities (a list of the unit costs defined by RECLAIM can be found in the 'Unit_Costs' tab of each RECLAIM model). Based on the level of information and the type of activities to be performed during Closure and Reclamation, the following percentages were applied to the indirect costs. These percentages are calculated based on the subtotal of capital costs:

- Project Management – 5%
- Bonding – 1%
- Insurance – 1%
- Engineering – 5%
- Contingency – 10%

The cost estimate in the 2013 A&R Plan (AMEC, January 2013) Appendix G3 was developed based on all the closure and reclamation costs unit rates and quantities defined as person day and equipment hours. The dollar value of these calculations was carried over to the RECLAIM model to account for them.

To reflect the cost presented in Appendix G3 of the 2013 A&R Plan (AMEC, January 2013) into RECLAIM a hybrid system was developed. With this system the total cost for each item (man hour cost + equipment cost) was input as the quantity assuming a Unit Cost of $1 without contingency. For example, if the cost of the reclamation activities for a certain item was estimated as $20,000 in the 2013 A&R Plan (AMEC, January 2013), then it was assigned 20,000 units at $1 in the RECLAIM model.

Note: RECLAIM spreadsheet calculates Project Management fee as a percentage of the subtotal of capital costs (for the purpose of this estimate, a 5% of the subtotal of capital costs was assigned to the Project Management). Appendix G3 of 2012 A&R Plan has a breakdown for Project Management & Supervision costs (General Site Area, cells 1 to 9, Appendix G3 of 2013 A&R Plan (AMEC, January 2013)). This was therefore excluded from the RECLAIM model to avoid double counting.

Note: All contingency values assigned in 2013 A&R Plan (AMEC, January 2013) - Appendix G3 have not been included to allow for RECLAIM already defined contingency as a percentage of the subtotal of capital costs. For the purpose of this estimate, a 10% contingency was assigned.

In order to keep track the source of the costs and quantities and what activities drive them, a reference was inserted in each line item of RECLAIM that cross references the costing source to Appendix G3 of the 2013 A&R Plan (AMEC, January 2013). Therefore the RECLAIM Model presented and Appendix G3 of the 2013 A&R Plan (AMEC, January 2013) should be read as complementary documents. For further references, Appendix G3 has been incorporate in Appendix I of this document.

Based on calculations of the RECLAIM Model, the cost of reclamation for the following items is as follows:

**Table 5: Type B Closure Cost Estimate Reallocation Summary**

| Applicable Licence | Revised Type B Closure Estimate | Carry-over Type A Estimate from Type B |
|---|---|---|
| **Total** | **$1,246,625** | **$23,651,165** |
| Land Liability | $1,228,560 | $21,546,546 |
| Water Liability | $18,066 | $1,772,873 |

For further discussion of the Closure Cost Estimate for the Revised Type B Closure Estimate and the Carry-over Type A Estimate from Type B please refer to F.1 of this Appendix and Appendix H.

## F.2 Type B Closure Cost Estimate

Costs Remaining under Type B Water Licence include:

- All costs associated with Steensby Camp
  - Steensby Inlet Camp operation
  - Decommission of Steensby Inlet Camp
  - Demobilize freight Sealift Steensby Port to Port Valleyfield
- All cost associated with Mid-Rail and any other rail camps
  - Mid-Rail Camp operation
  - Decommission of Remotes Sites
  - Decommission of Mid-Rail Camp
- All Costs associated with drilling and drill holes
  - Bulk Sample Pit
  - Mineral Exploration Areas

For specific references to which line items in the 2012 Mary River A&R Plan costs were considered in the Type B Model refer to the 'Revised Type B Water Licence Closure Cost Estimate' RECLAIM Model which cross references all costs.

A summary of the Revised Type B Closure Cost Estimate RECLAIM model is presented in Figure 11 of Appendix E. All subsequent figures (Figure 12 to Figure 17 of Appendix E) are screenshots from the respective tabs in the RECLAIM model that derives the summary cost table.

# Appendix G

## Type ‘A’ Carry Over Closure Cost - Mining RECLAIM Closure Cost Model Screenshots

## G.1 Summary of Carry-over Closure Cost Estimate from Type 'B' to Type 'A' Water Licence

**SUMMARY OF COSTS**

**CAPITAL COSTS**

| COMPONENT TYPE | COMPONENT NAME | | TOTAL COST | LAND LIABILITY | WATER LIABILITY |
|---|---|---|---|---|---|
| OPEN PIT | Mary River Mine Pit | | $481,586 | $481,586 | $0 |
| UNDERGROUND MINE | - | | $0 | $0 | $0 |
| TAILINGS | - | | $0 | $0 | $0 |
| ROCK PILE | Mary River Stockpile | | $86,881 | $86,881 | $0 |
| BUILDINGS AND EQUIPMENT | Milne Site | | $6,269,994 | $6,257,586 | $12,408 |
| | Milne Inlet Stockpile | | $182,526 | $182,526 | $0 |
| | Tote Road | | $1,938,492 | $1,920,252 | $18,240 |
| | Mary River Mine | | $2,669,047 | $2,456,185 | $212,862 |
| | Railway | | $0 | $0 | $0 |
| | Steensby Port | | $0 | $0 | $0 |
| | General Site Areas | | $2,686,739 | $1,617,587 | $1,069,152 |
| CHEMICALS AND SOIL MANAGEMENT | | | $90,000 | $90,000 | $0 |
| WATER MANAGEMENT | | | $0 | $0 | $0 |
| POST-CLOSUREMONITORING AND MAINTENANCE | | | $1,654,952 | $1,538,482 | $116,470 |
| | **SUBTOTAL** | | **$16,060,217** | **$14,631,085** | **$1,429,132** |
| | | | **PERCENTAGES** | **91%** | **9%** |
| MOBILIZATION/DEMOBILIZATION | | | $4,057,700 | 3,696,622 | 361,078 |
| PROJECT MANAGEMENT | | 5% | $803,011 | $731,554 | $71,457 |
| Bonding | | 1% | $160,602 | $146,311 | $14,291 |
| Taxes (GST on supplies) - est. | | allowance | $0 | $0 | $0 |
| Insurance | | 1% | $160,602 | $146,311 | $14,291 |
| ENGINEERING | | 5% | $803,011 | $731,554 | $71,457 |
| CONTINGENCY | | 10% | $1,606,022 | $1,463,109 | $142,913 |
| Market Price Factor Adjustment | | 0% | $0 | $0 | $0 |
| **GRAND TOTAL - CAPITAL COSTS** | | | **$23,651,165** | **$21,546,546** | **$2,104,618** |

**Figure 18: Summary of Carry-over Closure Cost Estimate from Type 'B' to Type 'A' Water Licence**

## G.2 Open Pit

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

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| 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 qı | 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 | |
| Llme addition, _____ kg/m3 of water | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| Lime, purchase and shipping | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| RECLAIM QUARRIES | | | | | | | | | |
| Contour slopes | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Berm at crest | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Place overburder | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Vegetate | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| OTHER ITEMS | | | | | | | | | |
| Borrow and Quarry Areas | $ | 481586 | TBUS | 1 | $481,586 | 100% | $481,586 | $0 | Borrow & Quarry Areas tab, cell 1 to 4 |
| | | | **Subtotal** | | $481,586 | 100% | $481,586 | $0 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 19: Carry Over Type A Open Pit Reclamation Costs**

## G.3 Rock Pile

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

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: STABILIZE SLOPES | | | | | | | | | |
| Flatten slopes with dozer | m3 | 21756 | TBUS | 1 | $21,756 | 100% | $21,756 | $0 | Stockpiles tab, cell 2 |
| Flatten "bubble dump" areas | m3 | | #N/A | | $0 | | $0 | $0 | |
| Divert runon, ditch mat'l A | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| , ditch mat'l B | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Toe buttress, drain mat'l | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| , fill mat'l A | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| , fill mat'l B | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: COVER DUMP | | | | | | | | | |
| Mat'l A | m3 | 65125 | TBUS | 1 | $65,125 | 100% | $65,125 | $0 | Stockpiles tab, cell 3 |
| Mat'l B | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Rip rap | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Other (scarify) | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| VERY LOW PERMEABILITY COVER | | | | | | | | | |
| supply geomembrame, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| upper and lower bedding layers | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| install geomembrane, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| erosion protection layer | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| install infiltration/seepage instrumentation | allow | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: RELOCATE DUMPS | | | | | | | | | |
| Load, haul, dump or doze | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Add lime | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| Contour reclaimed area | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| SPECIALIZED ITEMS | | | | | | | | | |
| Stability inspection | | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| install permanent instrumentation, drilling | | | #N/A | | $0 | | $0 | $0 | |
| | | | | **Subtotal** | $86,881 | 100% | $86,881 | $0 | |
| | | | | | | % Land | Total Land | Total Water | |

**Figure 20: Carry Over Type A Mary River Stockpile Reclamation Costs**

**Rock Pile Name: *Milne Inlet Stockpile*** **Rock Pile #: *1***

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: STABILIZE SLOPES | | | | | | | | | |
| Flatten slopes with dozer | $ | 18648 | TBUS | 1 | $18,648 | 100% | $18,648 | $0 | Stockpiles tab, cell 5 |
| Flatten "bubble dump" areas | m3 | | #N/A | | $0 | | $0 | $0 | |
| Divert runon, ditch mat'l A | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| , ditch mat'l B | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Toe buttress, drain mat'l | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| , fill mat'l A | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| , fill mat'l B | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: COVER DUMP | | | | | | | | | |
| Mat'l A | $ | 163878 | TBUS | 1 | $163,878 | 100% | $163,878 | $0 | Stockpiles tab, cell 6 |
| Mat'l B | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Rip rap | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Other (scarify) | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| VERY LOW PERMEABILITY COVER | | | | | | | | | |
| supply geomembrame, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| upper and lower bedding layers | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| install geomembrane, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| erosion protection layer | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| install infiltration/seepage instrumentation | allow | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: RELOCATE DUMPS | | | | | | | | | |
| Load, haul, dump or doze | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Add lime | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| Contour reclaimed area | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| SPECIALIZED ITEMS | | | | | | | | | |
| Stability inspection | | | #N/A | 0 | $0 | | $0 | $0 | |
| install permanent instrumentation, drilling | | | #N/A | | $0 | | $0 | $0 | |

| | Subtotal | $182,526 | | $182,526 | $0 |
|---|---|---|---|---|---|
| | | | % Land | Total Land | Total Water |

**Figure 21: Carry Over Type A Milne Inlet Stockpile Reclamation Costs**

## G.4 Buildings and Equipments

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

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: DISPOSE MOBILE EQUIPMENT | | | | | | | | | |
| Decontaminate and ship off-site | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other (remove airstrip lightning) | each | 105890 tbus | | 1 | $105,890 | 100% | $105,890 | $0 | Camps & Related Facilities tab, cells 12 to 17 |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate maintenance shop | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate power plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate bulk fuel storage | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| bulk fuel storage | $ | 444397 TBUS | | 1 | $444,397 | 100% | $444,397 | $0 | Fuel Storage Facilities tab, cells 8 to 20 |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | $ | 145456 TBUS | | 1 | $145,456 | 100% | $145,456 | $0 | Camps & Related Facilities tab, cells 30 to 32 |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| other | | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: BREAK BASEMENT SLABS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Other | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | | |
| Place soil cover | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| other | $ | 31488.0 TBUS | | 1 | $31,488 | 100% | $31,488 | $0 | Camps & Related Facilities tab, cells 41 to 44 |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | | |
| Remove culverts | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Remove bridges | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Scarify and install water breaks | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| remove/doze down berms | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| create wildlife passage ramps | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| other | | | #N/A | 0 | $0 | | $0 | $0 | |
| SPECIALIZED ITEMS | | | | | | | | | |
| Site Contractor Decommissioning and Demob - Milne Inlet C | $ | 91828 TBUS | | 1 | $91,828 | 100% | $91,828 | $0 | Camps & Related Facilities tab, cell 1 to 3 |
| General Site Clean up | $ | 23294 TBUS | | 1 | $23,294 | 100% | $23,294 | $0 | Camps & Related Facilities tab, cell 38 to 40 |
| Sewage Milne | $ | 12408 TBUS | | 1 | $12,408 | 0% | $0 | $12,408 | Waste Management tab, cells 14 to 18 |
| Land Farm Operation | $ | 658080 TBUS | | 1 | $658,080 | 100% | $658,080 | $0 | Hydrocarbon Impacted Soil tab, cells 2 to 7 |
| Sealift | $ | 3929796 TBUS | | 1 | $3,929,796 | 100% | $3,929,796 | $0 | Sealift Materials tab, cells 1 to 18 & 22 to 25 |
| Camp Operation | $ | 827357 TBUS | | 1 | $827,357 | 100% | $827,357 | $0 | Camp Operations tab, cells 23 to 30; cells 32, 33 &36 |
| | | | Subtotal | | $6,269,994 | 100% | $6,257,586 | $12,408 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 22: Carry Over Type A Buildings and Equipment Reclamation Costs – Milne Inlet**

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

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: DISPOSE MOBILE EQUIPMENT | | | | | | | | | |
| Decontaminate and ship off-site | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | each | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate maintenance shop | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate power plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate bulk fuel storage | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| other | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| OBJECTIVE: BREAK BASEMENT SLABS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Other | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | | |
| Place soil cover | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| other | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | | |
| Remove box culverts & stabilize slopes | $ | 286416 | TBUS | 1 | $286,416 | 100% | $286,416 | $0 | Roads & Airstrips tab, cells 17 |
| Remove round culverts & stabilize slopes | $ | 1525212 | TBUS | 1 | $1,525,212 | 100% | $1,525,212 | $0 | Roads & Airstrips tab, cells 19 |
| Install water breaks | $ | 18240 | TBUS | 1 | $18,240 | 0% | $0 | $18,240 | Roads & Airstrips tab, cells 18 |
| 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 (inspect/repair erosion and/or permafrost damage) | $ | 53040 | TBUS | 1 | $53,040 | 100% | $53,040 | $0 | Roads & Airstrips tab, cells 16 |
| SPECIALIZED ITEMS | | | | | | | | | |
| Operate Tote road for shipments | $ | 55584 | TBUS | 1 | $55,584 | 100% | $55,584 | $0 | Roads & Airstrips tab, cells 7 to 8 |
| | | | | **Subtotal** | $1,938,492 | | $1,920,252 | $18,240 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 23: Carry Over Type A Buildings and Equipment Reclamation Costs – Tote Road**

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

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: DISPOSE MOBILE EQUIPMENT | | | | | | | | | |
| Decontaminate and ship off-site | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other (remove airstrip lightning) | each | 120084 | tbus | 1 | $120,084 | 100% | $120,084 | $0 | Camps & Related Facilities tab, cells 12 to 17 |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate maintenance shop | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate power plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate bulk fuel storage | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $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 | 100% | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| bulk fuel storage | $ | 256648 | TBUS | 1 | $256,648 | 100% | $256,648 | $0 | Fuel Storage Facilities tab, cells 1 to 7 |
| ANFO plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| offices/warehouse/accom | $ | 563276 | TBUS | 1 | $563,276 | 100% | $563,276 | $0 | Camps & Related Facilities tab, cells 4 to 11 |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| other | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| OBJECTIVE: BREAK BASEMENT SLABS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $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 | 100% | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Other | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | | |
| Place soil cover | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | 100% | $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 | 100% | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| other | $ | 66324 | TBUS | 1 | $66,324 | 100% | $66,324 | $0 | Camps & Related Facilities tab, cells 21 to 24 |
| OBJECTIVE: RECLAIM ROADS | | | | | | | | | |
| Remove culverts | $ | 53040 | TBUS | 1 | $53,040 | 100% | $53,040 | $0 | Roads & Airstrips tab, cells 12 |
| Remove bridges | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Scarify and install water breaks | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Grade and contour road and ditch | $ | 63000 | TBUS | 1 | $63,000 | 100% | $63,000 | $0 | Roads & Airstrips tab, cells 11 |
| create wildlife passage ramps | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| other (inspect/repair erosion and/or permafrost damage; inst | $ | 54852 | TBUS | 1 | $54,852 | 100% | $54,852 | $0 | Roads & Airstrips tab, cells 10, 13-14 |
| SPECIALIZED ITEMS | | | | | | | | | |
| Remove airstrip lightening and fill in airstrip lightening diches | $ | 21231 | TBUS | 1 | $21,231 | 100% | $21,231 | $0 | Roads & Airstrips tab, cells 22 to 24 |
| Site Contractor Decommissioning and Demob - Mary River ( | $ | 294600 | TBUS | 1 | $294,600 | 100% | $294,600 | $0 | Camps & Related Facilities tab, cell 1 to 3 |
| General Site Clean up | $ | 43031 | TBUS | 1 | $43,031 | 100% | $43,031 | $0 | Camps & Related Facilities tab, cell 18 to 20 |
| Decommission Refuge Sites | $ | 2896 | TBUS | 1 | $2,896 | 100% | $2,896 | $0 | Camps & Related Facilities tab, cell 25 & 26 |
| Operate Landfill | $ | 297024 | TBUS | 1 | $297,024 | 100% | $297,024 | $0 | Waste Management tab, cells 1 to 5 |
| Ship waste by Land (Mary River to Milne Inlet) | $ | 36999 | TBUS | 1 | $36,999 | 100% | $36,999 | $0 | Waste Management tab, cells 6 to 8 |
| Sewage Mary River | $ | 212862 | TBUS | 1 | $212,862 | 0% | $0 | $212,862 | Waste Management tab, cells 9 to 13 |
| Camp Operation | $ | 583180 | TBUS | 1 | $583,180 | 100% | $583,180 | $0 | Camp Operations tab, cells 8 to 10; 15 to 17 |
| | | | **Subtotal** | | $2,669,047 | | $2,456,185 | $212,862 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 24: Carry Over Type A Buildings and Equipment Reclamation Costs – Mine Site**

**Building / Equip Name:** ***General Site Areas*** **Bldg / Equip #:** ***6***

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: DISPOSE MOBILE EQUIPMENT | | | | | | | | | |
| Decontaminate and ship off-site | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate, dispose on-site | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other (sealift for equipmt) | each | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: REMOVE CONTAMINATED BUILDINGS | | | | | | | | | |
| Decontaminate crushing plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate tanks & plumbing | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate thickeners | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate water treatment plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate maintenance shop | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate power plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate bulk fuel storage | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Decontaminate ANFO plant | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Deontaminate offices/warehouse/accom | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Removal of asbestos siding on buildings | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Removal of friable asbestos on equipment | each | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: REMOVE NON-CONTAMINATED BUILDINGS | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| consolidate & dump boneyard debris | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| other | | | #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 | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: LANDFILL FOR DEMOLITION WASTE | | | | | | | | | |
| Place soil cover | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Vegetate | ha | | #N/A | 0 | $0 | | $0 | $0 | |
| Landfill disposal fee | tonne | | #N/A | 0 | $0 | | $0 | $0 | |
| OBJECTIVE: GRADE AND CONTOUR MILL & PLANT SITE | | | | | | | | | |
| crushing plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| conveyors & transfer towers | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| tanks & plumbing | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| thickeners | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| water treatment plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| maintenance shop | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| power plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| bulk fuel storage | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| ANFO plant | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| offices/warehouse/accom | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| other | m2 | | #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 (Grade and contour road surfaces and remove culverts | $ | 32790 | TBUS | 1 | $32,790 | 100% | $32,790 | $0 | Roads & Airstrips tab, cells 0 & 21 |
| SPECIALIZED ITEMS | | | | | | | | | |
| other (Freshet management Field Activities, year 2, 3, 4) | $ | 1069152 | TBUS | 1 | $1,069,152 | 0% | $0 | $1,069,152 | Roads & Airstrips tab, cells 1 to 6 |
| Project Site Abandonment | $ | 49106 | TBUS | 1 | $49,106 | 100% | $49,106 | $0 | Project Site Abandonment tab, cells 1 to 8 General Site Area tab, cells 1 to 9 - Set to Zero to account of RECLAIM's own PM |
| Project Management & Supervision (Years 2 to 4) | $ | 0 | TBUS | 1 | $0 | 100% | $0 | $0 | estimate |
| A&R fuel purchase - cash cost of fuel & barel deposit | $ | 1535691 | TBUS | 1 | $1,535,691 | 100% | $1,535,691 | $0 | Camp Operations tab, cell 2 |
| | | | **Subtotal** | | $2,686,739 | 60% | $1,617,587 | $1,069,152 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 25: Carry Over Type A Buildings and Equipment Reclamation Costs – General Site Areas**

## G.5 Chemicals

**Chemicals and Soil Contamination:**

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| HAZARDOUS MATERIALS AUDIT | | | | | | | | | |
| Phase 1 audit | each | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Phase 2 audit | each | | #N/A | 100000 | $0 | 100% | $0 | $0 | |
| HAZARDOUS MATERIALS TO BE CONSOLIDATED FOR REMOVAL | | | | | | | | | |
| Waste oils | litre | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Fuel - Type 1, eg diesel dregs | litre | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Fuel - Type 1, eg gasoline dregs | litre | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| waste batteries | kg | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| assay & environmental lab reagents | litre | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| machine shop, paints, solvents etc | litre | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| contaminated soils - hydrocarbon | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| metal contam. soil at conc. load-out | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| HAZARDOUS MATERIALS | | | | | | | | | |
| Transportation to disposal facility | T | | #N/A | 0 | $0 | | $0 | $0 | |
| Disposal fees | allow | | #N/A | | $0 | | $0 | $0 | |
| other | | | #N/A | 0 | $0 | | $0 | $0 | |
| CONTAMINATED SOILS | | | | | | | | | |
| Contam. soil investigation - technical | $ | 90000 | TBUS | 1 | $90,000 | 100% | $90,000 | | Hydrocarbon Impacted Soil tab, cell 1 |
| Contam. soil investigation - drilling & sampling | each | | #N/A | 34957 | $0 | 100% | $0 | $0 | |
| CONTAMINATED SOIL REMOVAL | m3 | | | | $0 | | $0 | $0 | |
| contaminated soils - hydrocarbon | m3 | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| metal contam. soil at conc. load-out | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Load, haul, dump or doze | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| Reagents/stabilizing agent | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| Contour reclaimed area | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| other | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| CONTAMIANTED SOIL VERY LOW PERMEABILITY COVER | | | | | | | | | |
| supply geomembrame, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| upper and lower bedding layers | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| install geomembrane, HDPE, ES3, GCL | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| erosion protection layer | m3 | | #N/A | 0 | $0 | | $0 | $0 | |
| vegetate | m2 | | #N/A | 0 | $0 | | $0 | $0 | |
| install infiltration/seepage instrumentation | allow | | #N/A | 0 | $0 | | $0 | $0 | |
| other | | | #N/A | 0 | $0 | | $0 | $0 | |
| OTHER | | | | | | | | | |
| Explosives | $ | 0 | TBUS | 1 | $0 | 100% | $0 | $0 | Explosives tab, cells 1 to 3 |
| | | | **Subtotal** | | $90,000 | 100% | $90,000 | $0 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 26: Carry Over Type A Chemicals Reclamation Costs**

## G.6 Mobilization

**Mobilization:**

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| MOBILIZE HEAVY EQUIPMENT | | | | | | | | | |
| **Equipment to regional centre** | | | | | | | | | |
| Excavators | km | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Dump trucks | km | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Dozers | km | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Demolition shears | km | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Crane | km | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Light duty vehicles | km | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Other (loaders) | km | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Other | km | | #N/A | 0 | $0 | 100% | $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 | km | | #N/A | 0 | $0 | | $0 | $0 | |
| Other | km | | #N/A | 0 | $0 | | $0 | $0 | |
| MOBILIZE CAMP | | | | | | | | | |
| | allow | | #N/A | | $0 | | $0 | $0 | |
| MOBILIZE WORKERS | | | | | | | | | |
| crew travel time | manday | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| crew transportation | $ | 2693300 | TBUS | 1 | $2,693,300 | 100% | $2,693,300 | $0 | Camp Operations tab, cells 5 to 7; 12 to 14; cells 34-35 |
| MOBILIZE MISC. SUPPLIES | | | | | | | | | |
| Fuel | $ | 1364400 | TBUS | 1 | $1,364,400 | 100% | $1,364,400 | $0 | Camp Operations tab, cells 30 to 32 |
| Sealift per season | allow | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Sealift manpower per season | allow | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| Manpower for the season w/o sealift | | | #N/A | 0 | $0 | 100% | $0 | $0 | |
| WORKER ACCOMODATIONS | | | | | | | | | |
| | $ | | #N/A | 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 | 20000 | $0 | | | | |
| | | sub-total annual C&M cost | | | $0 | | | | |
| **Total C&M cost** | years | 3 | #N/A | 0 | $0 | 100% | $0 | $0 | |
| | | | | **Subtotal** | $4,057,700 | 100% | $4,057,700 | $0 | |
| | | | | | | Pct Land | Total Land | Total Water | |

**Figure 27: Carry Over Type A Mobilization Reclamation Costs**

## G.7 Post Closure

**Post-Closure Monitoring & Maintenance:**

| ACTIVITY/MATERIAL | Units | Quantity | Cost Code | Unit Cost | Cost | % Land | Land Cost | Water Cost | Refer in Appendix G3 |
|---|---|---|---|---|---|---|---|---|---|
| OBJECTIVE: MONITORING & INSPECTIONS | | | | | | | | | |
| Annual geotechnical insp. | each | | #N/A | $0 | $0 | | $0 | $0 | |
| Survey inspection | each | | #N/A | $0 | $0 | 100% | $0 | $0 | |
| Surface water sampling | $ | 21500 | TBUS | $1 | $21,500 | 0% | $0 | $21,500 | Environmental Monitoring tab, cells 4, 10, 16, 22, 28 |
| Groundwater Sampling | each | | #N/A | $0 | $0 | 0% | $0 | $0 | |
| Receiving/downstream water sampling | each | | #N/A | $0 | $0 | | $0 | $0 | |
| Reporting | $ | 200000 | TBUS | $1 | $200,000 | 100% | $200,000 | $0 | Environmental Monitoring tab, cell 1 |
| on-site transportation | each | | #N/A | $0 | $0 | | $0 | $0 | |
| transporation to site | $ | 18000 | TBUS | $1 | $18,000 | 100% | $18,000 | $0 | Environmental Monitoring tab, cells 6-7, 12-13, 18-19, 24-25, 30-31 |
| Other (preparation/consumables, site over | $ | 66000 | TBUS | $1 | $66,000 | 100% | $66,000 | $0 | Environmental Monitoring tab, cells 3, 5, 9, 11, 15, 17, 21, 23, 27, 29 |
| OBJECTIVE: COVER MAINTENANCE | | | | | | | | | |
| Repair erosion - infill gullies | allow | | #N/A | $0 | $0 | | $0 | $0 | |
| Repair erosion - upgrade diversion ditches | allow | | #N/A | $0 | $0 | | $0 | $0 | |
| Remove problem vegetation | allow | | #N/A | $0 | $0 | | $0 | $0 | |
| Repair animal damage | allow | | #N/A | $0 | $0 | | $0 | $0 | |
| Repair/upgrade access controls | allow | | #N/A | $0 | $0 | | $0 | $0 | |
| Other | | | #N/A | $0 | $0 | 100% | $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 | | | | | $305,500 | | $284,000 | $21,500 | |
| Discount rate for calculation of net present value of post-closure | | | 3.00% | | | | | | |
| Number of years of post-closure activity | | | 6 years | | | | | | |
| **Present Value of payment stream** | | | | | $1,654,952 | $1 Pct Land | $1,538,482 Total Land | $116,470 Total Water | |

**Figure 28: Carry Over Type A Post Closure Costs**

# Appendix H

## Type ‘A’ Carry Over Closure Cost - Mining RECLAIM Closure Cost Model Assumptions

## H.1 General Assumptions

Reclamation costs that are carrying over to Type A Water License will include all the costs in the 2013 A&R Plan (AMEC, January 2013) that are not mentioned in Section 1.2 of Appendix F. Thus, the following items were included from the 2013 A&R Plan (AMEC, January 2013):

- Project Site Abandonment
- Stockpiles - Mary River and Milne Inlet Stockpiles
- Camp and related Facilities – Mary River Camp and Milne Inlet Camp:
  - Site Contractor decommissioning and demobilization of Mary River Camp
  - Decommission Camp
  - Organize material for Shipment
  - General Site Clean-up
  - Contouring and grading
  - Decommission Refugee Sites
- Road and Strips:
  - Freshet Management Field Activities (Year 2 to 4)
  - Milne Inlet Tote Road Operation
  - #1 Deposit Haul Road
  - Milne Inlet Tote Road
  - General Access Roads
  - Airstrips
- Borrow and Quarry Areas
- Fuel Storage Facility - Mary River and Milne Inlet Fuel Farm
- Explosives
- Waste Management:
  - Operate Landfill
  - Ship Waste by Land from Mary River to Milne Inlet
  - Sewage – Mary River and Milne
- Hydrocarbon Impacted Soils

- Sealift Materials:
  - Freight Sealift Milne Inlet to Valleyfield (year 2 to 4)
  - Bulk Fuel demobilization
- Camp Operation:
  - A&R fuel purchase
  - Mary River Camp operation (year 2 and 3)
  - Milne Inlet Camp operation (year 2 to 4)
- Environmental Monitoring (year 2 to 6)

For specific references to which line items in the 2013 Mary River A&R Plan costs were considered in the Carry Over Type A Closure Cost Estimate refer to the 'Carry Over to Type A Water Licence Closure Cost Estimate' RECLAIM Model which cross references all costs

A summary of the Carry Over Type A Closure Cost Estimate is presented in Figure 18 of Appendix G. All subsequent figures (Figure 2 to Figure 11 of Appendix G) are screenshots from the respective tabs in the RECLAIM model that derives the summary cost table.

# Appendix I

## Annotated 2013 Abandonment and Reclamation Plan for Advanced Exploration Activities - Appendix G-3 Cost Estimation Details for Closure (AMEC, 2013)

**2013 A&R Plan Cost Estimation Details for Closure**

| | | | | Project Site Abandonment | Labour | | | | Equipment | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | # Units | Unit Rate | Cost | Units | # Units | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | $ 37,206 | | | | $11,900 | $49,106 | $49,106 | $ - | $ - | $ - | $ - | 8% | $4,146 | | |
| 1 | A | Bldgs & Equip | Specialized Items | Pre-abandonment shutdown | Person Day | 1 | | $ - | | | | $ - | $ - | $ - | $ - | $ - | $ - | $ - | | $ - | | Operations Manager, officers of the company and Board of Directors have a legal requirement and personally liability to ensure the health & safety of employees and the security of the site to prevent any short term adverse effect on the environment. Water, sewage, fuel, power & hazardous material will be secured before site is abandoned. This work will be conducted by Baffinland Staff prior to abandonment and carries not cost |
| 2 | A | Bldgs & Equip | Specialized Items | Drain, isolate and secure camp water systems | Person Day | 1 | | $ - | Hours | | | $ - | $ - | | | | | | 0% | $ - | | |
| 3 | A | Bldgs & Equip | Specialized Items | Drain, isolate and secure Camp sewage treatment plant, lines and lagoons | Person Day | 1 | | $ - | Hours | | | $ - | $ - | | | | | | 0% | $ - | | |
| 4 | A | Bldgs & Equip | Specialized Items | Drain, isolate and secure all local fuel storage supply systems | Person Day | 1 | | $ - | Hours | | | $ - | $ - | | | | | | 0% | $ - | | |
| 5 | A | Bldgs & Equip | Specialized Items | Isolate and secure all bulk fuel storage systems such that tanks and bladders are isolated and contained within secondary containment | Person Day | 1 | | $ - | Hours | | | $ - | $ - | | | | | | 0% | $ - | | |
| 6 | A | Bldgs & Equip | Specialized Items | Secure all barrelled fuel in secondary containment | Person Day | 1 | | $ - | Hours | | | $ - | $ - | | | | | | 0% | $ - | | |
| 7 | A | Bldgs & Equip | Specialized Items | Secure all hazardous waste in secondary containment | Person Day | 1 | | $ - | Hours | | | $ - | $ - | | | | | | 0% | $ - | | |
| 8 | A | Bldgs & Equip | Specialized Items | Isolate and safely secure all mechanical and electrical elements. | Person Day | 1 | | $ - | Hours | | | $ - | $ - | | | | | | 0% | $ - | | |

| | | | | Bulk Sample Pit | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Units | # Units | Unit Rate | Cost | Units | # Units | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency ($) | Basis for 2013 Contingency | Basis for 2013 Estimate |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | | | | | | | | | | | | | | |
| 1 | B | Open Pit | Other Items | Decommission bulk sample pit | Person Day | 0 | $ - | $ - | Hours | 0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | 0% | $ - | | |
| 2 | B | Open Pit | Other Items | Remedial blasting for stability | Person Day | 0 | $ - | $ - | Hours | 0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | 0% | $ - | | Pit was assessed as stable in 2008 as per the Nunavut WCSS Mine Inspectors Report. Berms restricting vehicle access to the edge of the mountain constructed in 2008. No blasting required. See Report in Appendix G-4, 2012 A&R Plan Estimating Docs\Bulk Sample Pit\WSCC Inspection of Bulk Sample Pit |
| 3 | B | Open Pit | Other Items | Remedial excavation for stability | Person Day | 0 | $ - | $ - | Hours | 0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | 0% | $ - | | Pit was assessed as stable in 2008 as per the Nunavut WCSS Mine Inspectors Report. Berms restricting vehicle access to the edge of the mountain constructed in 2008. No remedial excavation required. See Report Appendix G-4, 2012 A&R Plan Estimating Docs\Bulk Sample Pit\WSCC Inspection of Bulk Sample Pit |
| 4 | B | Open Pit | Other Items | Runoff diversion around top of pit | Person Day | 0 | $ - | $ - | Hours | 0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | 0% | $ - | | Documented visual observations conducted during the 2009/2010 freshets confirmed that the pit is free draining during all stages of the freshet melt and through seasonal rain fall events . See photo demonstrating free draining status during freshet Appendix G-4, 2012 A&R Plan Estimating Docs\Bulk Sample Pit\July 6 09 bulk sample bench photo - free draining 2009-2010 results of effluent seepage from the pit are below the water license effluent criteria and the concentration limits listed under Schedule 4 of the Metal Mines Effluent Regulations (MMER) indicating surface runoff quality should remain stable. Monitoring will continue but no reclamation activity has been costed. See detailed summary in A&R plan Section 4.2.3 |
| 5 | B | Open Pit | Other Items | Decommission explosives magazine | Person Day | 0 | $ - | $ - | Hours | 0 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | 0% | $ - | | All explosives decommissioned in 2010. No further decommissioning of magazines required. |

| | | | | Mineral Exploration Areas (Dep. 1-3) | | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Year | Units | # Units | Unit Rate | Cost | Units | # Units | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| *#* | *Type* | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$19,028*** | | | | ***$64,695*** | ***$83,723*** | ***$ -*** | ***$ -*** | ***$83,723*** | ***$ -*** | ***$ -*** | ***10%*** | ***$8,582*** | | |
| 1 | B | | | Decommission mineral exploration areas | 3 | | | | $19,028 | | | | $64,695 | $83,723 | $ - | $ - | $83,723 | $ - | $ - | | $8,582 | | |
| 2 | B | Water | Remove Pipelines | Remove water lines from exploration areas | 3 | Person Day | 12 | $439 | $5,268 | Hours | 6 | $1,590 | $9,540 | $14,808 | | | $14,808 | | | 15% | $2,221 | Quantities and scope are well defined | 4 person crew - 3 days. Assume general labour used. See Appendix G-3, 2012 A&R Schedule of Labour,. 6 hours helicopter time to sling down water lines from Deposit #1. The water lines have been packaged and moved numerous time. Estimate based on historical productivity to package and move piping. |
| 3 | B | Open Pit | Other Items | Drill holes filled and residual casings cut | 3 | Person Day | 4 | $439 | $1,756 | Hours | 18 | $1,590 | $28,620 | $30,376 | | | $30,376 | | | 5% | $1,519 | Quantities, scope and productivity are well defined. Equipment hours assigned to task at double the historical rate for holes spaced closely together. A conservative 5% contingency has been applied. | Geotech hole reclamation helicopter utilization in 2009 = 0.27 hours/hole with holes spread out across 130miles of railway. Assume the same drill hole reclamation productivity for exploration drills although the exploration holes are all located only kilometres from the main camp. There are 18 holes requiring reclamation at Deposit #1. Assume a very conservative 1 hour per hole, 2 man labour crew with helicopter support. For General labour and helicopter rates see Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 4 | B | Open Pit | Cover/ Contour Slopes | Level pads, backfill sumps and grade to natural contours | 3 | Person Day | 5 | $996 | $4,980 | Hours | 60 | $217 | $13,020 | $18,000 | | | $18,000 | | | 15% | $2,700 | Quantities and scope are well defined. A 15% contingency has been applied to address risk of extended excavator travel time between holes | Assume excavator used to backfill. 18 holes with sumps. Sumps are 3m x 10m x 1.5m = 45m3 each. Assume HEO and 3 hours dozer time/sump to backfill and reclaim each sump. See Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 5 | B | Bldgs & Equip | Specialized Items | Prepare core for long-term site storage adjacent to airstrip | 3 | Person Day | 4 | $439 | $1,756 | Hours | | $0 | $0 | $1,756 | | | $1,756 | | | 15% | $263 | Task is essentially complete. A 15% contingency is adequate to cover what is now a small task. | All of the exploration core was moved in to containers for permanent storage in 2010. An allowance has been made to containerized the working inventory of core not containerized under an abandonment scenario. General labour rates applied. See Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 6 | B | Open Pit | Other Items | Inspection and final reclamation of exploration drill hole locations | 3 | Person Day | 2 | $439 | $878 | Hours | 6.5 | $1,590 | $10,335 | $11,213 | | | $11,213 | | | 10% | $1,121 | Quantities and scope are well defined. A 10% contingency is appropriate for the scope | Deposit 1 - 45; Deposit 2&3 - 23 holes. Although the majority of the reclamation work was completed in 2010, final inspections were not completed and the estimate reflects the full scope of work as outstanding. Scope includes final inspection by helicopter with general labour support. See Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 7 | B | Bldgs & Equip | Specialized Items | Decommission salt mixing stations | 3 | Person Day | 10 | $439 | $4,390 | Hours | 2 | $1,590 | $3,180 | $7,570 | | | $7,570 | | | 10% | $757 | Quantities and scope are well defined. A 10% contingency is appropriate for the scope. | Only one helicopter lift is required. Estimate a conservative 2 hours helicopter time to remove salt station from mineral exploration area. Scope to be completed by helicopter with general labour support. See Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | Remote Sites | | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Year | Units | # Units | Unit Rate | Cost | Units | # Units | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (% | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| # | *Type* | Refer to Tab | Objective | ***Grand Total*** | | | | | **$ 15,024** | | | | **$ 87,768** | **$102,792** | **$ -** | **$ -** | **$102,792** | **$ -** | **$ -** | **9%** | **$9,402** | | |
| 1 | B | Bldgs & Equip | Specialized Items | Inspection and final reclamation of geotechnical drill holes and test pit locations | 3 | Person Day | 10 | $439 | $ 4,390 | Hours | 33 | $ 1,590 | $ 52,470 | $ 56,860 | | | $ 56,860 | | | 10% | $ 5,686 | Quantities & scope are well defined including the location & number of drill holes and reclamation productivity based on 50% of holes completed. A 10% contingency is deemed appropriate. | 2012 Estimate based on actual labour & helicopter hours to complete exactly half of the holes in 2009 . Assume Helicopter hours = 0.27 hours/hole . See Appendix G-4, 2012 A&R Plan Estimating Docs\Remote Sites\Geotech Hole Reclamation Completion Report rev 2_Sept with attachments file for detailed scope of holes requiring reclamation (PDF file), reclamation costs and helicopter utilization assumptions (Excel spreadsheets embedded in PDF). 10 additional helicopter hours added to the 23 hours required to cover additional mobilization time to the south end of the rail alignment. |
| 2 | B | Bldgs & Equip | Specialized Items | Removal of casing/thermistors | 3 | Person Day | 6 | $439 | $ 2,634 | Hours | 16.2 | $ 1,590 | $ 25,758 | $ 28,392 | | | $ 28,392 | | | 10% | $ 2,839 | Quantities & scope are well defined including the location & number of thermistors. Scope is the same as geotechnical holes and actual unit costs were derived from the completion of a large number of geotech holes reclaimed in 2009. A 10% contingency is appropriate | 2012 Estimate revised based on 2009 geotech hole actual reclamation productivity and costs. Helicopter hours = 0.27 hours/hole * 60 holes = 16.2 hours. Labour 1.08 Man hrs/hole* 60 = 65 hours = 6 man days. Scope to be completed by helicopter with general labour support. See Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 3 | B | Bldgs & Equip | Specialized Items | Decommissioning of meteorological stations (3) | 3 | Person Day | 6 | $800 | $ 4,800 | Hours | 3 | $ 1,590 | $ 4,770 | $ 9,570 | | | $ 9,570 | | | 5% | $ 479 | Scope is well defined and stations are located adjacent to the camps - a 5% no contingency has been applied. | Assume 2 persons /day/station and 1 hour helicopter time support for each. Scope includes demolition and disposal in Landfills. Scope to be completed by helicopter with general labour support. See Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 4 | B | Bldgs & Equip | Specialized Items | Decommissioning of hydrology stations (4) | 3 | Person Day | 4 | $800 | $ 3,200 | Hours | 3 | $ 1,590 | $ 4,770 | $ 7,970 | | | $ 7,970 | | | 5% | $ 399 | Stations are small units that fit inside the aircraft. Locations are well established. Helicopter hours 50% larger than calculated. A 5% contingency has been applied | Labour budget 2 persons for 2 days to remove all the hydrology stations. Helicopter hour budget revised based on detailed analysis of flying distance from MR to meters back to MR. Estimated distance is 227knots. Avg Helicopter speed is 120 k/hr. Total flying time is 227 Kn/120kn/hr = 1.9 hrs, therefore assume 3 hours of helicopter time. Scope to be completed by helicopter with general labour support. See Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 5 | B | Bldgs & Equip | Specialized Items | Removal of current meter in Steensby Inlet | | Person Day | | | $ - | Hours | | | $ - | $ - | $ - | | | | | | | | The battery for the buoy release mechanism on both units no longer have power. The units are no longer retrievable. No cost applied to task in 2012. |

| | | | | Stockpiles | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (% | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | # Units | Unit Rate | Cost | Units | # Units | Unit Rate | Cost | | | | | | | | | | |
| *#* | *Type* | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$113,295*** | | | | ***$156,112*** | ***$269,407*** | ***$ -*** | ***$ -*** | ***$269,407*** | ***$ -*** | ***$ -*** | ***10%*** | ***$26,941*** | | |
| **1** | **A** | | | **Mary River Stockpiles** | **3** | | | | **$38,097** | | | | **$48,784** | **$86,881** | **$ -** | **$ -** | **$86,881** | **$ -** | **$ -** | | **$8,688** | | |
| 2 | A | Rock Pile | STABILIZE SLOPES | Grade weathered ore stockpiles at crusher area | 3 | Person Day | 7 | $996 | $6,972 | Hours | 84 | $176 | $14,784 | $21,756 | | | $21,756 | | | 10% | $2,176 | Scope and quantities are well defined. Labour productivity is based on 4 years of civil construction in the arctic. In light of the multi year geochemical results, a contingency of 10 % has been applied. | 28,800 tonnes Deposit #1 and 31,900 tonnes at the crusher pad. Estimate 7 days of D8 dozer to level and contour the stockpiles. Stockpile volumes have been surveyed (See Appendix B-2 for surveyed as built and Appendix G-4, 2012 A&R Plan Estimating Docs\Stockpiles\Ore Stockpile volume calculations) Labour and equipment productivity is well established based on 4 year of civil construction at site. See Operator Labour & Equipment rates in Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| **3** | **A** | **Rock Pile** | **COVER DUMP** | Haul and place cover on ore pad area at Mary River | 3 | Person Day | 31.25 | $996 | $31,125 | Hours | 250 | $136 | $34,000 | $65,125 | | | $65,125 | | | 10% | $6,513 | | Specify Cover thickness of 0.5 m. Approximate footprint of Mary River Stockpile 24,500 m2 (Figure 2.2). Assume slopes 2H:1V approximate surface area of 27,500 m2. Required volume of 13,750m3. KP calcs - 13750 m3/32.52 cubes/truck = 423 trips/17 trips/day (@40 minutes per trip) = 25 man days. Assume 4 trucks and 1 dozer = 6.25 days total labour 31.25 days. Overburden unit rate of $5/m3 total cost of $68,750. |
| 4 | A | | | **Milne Inlet Stockpiles** | **3** | | | | **$75,198** | | | | **$107,328** | **$182,526** | **$ -** | **$ -** | **$182,526** | **$ -** | **$ -** | | **$18,253** | | |
| **5** | **A** | Rock Pile | STABILIZE SLOPES | Grade residual ore stockpiles at Milne Inlet | 3 | Person Day | 6 | $996 | $5,976 | Hours | 72 | $176 | $12,672 | $18,648 | | | $18,648 | | | 10% | $1,865 | Scope and quantities are well defined. Labour productivity is based on 4 years of civil construction in the arctic. In light of the multi year geochemical results, a contingency of 10 % has been applied. | Lump stockpile is 2900 cubes and fines 1060. Dozer the stockpiles across pad area will increase pad height by 0.44m (2900+1060/8674 {area of pad}). Maximum height of pad will be 2.44 meters. Assume 3 days dozer & loader operation. Stockpile volumes have been surveyed (See Appendix B-2 for surveyed as built and Appendix G-4, 2012 A&R Plan Estimating Docs\Stockpiles\Ore Stockpile volume calculations.) Labour and equipment productivity is well established based on 4 year of civil construction at site. See Operator Labour & Equipment rates Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 6 | A | **Rock Pile** | **COVER DUMP** | Haul and place cover on ore pad area at Milne Inlet | 3 | Person Day | 69.5 | $996 | $69,222 | Hours | 696 | $136 | $94,656 | $163,878 | | | $163,878 | | | 10% | $16,388 | | Specify Cover thickness of 0.5 m. Approximate footprint of Milne Inlet Stockpile 68,500 m2 (Figure 2.2). Assume slopes 2H:1V approximate surface area of 76,500 m2. Required volume of 38,250 m3. KP calcs - 38,250 m3/32.52 cubes/truck = 1176 trips/17 trips/day (@40 minutes per trip) = 69.5 man days. Assume 4 trucks and 1 dozer = 17.4 days total labour 86.9 days. Overburden unit rate of $5/m3 total cost of $191,250. |

| | | | | Camp and Related Facilities | Year | Labour | | | | Equipment | | | | | | | | | | | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | | | | |
| # | *Type* | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$916,281*** | | | | ***$805,762*** | ***$1,722,043*** | ***$0*** | ***$598,907*** | ***$1,119,732*** | ***$3,404*** | ***$0*** | ***14%*** | ***$248,247*** | | |
| 1 | A | Bldgs & Equip | Specialized Items | **Site Contractor Decommissioning and Demob - Mary River Camp** | **2** | | **213.5** | | **$201,192** | | | | **$93,408** | **$294,600** | **$ -** | **$ 294,600** | **$ -** | **$ -** | **$ -** | | **$44,190** | | |
| 2 | A | Bldgs & Equip | Specialized Items | Decommission/Package mobile equipment | 2 | Person Day | 160 | $996 | $159,360 | Hours | 80 | $138 | $11,040 | $170,400 | $ - | $ 170,400 | $ - | $ - | $ - | 15% | $25,560 | Individual equipment & material were estimated based on detailed material balance of volumes shipped to, consumed at and backhauled from Mary River camp and cost estimates developed. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Assume 45 man days for decommissioning and packaging Nuna & mobile equipment & Boart equipment. Mobile Equipment must remain functional to demobilize on to Mary River therefore requires minimal decommissioning. Estimate based on Contractor equipment list and operator labour rates - Appendix G-3,2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 3 | A | Bldgs & Equip | Specialized Items | Ship material by land to Milne Inlet for shipment | 2 | Person Day | 42 | $996 | $41,832 | Hours | 624 | $132 | $82,368 | $124,200 | $ - | $ 124,200 | $ - | $ - | $ - | 15% | $18,630 | | Estimate split in to two tasks. Approximately 50% of the calculated volume is Nuna & Boart owned assets. Estimate split evenly between the decommissioning and demob of Nuna equipment and the remainder of equipment and material in Year 3. Assume equipment rates reflect actual utilization. 75% truck & 25% loader. Recalculated based on reduced salvage volume. Labour & equipment requirements calculated from volume estimates derived from detailed 'Material Balance' worksheet and historical site labour and productivity. All 'Material Balance' volumes based on sealift volume balance supported by sealift transportation provider volume data from 2006 to 2011 (See Appendix G-3 for 2012 Material and Sealift Balance table and Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift for all sealift and backhaul sealift manifests) 6280/38 cubes/truck/ 2 truck trips/shift= 83 person shifts + 25% for loader support = 104 person shifts. 104 person shifts & 1248 equipment hours; Estimate based on Contractor equipment list and operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 4 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | **Decommissioning Mary River camp** | **3** | | **241** | | **$269,012** | | | | **$294,264** | **$563,276** | **$ -** | **$ -** | **$ 563,276** | **$ -** | **$ -** | | **$74,721** | | |
| 5 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Decommission 100 man Weatherhaven camp | 3 | Person Day | 42 | $996 | $41,832 | Hours | 504 | $147 | $74,088 | $115,920 | $ - | $ - | $ 115,920 | $ - | $ - | 15% | $17,388 | Individual equipment & material were estimated based on detailed material balance of volumes shipped to, consumed at and backhauled from Mary River camp and cost estimates developed. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Assume land filled - excavator, loader & 4 trucks 7 days. 6 men * 7 days = 42 man days * 12 hours equipment =504. Estimate based on well defined scope, labour & equipment rates and operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 6 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Decommission/Package stand alone accommodation/work tent camp (26 Weatherhaven tents) | 3 | Person Day | 12 | $996 | $11,952 | Hours | 144 | $147 | $21,168 | $33,120 | $ - | $ - | $ 33,120 | $ - | $ - | 15% | $4,968 | | Assume land filled - excavator, loader & 4 trucks 2 days. 6 men* 2 days =12 man days * 12 hours equipment =144 Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 7 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Decommission/Package stand alone accommodation/work tent camp (11 Norseman tents) | 3 | Person Day | 12 | $996 | $11,952 | Hours | 144 | $152 | $21,888 | $33,840 | $ - | $ - | $ 33,840 | $ - | $ - | 15% | $5,076 | | Assume land filled - excavator, loader & 4 trucks 2 days. 6 men* 2 days =12 man days * 12 hours equipment =144 Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 8 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | ~~Decommission concrete sewage tanks~~ | | | | | | | | | | $0 | $ - | $ - | $ - | $ - | $ - | | $0 | Scope well defined and time requirement is short | Progressively Rehabilitated |

| | | | | Camp and Related Facilities | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 9 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Burn appropriate materials or Landfill | 3 | Person Day | 64 | $996 | $63,744 | Hours | 672 | $141 | $94,752 | $158,496 | $ - | $ - | $ 158,496 | ` | $ - | 15% | $23,774 | Scope volume and haul distances are short and cycle times well defined. Additional allowances included for bulking factors and multiple locations, even though distances are short. A 15% contingency is considered appropriate. | Estimated volume required to burn or landfill = 10400m3. See Appendix G- 3, 2012 Mary River Project A & R Plan Material Balance, Total Mary River waste destined for land fill or to be burned. Assume the following productivity. Bulk up volume by 15% to account for expansion from shipping volume. = 11960 m3. - Kenworth truck round trip haul & load time =0.5 hours, a 4 truck fleet and 10.5 hours/day hauling. - Assume D7 and 345 excavator working full time to support demolition and loading. - Man haul days = 11960/27 cubes/truck/10.5 hrs/day/0.5hrs/trip= 21 man days @ 4 trucks/day = 5 day. Assume Supporting equipment required = D7 & 345 & 980 loader for demolition and loading and a D7 dozer for compaction at landfill = 5 haul days * 4 supporting equipment = 21 man days. Assume because this is the majority of bulk movement of material there are multiple small areas requiring consolidation an additional 50% increase in labour = 32 haul track man days and 32 support man haul days. Assume weighted equipment rate based on equipment used. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 10 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Ship material by land to Milne Inlet for sealift Yr. 3 | 2 | Person Day | 42 | $996 | $41,832 | Hours | 624 | $132 | $82,368 | $124,200 | $ - | $ 124,200 | $ - | $ - | $ - | 15% | $18,630 | | Estimate split in to two tasks. Approximately 50% of the calculated volume is Nuna & Boart owned assets. Estimate split evenly between the decommissioning and demob of Nuna equipment and the remainder of equipment and material in Year 3. Assume equipment rates reflect actual utilization. 75% truck & 25% loader. Recalculated based on reduced salvage volume. Labour & equipment requirements calculated from volume estimates derived from detailed 'Material Balance' worksheet and historical site labour and productivity. All 'Material Balance' volumes based on sealift volume balance supported by sealift transportation provider volume data from 2006 to 2011 (See Appendix G-3 for 2012 Material and Sealift Balance table and Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift for all sealift and backhaul sealift manifests) 6280/38 cubes/truck/ 2 truck trips/shift= 83 person shifts + 25% for loader support = 104 person shifts. 104 person shifts & 1248 equipment hours; Estimate based on Contractor equipment list and operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 11 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Electrical Support for all decommissioning work at Mary River and Milne Inlet | 3 | Person Months | 4 | $24,425 | $97,700 | | | | $0 | $97,700 | $ - | $ - | $ 97,700 | $ - | $ - | 5% | $4,885 | Estimate based on Invoice support for a qualified ticketed electrician. Electrical decommissioning is expected to be completed in less than 2 months. A full four month cost has been applied. A 5% contingency is deemed adequate | Estimate based on contract Labour rate for 1 electrician continuously employed through May through August of Year 3 to support the decommissioning of the Mary River and Milne Inlet camp electrical systems and disconnect power from the Steensby and Midrail camps. See Appendix G-4, 2012 A&R Plan Estimating Docs\Camps\Procon Electrical Baffinland Iron - Mary River Project 2011 for quote) Hourly rates equivalent to $6130/week or $24,425/month. Electrical decommissioning expected to take 2 months. Additional two months costed for general support |
| 12 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | **Organize material for shipment** | **2** | | **106** | | **$74,034** | | | | **$46,050** | **$120,084** | **$ -** | **$ 120,084** | **$ -** | **$ -** | **$ -** | | **$18,013** | | |
| 13 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | Boart | 2 | Person Day | 28 | $800 | $22,400 | Hours | 48 | $66 | $3,168 | $25,568 | $ - | $ 25,568 | $ - | $ - | $ - | 15% | $3,835 | | Assume 1 week * 4 men + part time skid steer . Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |

| | | | | | | Labour | | | | Equipment | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Camp and Related Facilities | Year | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 14 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | Nuna | 2 | Person Day | 14 | $958 | $13,412 | Hours | 72 | $125 | $9,000 | $22,412 | $ - | $ 22,412 | $ - | $ - | $ - | 15% | $3,362 | Individual equipment & material were estimated based on detailed material balance of volumes shipped to, consumed at and backhauled from Mary River camp and cost estimates developed. Although the scope of work is very well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Package Nuna containers, & miscellaneous material for shipping . Assume two warehousemen * 2 weeks & mobile hours part time. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 15 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | Package BIM sea cans for backhaul | 2 | Person Day | 14 | $439 | $6,146 | Hours | 17 | $66 | $1,122 | $7,268 | $ - | $ 7,268 | $ - | $ - | $ - | 15% | $1,090 | | Assume majority of low value inventory to be land filled/burned. BIM inventory to be backhauled is relatively small - CAT parts etc. Revised equipment rate to reflect use of contractor owned equipment. Decrease by 1.07 times to account for additional sea cans (previously 60 now 56) General labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 16 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | Decommission/Package 3 shops | 2 | Person Day | 24 | $439 | $10,536 | Hours | 72 | $125 | $9,000 | $19,536 | $ - | $ 19,536 | $ - | $ - | $ - | 15% | $2,930 | | Assume CH & Nuna shops packaged. BIM Quonset is land filled. Assume 3 men @4 days/shop + 1 mobile equipment 3 days/shop. General labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 17 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | Decommission/Package related infrastructure (lines, piping, associated small buildings) | 3 | Person Day | 30 | $718 | $21,540 | Hours | 180 | $132 | $23,760 | $45,300 | $ - | $ - | $ 45,300 | $ - | $ - | 15% | $6,795 | | 100 man camp genset isolated. Water lines /sewage cut in 30 foot lengths and landfilled. Assume 3 men 7 days + boom truck Existing electrical cables land filled. Excavator required to trench for cable recovery. All small buildings demolished in bulk and shipped to landfill. Assume 3 days each of excavator & loader & haul truck time for demolition of small wooden buildings (9 man days & 180 equipment hours).. Labour updated to reflect 50% general labourer & 50% Operators. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 18 | A | Bldgs & Equip | Specialized Items | **General site cleanup** | **3** | | **73** | | **$36,503** | | | | **$6,528** | **$43,031** | **$ -** | **$ -** | **$ 43,031** | **$ -** | **$ -** | | **$6,455** | | |
| 19 | A | Bldgs & Equip | Specialized Items | Loader use for redirecting coarse clean up streams | 3 | Person Day | 8 | $996 | $7,968 | Hours | 96 | $68 | $6,528 | $14,496 | $ - | $ - | $ 14,496 | $ - | $ - | 15% | $2,174 | Individual facilities were identified at the Mary River camp and cost estimates developed. Although the scope of work is very well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Use loader to clean up coarse waste streams (burn/landfill). Assume 8 days of loader time to clean up coarse waste. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 20 | A | Bldgs & Equip | Specialized Items | Clean up residual fine waste on ground | 3 | Person Day | 65 | $439 | $28,535 | Hours | 0 | $0 | $0 | $28,535 | $ - | $ - | $ 28,535 | $ - | $ - | 15% | $4,280 | | Use Bull gang (labourers) to walk the entire site with half ton truck support to hand pick fine waste from ground and move to landfill. Assume 10 labourers walking + 3 driving for 5 days. Truck rates covered in general camp decommissioning. General labour rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 21 | A | Bldgs & Equip | GRADE AND CONTOUR MILL & PLANT SITE | **Contouring & grading** | **3** | | **25** | | **$24,900** | | | | **$41,424** | **$66,324** | **$ -** | **$ -** | **$ 66,324** | **$ -** | **$ -** | | **$9,949** | | |
| 22 | A | Bldgs & Equip | GRADE AND CONTOUR MILL & PLANT SITE | Coarse contouring - Dozer | 3 | Person Day | 10 | $996 | $9,960 | Hours | 120 | $149 | $17,880 | $27,840 | $ - | $ - | $ 27,840 | $ - | $ - | 15% | $4,176 | Individual facilities were identified at the Mary River camp and cost estimates developed. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Dozer work for uncounted gray water pits and 100 man camp pad. (assume entire tote road, & landfill road to remain in operating condition). Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 23 | A | Bldgs & Equip | GRADE AND CONTOUR MILL & PLANT SITE | Coarse contouring - loader & excavator | 3 | Person Day | 8 | $996 | $7,968 | Hours | 96 | $149 | $14,304 | $22,272 | $ - | $ - | $ 22,272 | $ - | $ - | 15% | $3,341 | | Loader & excavator hours road to camp lake & other minor work. Assume 4 man days each. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 24 | A | Bldgs & Equip | GRADE AND CONTOUR MILL & PLANT SITE | Final grading | 3 | Person Day | 7 | $996 | $6,972 | Hours | 84 | $110 | $9,240 | $16,212 | $ - | $ - | $ 16,212 | $ - | $ - | 15% | $2,432 | | Assume 7 days of grader operation. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 25 | A | Bldgs & Equip | Specialized Items | **Decommission Refuge Sites** | **3** | | **2** | | **$1,992** | | | | **$904** | **$2,896** | **$ -** | **$ -** | **$ 2,896** | **$ -** | **$ -** | | **$145** | | |

| | | | | Camp and Related Facilities | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 26 | A | Bldgs & Equip | Specialized Items | Decommission refuge sites | 3 | Person Day | 2 | $996 | $1,992 | Hours | 8 | $113 | $904 | $2,896 | $ - | $ - | $ 2,896 | $ - | $ - | 5% | $145 | Scope well defined and time requirement is short | Labour & equipment to complete work - 2 sites on tote road. Equipment rate updated to reflect use of haul truck and Loader. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 27 | A | Bldgs & Equip | Specialized Items | **Site Contractor Decommissioning and Demob - Milne Inlet Camp** | **2** | | **70** | | **$71,440** | | | | **$20,388** | **$91,828** | **$ -** | **$ 91,828** | **$ -** | **$ -** | **$ -** | | **$13,774** | | |
| 28 | A | Bldgs & Equip | Specialized Items | Decommission/Package Shanco Camp (10 trailers) | 2 | Person Day | 40 | $898 | $35,920 | Hours | 48 | $166 | $7,968 | $43,888 | $ - | $ 43,888 | $ - | $ - | $ - | 15% | $6,583 | Individual facilities were identified at the Milne Inlet camp and cost estimates developed. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Labour rate updated to reflect 50/50 shanco tech & Nuna HEO. Equip. rate reflects 75/25 use of D7 & excavator. . Entire camp was installed in 2 days with a dozer & a crane. Upon completion of labour, skidding of camp to beach lay down area can be accomplished in less time than assembly. Assume 36 hours D7 and 12 excavator. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 29 | A | Bldgs & Equip | Specialized Items | Decommission remaining mobile equipment | 2 | Person Day | 30 | $1,184 | $35,520 | Hours | 90 | $138 | $12,420 | $47,940 | $ - | $ 47,940 | $ - | $ - | $ - | 15% | $7,191 | Estimate a based on list or remaining contractor equipment at site. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | 2012 estimate reflecting the reduced quantity of equipment present at Milne Inlet and demobilized in previous years and historical mechanic labour to execute sealift demobilization. Mechanic labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 30 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | **Decommission Milne Inlet camp (4 month operation @ Avg 4 person/day)** | **3** | | **52** | | **$55,660** | | | | **$89,796** | **$145,456** | **$ -** | **$ -** | **$ 145,456** | **$ -** | **$ -** | | **$21,818** | | |
| 31 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Decommission/Package other stand alone work tents (9 wood structure tents) | 4 | Person Day | 4 | $718 | $2,872 | Hours | 24 | $164 | $3,936 | $6,808 | $ - | $ - | $ - | $ 6,808 | $ - | 15% | $1,021 | Individual facilities were identified at the Milne Inlet camp and cost estimates developed. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Remove canvass & burn. Assume 4 guys 1 day + excavator & haul truck for wood to burn. Equipment rates updated to reflect 50/50 use of excavator & haul truck. Operator labour & equipment rates - Appendix G- 3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 32 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Truck waste from Milne Inlet Camp to Mary River Camp for land filling | 3 | Person Day | 53 | $996 | $52,788 | Hours | 636 | $135 | $85,860 | $138,648 | $ - | $ - | $ 138,648 | $ - | $ - | 15% | $20,797 | Scope volume and haul distances are short and cycle times well defined. Additional allowances included for bulking factors and multiple locations, even though distances are short. A 15% contingency is considered appropriate. | Estimated volume required to burn or landfill =1465m3. See Appendix G- 3, 2012 A&R Plan Material Balance, Total Milne Inlet waste destined for land fill or to be burned. Assume the following productivity. Bulk up volume by 20% to account for expansion from shipping volume. =1290 m3. - Kenworth truck round trip haul & load time =5.5 hours, a 4 truck fleet and 11 hours/day hauling. - Assume D7 and 345 excavator working full time to support demolition and loading. - Man haul days = 1290/27 cubes/truck/11 hrs/day/5.5hrs/trip= 27 man days @ 4 trucks/day = 7 days. Assume Supporting equipment required = D7 & 345 =7haul days *2 supporting equipment = 14 man days. Assume because this is the majority of bulk movement of material there are multiple small areas requiring consolidation an additional 50% increase in labour for haul trucks= 41 haul track man days and 12 support man haul days=53 man days total Assume weighted equipment rate based on equipment used. |
| 33 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | **Organize material for shipment** | **3** | | **108** | | **$82,922** | | | | **$22,968** | **$105,890** | **$ -** | **$ -** | **$ 105,890** | **$ -** | **$ -** | | **$15,884** | | |
| 34 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | Nuna | 2 | Person Day | 42 | $958 | $40,236 | Hours | 72 | $67 | $4,824 | $45,060 | $ - | $ 45,060 | $ - | $ - | $ - | 15% | $6,759 | | Package Nuna containers, & miscellaneous material for shipping . Assume 1 warehousemen 6 weeks. Labour & Equipment rates updated. Equipment assumes 50/50 use of bobcat & 930 loader. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |

| | | | | Camp and Related Facilities | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 35 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | BIM Barge Loader | 2 | Person Day | 12 | $958 | $11,496 | Hours | 24 | $166 | $3,984 | $15,480 | $ - | $ 15,480 | $ - | $ - | $ - | 15% | $2,322 | Individual equipment & material were estimated based on detailed material balance of volumes shipped to, consumed at and backhauled from Milne Inlet camp and cost estimates developed. Although the scope of work is very well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Requires Vendor to supply 2 persons for 4 days + 1 mobile equipment operator & Crane. Apply the Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 36 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | Decommission/Package 1 shops | 2 | Person Day | 20 | $600 | $12,000 | Hours | 48 | $78 | $3,744 | $15,744 | $ - | $ 15,744 | $ - | $ - | $ - | 15% | $2,362 | | Assume manpower & equipment hours to decommission shop & lined floor. Assume 4 men for 5 days with 4days loader support. Equipment rate revised to reflect use of contractor owned bob cat for disassembly and 12 hours use of Nuna loader to remove sand cover & liner. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 37 | A | Bldgs & Equip | DISPOSE MOBILE EQUIPMENT | Decommission/Package related infrastructure (lines, piping, associated small buildings) | 2 | Person Day | 38 | $505 | $19,190 | Hours | 48 | $217 | $10,416 | $29,606 | $ - | $ 29,606 | $ - | $ - | $ - | 15% | $4,441 | | Shanco camp genset isolated. No permanent Water lines. Sewage lines disassembled and land filled. No water lines. Excavator required to trench for cable recovery. Electrical cables land filled. . All small buildings demolished in bulk and shipped to landfill. Labour revised to 3 labourers for 10 days and equipment remains the same as costed, description changed to match costing - 4 days excavator Additional hours to decommission the extra incinerator at the site. Based on the labour costs for Mid Rail camp (~$2000). Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 38 | A | Bldgs & Equip | Specialized Items | **General site cleanup** | **3** | | **31** | | **$16,394** | | | | **$6,900** | **$23,294** | **$ -** | **$ -** | **$ 23,294** | **$ -** | **$ -** | | **$3,494** | | |
| 39 | A | Bldgs & Equip | Specialized Items | Loader use for redirecting coarse clean up streams | 3 | Person Day | 5 | $996 | $4,980 | Hours | 60 | $115 | $6,900 | $11,880 | $ - | $ - | $ 11,880 | $ - | $ - | 15% | $1,782 | Individual facilities were identified at the Milne Inlet camp and cost estimates developed. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Use loader to clean up coarse waste steams (burn/landfill). Assume 5 days of loader time to clean up coarse waste. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 40 | A | Bldgs & Equip | Specialized Items | Clean up residual fine waste on ground | 3 | Person Day | 26 | $439 | $11,414 | Hours | 0 | $0 | $0 | $11,414 | $ - | $ - | $ 11,414 | $ - | $ - | 15% | $1,712 | | Use Bull gang (labourers) to walk the entire site with half ton truck support to hand pick fine waste from ground and move to landfill. Assume 10 labourers walking + 3 driving + 3 half tons. 2 days. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 41 | A | Bldgs & Equip | GRADE AND CONTOUR MILL & PLANT SITE | **Contouring & grading** | **3** | | **12** | | **$10,368** | | | | **$21,120** | **$31,488** | **$ -** | **$ -** | **$ 31,488** | **$ -** | **$ -** | | **$4,723** | | |
| 42 | A | Bldgs & Equip | GRADE AND CONTOUR MILL & PLANT SITE | Coarse contouring - Dozer | 3 | Person Day | 4 | $996 | $3,984 | Hours | 48 | $149 | $7,152 | $11,136 | $ - | $ - | $ 11,136 | $ - | $ - | 15% | $1,670 | Individual facilities were identified at the Mary River camp and cost estimates developed. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Dozer work for camp roads & other minor work. Assume 4 days. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 43 | A | Bldgs & Equip | GRADE AND CONTOUR MILL & PLANT SITE | Coarse contouring - loader & excavator | 3 | Person Day | 4 | $996 | $3,984 | Hours | 48 | $166 | $7,968 | $11,952 | $ - | $ - | $ 11,952 | $ - | $ - | 15% | $1,793 | | Loader & excavator hours - Contour camp roads & other minor work. Assume2 man days each. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 44 | A | Bldgs & Equip | GRADE AND CONTOUR MILL & PLANT SITE | Final grading | 3 | Person Day | 4 | $600 | $2,400 | Hours | 48 | $125 | $6,000 | $8,400 | $ - | $ - | $ 8,400 | $ - | $ - | 15% | $1,260 | | Assume 4 days of grader operation. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 45 | B | | | **Decommission Mid - Rail Camp (14 days @ 6 man camp)** | **3** | | **76** | | **$33,364** | | | | **$95,400** | **$128,764** | **$ -** | **$ -** | **$ 128,764** | **$ -** | **$ -** | | **$19,315** | | |
| 46 | B | Bldgs & Equip | Remove Non-Contaminated Buildings | Decommission/Package stand alone accommodation/work tent camp | 3 | Person Day | 36 | $439 | $15,804 | Hours | | | $0 | $15,804 | $ - | $ - | $ 15,804 | $ - | $ - | 15% | $2,371 | Individual facilities were identified at the Milne Inlet camp and cost estimates developed. Although the scope of work is very well defined, there is some risk to the estimate in terms of the productivity estimate (time | (18 wood structure tents) Assumes 6 man crew 6 days to completely decommission the camp. Assume 1 working supervisor & 5 labourers. General labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 47 | B | Bldgs & Equip | Remove Non-Contaminated Buildings | Decommission/Package genset and incinerator | 3 | Person Day | 4 | $439 | $1,756 | Hours | | | $0 | $1,756 | $ - | $ - | $ 1,756 | $ - | $ - | 15% | $263 | | |

| | | | | Camp and Related Facilities | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 48 | B | Bldgs & Equip | Remove Non-Contaminated Buildings | Decommission tent camp and related infrastructure (lines, piping, associated buildings) | 3 | Person Day | 8 | $439 | $3,512 | Hours | | | $0 | $3,512 | $ - | $ - | $ 3,512 | $ - | $ - | 15% | $527 | terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | |
| 49 | B | Bldgs & Equip | Specialized Items | Decommission lay down areas | 3 | Person Day | 2 | $439 | $878 | Hours | | | $0 | $878 | $ - | $ - | $ 878 | $ - | $ - | 15% | $132 | | |
| 50 | B | Bldgs & Equip | Specialized Items | General site cleanup | 3 | Person Day | 6 | $439 | $2,634 | Hours | | | $0 | $2,634 | $ - | $ - | $ 2,634 | $ - | $ - | 15% | $395 | | |
| 51 | B | Bldgs & Equip | Specialized Items | Fly waste from Mid Rail Camp to Mary River Camp for landfilling | 3 | Person Day | 20 | $439 | $8,780 | Hours | 60 | $1,590 | $95,400 | $104,180 | $ - | $ - | $ 104,180 | $ - | $ - | 15% | $15,627 | | |
| 52 | B | Bldgs & Equip | | **Decommission Steensby Inlet Camp (14 Days @ 6 man camp)** | **3** | | **86** | | **$38,500** | | | | **$66,612** | **$105,112** | **$ -** | **$ -** | **$ 105,112** | **$ -** | **$ -** | | **$15,767** | | |
| 53 | B | Bldgs & Equip | Remove Non-Contaminated Buildings | Decommission/Package stand alone accommodation/work tent camp (25 wood structure tents) | 3 | Person Day | 48 | $439 | $21,072 | Hours | 36 | $66 | $2,376 | $23,448 | $ - | $ - | $ 23,448 | $ - | $ - | 15% | $3,517 | Individual facilities and materials were identified at the Steensby camp and cost estimates developed. Although the scope of work is well defined, there is some risk to the estimate in terms of the productivity estimate (time requirements). Hence a 15% contingency is warranted to cover a potentially larger number of hours to complete the work. | Assume 6 man operation for 8 days . Equipment costed at 3rd party contractor rate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 54 | B | Bldgs & Equip | Remove Non-Contaminated Buildings | Decommission/package genset and incinerator | 3 | Person Day | 4 | $439 | $1,756 | Hours | 4 | $66 | $264 | $2,020 | $ - | $ - | $ 2,020 | $ - | $ - | 15% | $303 | | Assume 4 persons 1 day, general labour and equipment cost. Equipment costed at 3rd party contractor rate. General labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 55 | B | Bldgs & Equip | Remove Non-Contaminated Buildings | Decommission related infrastructure (lines, piping, associated buildings) | 3 | Person Day | 6 | $439 | $2,634 | Hours | 0 | $66 | $0 | $2,634 | $ - | $ - | $ 2,634 | $ - | $ - | 15% | $395 | | Assume 3 persons for 2 days. Equipment costed at 3rd party contractor rate. General labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 56 | B | Bldgs & Equip | Specialized Items | Decommission lay down areas | 3 | Person Day | 12 | $439 | $5,268 | Hours | 36 | $66 | $2,376 | $7,644 | $ - | $ - | $ 7,644 | $ - | $ - | 15% | $1,147 | | Assume 4 persons for 3 days to clean up camp to decommission camp lay down area. Sealift lay down area requires no decommissioning - Material ready to ship. Equipment costed at 3rd party contractor rate. General labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 57 | B | Bldgs & Equip | Remove Non-Contaminated Buildings | Decommission fuel storage (200 drums of fuel) | 3 | Person Day | 2 | $439 | $878 | Hours | 12 | $66 | $792 | $1,670 | $ - | $ - | $ 1,670 | $ - | $ - | 15% | $251 | | Only 180 drums remain at the camp. Assume 2 man days labour, & equipment to re-strap partial pallets Equipment costed at 3rd party contractor rate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 58 | B | Bldgs & Equip | Specialized Items | General site cleanup | 3 | Person Day | 6 | $439 | $2,634 | Hours | 24 | $66 | $1,584 | $4,218 | $ - | $ - | $ 4,218 | $ - | $ - | 15% | $633 | | Assume 3 persons 2 days. Equipment costed at 3rd party contractor rate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 59 | B | Bldgs & Equip | Dispose Mobile Equipment | Decommission remaining mobile equipment (4 pieces) | 3 | Person Day | 2 | $812 | $1,624 | Hours | 6 | $66 | $396 | $2,020 | $ - | $ - | $ 2,020 | $ - | $ - | 15% | $303 | | Assume 1 mechanic and one operator for 1 day to drain fuel tanks - This is the only requirement for sealift. Equipment costed at 3rd party contractor rate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 60 | B | Bldgs & Equip | Dispose Mobile Equipment | Organize material for shipment and sealift support | 3 | Person Day | 6 | $439 | $2,634 | Hours | 24 | $66 | $1,584 | $4,218 | $ - | $ - | $ 4,218 | $ - | $ - | 15% | $633 | | Assume 2 person for sealift support for 3 days. Assume Labour and equipment cost. Equipment costed at 3rd party contractor rate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 61 | B | Bldgs & Equip | Dispose Mobile Equipment | Steensby Port resupply by Helicopter | 3 | Person Day | 0 | $0 | $0 | Hours | 36 | $1,590 | $57,240 | $57,240 | $ - | $ - | $ 57,240 | $ - | $ - | 15% | $8,586 | | Hours are for removal of the floating dock and water line (12) + 12 hours/week *2 week demob+sealift support. See helicopter rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |

| | | | | Roads and Airstrips | Year | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$2,074,341*** | | | | ***$1,158,216*** | ***$3,232,557*** | ***$0*** | ***$356,384*** | ***$604,091*** | ***$746,870*** | ***$1,525,212*** | ***12%*** | ***$387,907*** | | |
| 1 | A | Bldgs & Equip | SPECIALIZED ITEMS | **Year 2 Freshet Management Field Activities 2** | | **480** | | | **$356,384** | | | | **$0** | **$356,384** | **$0** | **$356,384** | **$0** | **$0** | **$0** | | **$17,819** | | |
| 2 | A | Bldgs & Equip | SPECIALIZED ITEMS | Direct Freshet Management Cost | 2 | Lot | 1 | $356,384 | $356,384 | Hours | | | $0 | $356,384 | $0 | $356,384 | $0 | $0 | $0 | 5% | $17,819 | Includes significant culvert and road upgrades completed during the freshet period to reduce future maintenance requirements thus contains significant contingency. A 5% contingency has been applied | Cost estimate based on the highest annual total contractor expenditure for complete freshet management from the two documented and completed years (2009 & 2010). 2009 was the highest year and the contractor invoices for May ($175,808) + and June ($180,576) are attached are attached. Direct Freshet Management Cost includes: - Single lane snow removal from the Milne Inlet Tote Road. - Snow removal from the inlet and outlet of culverts as required - Steam cleaning of culverts as required. - Monitoring of drainage water flows throughout the freshet period and response to identified drainage issues - Road repairs as required. These annual expenditures included significant road upgrades and is thus considered an ultra conservative cost estimate for Freshet Management Only. This budget covers the period from the road being opened May 1 until Freshet ended on June 15 . 3rd party contractor all inclusive freshet costs for May and June are included in Appendix G-4, 2012 A&R Plan Estimating Docs\Roads & Airstrips\ Files - 2009 June Freshet invoice cost from 3rd party contractor and 2009 May Freshet invoice cost from 3rd party contractor |
| 3 | A | Bldgs & Equip | SPECIALIZED ITEMS | **Year 3 Freshet Management Field Activities 3** | | **480** | | | **$356,384** | | | | **$0** | **$356,384** | **$0** | **$0** | **$356,384** | **$0** | **$0** | | **$17,819** | | |
| 4 | A | Bldgs & Equip | SPECIALIZED ITEMS | Direct Freshet Management Cost | 3 | Lot | 1 | $356,384 | $356,384 | Hours | | | $0 | $356,384 | $0 | $0 | $356,384 | $0 | $0 | 5% | $17,819 | Includes significant culvert and road significant culvert and road upgrades completed during the freshet period to reduce future maintenance requirements thus contains significant contingency. A 5% contingency has been applied | Cost estimate based on the highest annual total contractor expenditure for complete freshet management from the two documented and completed years (2009 & 2010). 2009 was the highest year and the contractor invoices for May ($175,808) + and June ($180,576) are attached are attached. Direct Freshet Management Cost includes: - Single lane snow removal from the Milne Inlet Tote Road. - Snow removal from the inlet and outlet of culverts as required - Steam cleaning of culverts as required. - Monitoring of drainage water flows throughout the freshet period and response to identified drainage issues - Road repairs as required. These annual expenditures included significant road upgrades and is thus considered an ultra conservative cost estimate for Freshet Management Only. This budget covers the period from the road being opened May 1 until Freshet ended on June 15 . 3rd party contractor all inclusive freshet costs for May and June are included in Appendix G-4, 2012 A&R Plan Estimating Docs\Roads & Airstrips\ Files - 2009 June Freshet invoice cost from 3rd party contractor and 2009 May Freshet invoice cost from 3rd party contractor |

| | | | | | | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Roads and Airstrips | Year | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 5 | A | Bldgs & Equip | SPECIALIZED ITEMS | **Year 4 Freshet Management Field Activities 4** | | **480** | | | **$356,384** | | | | **$0** | **$356,384** | **$0** | **$0** | **$0** | **$356,384** | **$0** | | **$17,819** | | |
| 6 | A | Bldgs & Equip | SPECIALIZED ITEMS | Direct Freshet Management Cost | 4 | Lot | 1 | $356,384 | $356,384 | Hours | | | $0 | $356,384 | $0 | $0 | $0 | $356,384 | $0 | 5% | $17,819 | Includes significant culvert and road upgrades completed during the freshet period to reduce future maintenance requirements thus contains significant contingency. A 5% contingency has been applied | Cost estimate based on the highest annual total contractor expenditure for complete freshet management from the two documented and completed years (2009 & 2010). 2009 was the highest year and the contractor invoices for May ($175,808) + and June ($180,576) are attached are attached. Direct Freshet Management Cost includes: - Single lane snow removal from the Milne Inlet Tote Road. - Snow removal from the inlet and outlet of culverts as required - Steam cleaning of culverts as required. - Monitoring of drainage water flows throughout the freshet period and response to identified drainage issues - Road repairs as required. These annual expenditures included significant road upgrades and is thus considered an ultra conservative cost estimate for Freshet Management Only. This budget covers the period from the road being opened May 1 until Freshet ended on June 15 , 3rd party contractor all inclusive freshet costs for May and June are included in Appendix G-4, 2012 A&R Plan Estimating Docs\Roads & Airstrips\ Files - 2009 June Freshet invoice cost from 3rd party contractor and 2009 May Freshet invoice cost from 3rd party contractor |
| 7 | A | Bldgs & Equip | Specialized Items | **MI Tote Road Operation** | | | | | **$23,904** | | | | **$31,680** | **$55,584** | **$0** | **$0** | **$55,584** | **$0** | **$0** | | **$5,558** | | |
| 8 | A | Bldgs & Equip | Specialized Items | Operate Tote road for shipments | 3 | Person Day | 24 | $996 | $23,904 | Hours | 288 | $110 | $31,680 | $55,584 | $0 | $0 | $55,584 | $0 | $0 | 10% | $5,558 | The tote road operating grading requirements are based on 2 years of well established maintenance. A moderate contingency has been applied. | Basis for estimate revised based on 2009/2010 operating experience. Assume Road maintenance required for 10 weeks from June 30 until Sept 30 . 24 hours grading/week for 12 weeks. |
| 9 | A | Bldgs & Equip | RECLAIM ROADS | **#1 Deposit Haul Roads** | | | | | **$64,242** | | | | **$106,650** | **$170,892** | **$0** | **$0** | **$170,892** | **$0** | **$0** | | **$25,602** | | |
| 10 | A | Bldgs & Equip | RECLAIM ROADS | Inspect and repair any erosion and/or permafrost damage on #1 Deposit Rd. and cross grade road | 3 | Person Day | 10 | $996 | $9,960 | Hours | 240 | $138 | $33,120 | $43,080 | $0 | $0 | $43,080 | $0 | $0 | 15% | $6,462 | Scope is well defined with supporting as built drawings and documentation. A 15% contingency is deemed appropriate to address productivity estimates. | Assume grader hours to cross grade slope of road in to mountain side to prevent water flow to the outside of the road and control erosion. A conservative productivity estimate of the blended equipment use has been applied to the estimate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 11 | A | Bldgs & Equip | RECLAIM ROADS | Stabilize inside ditches with cobble | 3 | Person Day | 30 | $996 | $29,880 | Hours | 240 | $138 | $33,120 | $63,000 | $0 | $0 | $63,000 | $0 | $0 | 15% | $9,450 | | Majority of the ditches sections of the haul road have been stabilized. Stabilization of 500 meters of ditch with coarse and cobble have been costed. A conservative productivity estimate of the blended equipment use has been applied to the estimate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 12 | A | Bldgs & Equip | RECLAIM ROADS | Remove round culverts, install water bars and stabilize water crossings | 3 | Person Day | 20 | $996 | $19,920 | Hours | 240 | $138 | $33,120 | $53,040 | $0 | $0 | $53,040 | $0 | $0 | 15% | $7,956 | | Execute and remove the thirteen round culverts and cut road embankment down to the coarse road bed. Apply cobble and coarse material as required to stabilize water crossings. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table. As built and culvert details are identified in Appendix B-4 and B-5. |

| | | | | Roads and Airstrips | Year | Labour | | | | Equipment | | | | | | | | | | | | | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency | Contingency | | |
| 13 | A | Bldgs & Equip | RECLAIM ROADS | Install safety berms restricting vehicle access at the location where the haul road enters the bulk sample pit | 3 | Person Day | 0.5 | $996 | $498 | Hours | 1 | $138 | $138 | $636 | $0 | $0 | $636 | $0 | $0 | 10% | $64 | | Install to safety berms. A conservative productivity estimate of the blended equipment use has been applied to the estimate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 14 | A | Bldgs & Equip | RECLAIM ROADS | Regrade pad & repair any erosion at #1 deposit salt station | 3 | Person Day | 4 | $996 | $3,984 | Hours | 48 | $149 | $7,152 | $11,136 | $0 | $0 | $11,136 | $0 | $0 | 15% | $1,670 | | Grade road with crown to promote drainage. A conservative productivity estimate of the blended equipment use has been applied to the estimate. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 15 | A | | | **Milne Inlet Tote Road** | | | | | **$885,444** | | | | **$997,464** | **$1,882,908** | **$0** | **$0** | **$0** | **$357,696** | **$1,525,212** | | **$358,697** | | | |
| 16 | A | Bldgs & Equip | RECLAIM ROADS | Inspect and repair any erosion and/or permafrost damage on Tote Road | 4 | Person Day | 20 | $996 | $19,920 | Hours | 240 | $138 | $33,120 | $53,040 | $0 | $0 | $0 | $53,040 | $0 | 15% | $7,956 | | Assume Milne Inlet Tote road includes road from Milne to base of deposit #1 haul road. The Milne Inlet Tote road has been generally stable since it was upgraded in 2008 as part of the Bulk Sample Program. A small number of very small unstable areas were identified in 2009 and repairs executed under the direction of a professional engineer. Otherwise, the road had been stable since its construction. In both cases the tote road has been stable in all non-water crossing areas for over 2 years. Assume scope of work generally includes grading a 1-2% crown the length of the road to promote drainage. No other major work is required. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 17 | A | Bldgs & Equip | RECLAIM ROADS | Remove all box culvert crossings and stabilize slopes | 4 | Person Day | 108 | $996 | $107,568 | Hours | 1296 | $138 | $178,848 | $286,416 | $0 | $0 | $0 | $286,416 | $0 | 15% | $42,962 | Scope is well defined with supporting as built drawings and documentation. A 15% contingency is deemed appropriate to address productivity estimates. | Assume removal of box culverts and abutments, removal of fill to back the high water mark and regraded to the natural slope as described in the A&R Plan report technical spec. Km 80 box culvert crossing (up to the abutments) was removed in 2009 without damaging any steel in 3 shifts with a crew of six operators. In a reclamation scenario work could be completed in 1.5 days. Assume an average of another 4 days on average to remove abutments and fill back to high water mark days. Assume 2 pieces of equipment operating for removal of box culvers and 6 for each of the 4 days that the abutment and fill is being removed. See the following references for scope (Figures 8.10 and 8.11) and as-built detail (Appendices B-4, B-5 and B-6) See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |

| | | | | Roads and Airstrips | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 18 | A | Bldgs & Equip | RECLAIM ROADS | Install water bars (road embankment cross cuts) at locations where the road tote road is constructed in to an embankment to prevent erosion | 4 | Person Day | 10 | $996 | $9,960 | Hours | 60 | $138 | $8,280 | $18,240 | $0 | $0 | $0 | $18,240 | $0 | 15% | $2,736 | Scope is well defined with supporting as built drawings and documentation. A 15% contingency is deemed appropriate to address productivity estimates. | Assume installation of water bars at designated locations where the road is built in to the embankment and the combination of snow accumulation and road grade could cause water volume & velocity increasing the potential for erosion. Estimate 11 locations requiring 2 water bars each as described in Figure 8.11. Assume a two person crew with one excavator would take 5 days. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Scope is well defined with supporting as built drawings and documentation. A 15% contingency is deemed appropriate to address productivity estimates. Labour, Equipment & Charter Rates Table . |
| 19 | A | Bldgs & Equip | RECLAIM ROADS | Remove all round culvert crossings and stabilize slopes. | 6 | Person Day | 751 | $996 | $747,996 | Hours | 5632 | $138 | $777,216 | $1,525,212 | $0 | $0 | $0 | $0 | $1,525,212 | 20% | $305,042 | | Remove all round culvert installations Assume removal of fill back to the high water mark and regraded to the natural slope as described in Figure 8.10. Round culvert crossing s-built detail provided in Appendices B-4, B-5 and B-6). Based on Figure 8.10. Assumes removal of all culverts by a 8 person crew with blended equipment rate and 5 pieces of equipment operating continuously for 90 days. Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 20 | A | Bldgs & Equip | RECLAIM ROADS | **General access Roads** | | | | | **$19,920** | | | | **$12,870** | **$32,790** | **$0** | **$0** | **$0** | **$32,790** | **$0** | | **$4,919** | | |
| 21 | A | Bldgs & Equip | RECLAIM ROADS | Grade and contour road surfaces and remove culverts from access roads (Explosives, landfill, sewage lagoon and water intake access roads) | 4 | Person Day | 20 | $996 | $19,920 | Hours | 117 | $110 | $12,870 | $32,790 | $0 | $0 | $0 | $32,790 | $0 | 15% | $4,919 | Scope is well defined with supporting as built drawings and documentation. A 15% contingency is deemed appropriate to address productivity estimates. | Remove all round culver installations Assume removal of fill back to the high water mark and regraded to the natural slope as described in the A&R Plan report technical spec. There are only 4 culverts, grading and berm construction Assume 15 man days labour. See the following references for scope (Figures 8.1, 8.10 and 8.11) and as-built detail (Appendices B-4, B- 5 and B-6) See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 22 | A | Bldgs & Equip | SPECIALIZED ITEMS | **Airstrips** | | | | | **$11,679** | | | | **$9,552** | **$21,231** | **$0** | **$0** | **$21,231** | **$0** | **$0** | | **$2,123** | | |
| 23 | A | Bldgs & Equip | SPECIALIZED ITEMS | Remove Mary River airstrip lighting (there is currently no lighting present at Milne Inlet) | 3 | Person Day | 15 | $513 | $7,695 | Hours | 24 | $100 | $2,400 | $10,095 | $0 | $0 | $10,095 | $0 | $0 | 10% | $1,010 | The airstrip lighting & cable system is surveyed and the scope for removal well understood. A moderate contingency has been applied. | 2 days of excavator work & labour crew to remove cable, pulpits & lights. See the following references for scope (Figures 8.1 and 8.2) and as-built detail (Appendices B-1) See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 24 | A | Bldgs & Equip | SPECIALIZED ITEMS | Fill in airstrip lighting ditches & regrade at Milne Inlet and Mary River | 3 | Person Day | 4 | $996 | $3,984 | Hours | 48 | $149 | $7,152 | $11,136 | $0 | $0 | $11,136 | $0 | $0 | 10% | $1,114 | | 2 days of dozer to refill & grade. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |

| | | | | Borrow and Quarry Areas | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$197,428*** | | | | ***$284,158*** | ***$481,586*** | ***$0*** | ***$55,000*** | ***$426,586*** | ***$0*** | ***$0*** | ***22%*** | ***$104,873*** | | |
| 1 | A | Open Pit | Other Items | Geotechnical monitoring of permitted & road side borrow area reclamation | 2 | Person Day | 55 | $1,000 | $55,000 | | | | 0 | $55,000 | $0 | $55,000 | $0 | $0 | $0 | 10% | $5,500 | Estimate based on Geotechnical assessment completed in 2009 - cost assessments is well understood. A moderate contingency has been applied. | Assume a geotechnical inspection in Year 2 to further develop post completion of EBA recommendations and in subsequent year to confirm feature stability. |
| 2 | A | Open Pit | Other Items | Grade and contour primary borrow sites at Milne Inlet, Mary River, Midway and quarry | 3 | Person Day | 60 | $996 | $59,760 | Hours | 720 | $138 | $99,360 | $159,120 | $0 | $0 | $159,120 | $0 | $0 | 15% | $23,868 | A well defined technical scope completed to confirm estimate made for final reclamation of borrow and quarry areas. A conservative estimate has been made given partial reclamation. A | Geotechnical inspection and report defini ng criteria and scope for reclamation com pleted by EBA engineering in 2009. Area s requiring immediate attention were addr essed in 2009. Three of the four permitte d borrow areas have been partially reclai |
| 3 | A | Open Pit | Other Items | Grade and contour road side borrow areas within alignment | 3 | Person Day | 83 | $996 | $82,668 | Hours | 996 | $138 | $137,448 | $220,116 | $0 | $0 | $220,116 | $0 | $0 | 30% | $66,035 | A well defined technical scope completed to confirm estimate for final reclamation of road side borrow areas. Given the large number of road side borrows and the distance of the Milne Inlet Tote Road. A conservative contingency of 30% has been | med -The estimate has not included any partial reclamation activities. These only required dozer and grading. Estimate ba sed on the scope of work developed in th e EBA report. See the following referenc es for scope (Appendix D) See Operato r labour & equipment rates - Appendix G- 3, , 2012 A&R Schedule of Labour, Equip |
| 4 | A | Open Pit | Other Items | Borrow materials from permitted borrow areas (m3) | 3 | | | | | Hours | 18,940 | 2.5 | $47,350 | $47,350 | $0 | $0 | $47,350 | $0 | $0 | 20% | $9,470 | Quantities are well understood as they are derived from surveyed volumes & as built drawings. A moderate contingency has been | See Appendix G-3, Estimate of A & R Borrow Area Material requirements Table for detailed estimate |

| | | | | Fuel Storage Facilities | Year | | Labour | | | Equipment | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$428,583*** | | | | ***$272,462*** | ***$701,045*** | ***$0*** | ***$405,805*** | ***$295,240*** | ***$0*** | ***$0*** | ***20%*** | ***$141,472*** | | |
| 1 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | **Mary River Fuel Farm** | | | | | **$123,856** | | | | **$132,792** | **$256,648** | **$0** | **$88,524** | **$168,124** | **$0** | **$0** | | **$47,234** | | |
| 2 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Return excess fuel at Mary River to Milne Inlet | 2 | Person Day | 35 | $996 | $34,860 | Hours | 416 | $129 | $53,664 | $88,524 | $0 | $88,524 | $0 | $0 | $0 | 10% | $8,852 | The scope of work is well defined and the hypothetical abandonment scenario occurs at time of maximum fuel inventory. Abandonment at almost any other time would have a lower inventory of fuel at Mary River. Hence a 10% contingency has been applied | Assume excess fuel returned occurs after Mary River had been restocked with bulk fuel. As of Sept 30 2012 Fuel balance of approximate 3,462,600 L<br>Haul hours = 3,462,600 l / 50,000 l/trip / 2 trips/shift * 12 hours/shift = 416 hours and 35 working days. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 3 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Drain, fold, and containerize Mary River bladder tanks | 3 | Person Day | 45 | $800 | $36,000 | Hours | 36 | $66 | $2,376 | $38,376 | $0 | $0 | $38,376 | $0 | $0 | 10% | $3,838 | Scope is well defined and manufacturer productivity based on same task completed in 2008 at Milne Inlet. A 10% contingency has been applied in the event of lower productivity. | 11 bladders at Mary is one seventh the number at Milne. Assume cost is 1/7 Milne * Estimate from manufacturer: 7 man crew for 3 days (fold) = 21 man days + 3 man crew for 8 days (decrease from 2012 estimate drums are partially drained - drain, remove pipe & package) =24 man days. Bob cat Equipment hours = 3 days* 12 hours = 36. Scope based on as-built (See Appendix G-4, 2011A&R Plan Estimating Docs\Fuel Storage Facilities\Mary River Bulk Fuel Farm as built Reports. . See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 4 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Remove all geomembrane fuel liners, package and transport to Milne Inlet for sea - lift backhaul | 3 | Person Day | 10 | $718 | $7,180 | Hours | 60 | $136 | $8,160 | $15,340 | $0 | $0 | $15,340 | $0 | $0 | 10% | $1,534 | All secondary containment has been surveyed. Productivities are based upon recent operating experience. A contingency of 10% is considered adequate. | Assume 4 days of dozer work to expose all the liner and package for shipping and 1 day to ship it to Milne Inlet by flat deck. Assume 5 labour days to prepare & package. Scope based on as built drawings (See Appendix B-1). See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 5 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Execute civil works to transport potential hydrocarbon contaminated soil form the Mary River bulk fuel farm to the Milne Inlet land farm | 3 | Person Day | 21 | $996 | $20,916 | Hours | 252 | $126 | $31,752 | $52,668 | $0 | $0 | $52,668 | $0 | $0 | 30% | $15,800 | Although the scope will not be confirmed until completion of the phase 1-3 environmental assessment and engineering design, a worse case scenario has been used for the estimate. A 30% contingency has been applied against the potential for additional civil work resulting from current uncertainty in scope. | Estimate of civil work requirements based on worse case scenario of entire fuel farm base above the liner requiring land farming and to be moved to a location 300 meters from water. Consultant preferred suitable location 1.5 km from fuel farm in permitted borrow area south of Milne Inlet. Assume Milne Inlet fuel farm base above liner = 96 m x 25m x 0.30m = 720 m3. Labour & equipment estimates = 720 cubes /27 cubes/truck W no pup = 27 Trips 27rips/2trips/day(1Mary River to Milne Inlet= 14 truck days @ 4 trucks hauling =3.5 days required for other equipment including 1 Dozers 1 loader = 6 pieces of equipment * 3.5 days = 21 person days. Scope based on as built drawings (See Appendix B-1). See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |

| | | | | Fuel Storage Facilities | Year | Labour | | | | Equipment | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 6 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Execute civil works to transport potential hydrocarbon contaminated soil from Mary River non-bulk fuel farm lined containment areas to the Milne Inlet land farm | 3 | Person Day | 22 | $996 | $21,912 | Hours | 264 | $126 | $33,264 | $55,176 | $0 | $0 | $55,176 | $0 | $0 | 30% | $16,553 | Although the scope will not be confirmed until completion of the phase 1-3 environmental assessment and engineering design, a worse case scenario has been used for the estimate. A 30% contingency has been applied against the potential for additional civil work resulting from current uncertainty in scope. | Estimate of civil work requirements based on worse case scenario of entire secondary containment base above liners to be moved to Milne Inlet land farm proposed for the bulk fuel farm. . Assume generic secondary containment berm volume above liner = 23m x 12m x 0.30m =82 m3. Labour & equipment estimates =82 cubes /27 cubes/truck W no pup = 6Trips 6 trips/2trips/day/truck(Round trip Mary River to Milne Inlet = 3days/berm. There are 5 lined berms at Mary River = 15 days with one truck hauling. @ 4 trucks hauling =3.75 days required for other equipment including 1 Dozers 1 loader = 6 pieces of equipment * 3.75 days = 22 person days. Scope based on as built drawings (See Appendix B-1). See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 7 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Recontour surface | 3 | Person Day | 3 | $996 | $2,988 | Hours | 24 | $149 | $3,576 | $6,564 | $0 | $0 | $6,564 | $0 | $0 | 10% | $656 | All secondary containment has been surveyed. Productivities are based upon recent operating experience. A contingency of 10% is considered adequate. | Assume 3 dozer days recontour all lined berms. All lined berms are indicated on the MR as-built drawing. Scope based on as built drawings (See Appendix B-1). See Operator labour & equipment rates - Appendix G- 3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 8 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | **Milne Inlet Fuel Farm** | | | | | **$304,727** | | | | **$139,670** | **$444,397** | **$0** | **$317,281** | **$127,116** | **$0** | **$0** | | **$94,238** | | |
| 9 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Milne Inlet fuel farm Oil Water Separation Operation | 2 | Person Day | 180 | $996 | $179,280 | Lot | 1 | $20,000 | $20,000 | $199,280 | $0 | $199,280 | $0 | $0 | $0 | 30% | $59,784 | The estimate is based upon Historical labour & material requirements for operation of the oil-water separation process. However, it is possible that technical support or that the volume requiring treatment may be under estimated. A contingency of 30% is included to cover these possibilities. | 2012 estimate based on a single season of treatment prior to converting the fuel farm to a soil remediation land farm. Once converted to a land farm, no further treatment is required. Assume 45 days of operation of oil water separation/activated carbon prior to starting tilling of soil. Labour based on 2 person/shift operation for 45 days and consumables (absorbent material and activated carbon) of $20,000 season. |
| 10 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Drain, flush and dismantle and remove 5 ML fuel storage tank | 2 | Person Day | 39 | $439 | $17,121 | Lot | 60 | $217 | $13,020 | $30,141 | $0 | $30,141 | $0 | $0 | $0 | 20% | $6,028 | Although issued for construction drawings have been completed, no specifications or manufacturing productivies have been included. A large 20% contingency has been applied to account for any additional potential requirements. | Assume 6 person crew 5 days to remove and breakdown tank. Equipment hours = 5 days * 12 hours = 60 hours. Assume 3 man crew 3 days to drain. |
| 11 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Recontour surface impacted by 5 ML fuel storage tank | 2 | Person Day | 2 | $996 | $1,992 | Lot | 24 | $149 | $3,576 | $5,568 | $0 | $5,568 | $0 | $0 | $0 | 15% | $835 | Scope is well defined and Productivities are based upon recent operating experience. A contingency of 15% is applied in the event additional hours are required to complete the work | 2012 Estimate assumed 2 dozer days based on surface areas Drawing H337697-4020-10-014-0001. |
| 12 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Milne Inlet Bulk Fuel Sealift Backhaul Support | 2 | Person Day | 12 | $800 | $9,600 | Hours | 66 | $129 | $8,514 | $18,114 | $0 | $18,114 | $0 | $0 | $0 | 15% | $2,717 | Fuel transfer rate is well defined based on two previous bulk fuel transfers at Milne Inlet. Fuel inventory is projected based on budgeted consumptions. A contingency of 15% is applied in the event of below planned fuel consumption. | As of Oct 1st , 2011 Fuel balance approximately 3.97 ML. Assume fuel transfer time of 6000L/hour for transfer time of 66 hours for a 2 person crew (6 days equipment 2 required). Missing equipment cost estimate. Assume hourly costs similar to transporting from Mary River Camp with above time requirements. Baffinland bulk fuel transfer procedure for safely discharging attached (See Appendix G-4, 2012 A&R Plan Estimating Docs\Fuel Storage Facilities\Milne Inlet Bulk Fuel Unloading Procedure. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |

| | | | | Fuel Storage Facilities | Year | Labour | | | | Equipment | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 13 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Drain, fold, and containerize Milne bladder tanks | 2 | Person Day | 44 | $800 | $35,200 | Hours | 144 | $66 | $9,504 | $44,704 | $0 | $44,704 | $0 | $0 | $0 | 10% | $4,470 | Scope is well defined and manufacturer productivity based on same task completed in 2008 at Milne Inlet. A 10% contingency has been applied in the event of lower productivity. | Estimate from manufacturer: 7 man crew for 3 days (fold) = 21 man days + 3 man crew for 7 days (drain, remove pipe & package) = 21 man days. Equipment hours = 12 days* 12 hours = 143 hrs. Scope based on as-built (See Appendix G-4, 2012 A&R Plan Estimating Docs\Fuel Storage Facilities\Milne Inlet Bulk Fuel Farm as Built drawings. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 14 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Remove Piping associated with fuel farm and 5 ML fuel tank | 2 | Person Day | 12 | $439 | $5,268 | Hours | 48 | $91 | $4,368 | $9,636 | $0 | $9,636 | $0 | $0 | $0 | 10% | $964 | Scope is well defined and manufacturer productivity based on same task completed in 2008 at Milne Inlet. A 10% contingency has been applied in the event of lower productivity. | Estimate from manufacturer: 3 man crew for 4 days to disassemble all piping. Requires a loader/skid steer for 48 hours. Scope based on as-built (See Appendix G-4, 2012 A&R Plan Estimating Docs\Fuel Storage Facilities\Milne Inlet Bulk Fuel Farm as Built drawings. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 15 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Remove Piping from 5 ML Fuel Storage Tank | 2 | Person Day | 6 | $439 | $2,634 | Hours | 24 | $91 | $2,184 | $4,818 | $0 | $4,818 | $0 | $0 | $0 | 20% | $964 | Scope is moderately defined and based on same task completed for removal of the fuel farm piping. A 20% contingency has been applied in the event of lower productivity. | Estimate from manufacturer: 3 man crew for 4 days to disassemble all piping. Requires a loader/skid steer for 48 hours. Scope based on as-built (See Appendix G-4, 2012 A&R Plan Estimating Docs\Fuel Storage Facilities\Milne Inlet Bulk Fuel Farm as Built drawings. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 16 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Regrading pipeline area | 2 | Person Day | 4 | $439 | $1,756 | Hours | 24 | $136 | $3,264 | $5,020 | $0 | $5,020 | $0 | $0 | $0 | 20% | $1,004 | Scope is defined based on approximate surface area of pipeline and cross sections shown in drawings H337697-4020-10-042-0001 and H337697-4020-30-035-0001. A contingency of 20% has been included to account for any increase in overburden and labour hours | Any exposed concrete and rebar from dismantled pipeline infrastructure will be covered with a minimum of 0.2 m of overburden. Assumed volume of 750 m3. KP calcs - 500 m3/32.52 cubes/truck = 23 trips/17 trips/day (@40 minutes per trip) = 1 man days. Assume 2 people and 1 trucks and 1 dozer =2 days total |
| 17 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Remove all hazardous material/fuel storage geomembrane fuel liners and package for sea - lift backhaul. (All lined berms except Milne Inlet Fuel Farm) | 3 | Person Day | 10 | $606 | $6,060 | Hours | 36 | $149 | $5,364 | $11,424 | $0 | $0 | $11,424 | $0 | $0 | 10% | $1,142 | All secondary containment has been surveyed. Productivities are based upon recent operating experience. A contingency of 10% is considered adequate. | Assume 3 days of dozer work to expose all four of the hazardous material lined berms and 3 days x 2 person labour to package for shipping. All lined berms are indicated on the MI as-built drawing. Scope based on as-built (See Appendix G-4, \2012 A&R Plan Estimating Docs\Fuel Storage Facilities\General design drawing for all lined earthed berms used for secondary containment. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 18 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Execute civil works to convert the fuel farm to hydrocarbon impacted soil land farm | 3 | Person Day | 21 | $996 | $20,916 | Hours | 252 | $133 | $33,516 | $54,432 | $0 | $0 | $54,432 | $0 | $0 | 30% | $16,330 | Although the scope will not be confirmed until completion of the phase 1-3 environmental assessment and engineering design, a worse case scenario has been used for the estimate. A 30% contingency has been applied against the potential for additional civil work resulting from current uncertainty in scope. | Estimate of civil work requirements based on worse case scenario of entire fuel farm base above the liner requiring land farming and to be moved to a location 300 meters from water. Consultant preferred suitable location 1.5 km from fuel farm in permitted borrow area south of Milne Inlet. Assume Milne Inlet fuel farm base above liner = 250 m x 50m x 0.30m = 3500 m3. Labour & equipment estimates = 3500 cubes /27 cubes/truck W no pup = 110 Trips 110 trips/20trips/day(10 hr@30 min/trip)== 7 truck days @ 4 trucks hauling =3 days required for other equipment including 2 Dozers 1 loader = 7 pieces of equipment * 3 days = 21 person days. |

| | | | | Fuel Storage Facilities | Year | | Labour | | | Equipment | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 19 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Execute civil works to transport potential hydrocarbon contaminated soil from Milne Inlet non - bulk fuel farm lined containment areas | 3 | Person Day | 15 | $996 | $14,940 | Hours | 180 | $110 | $19,800 | $34,740 | $0 | $0 | $34,740 | $0 | $0 | 30% | $10,422 | Although the scope will not be confirmed until completion of the phase 1-3 environmental assessment and engineering design, a worse case scenario has been used for the estimate. A 30% contingency has been applied against the potential for additional civil work resulting from current uncertainty in scope. | Estimate of civil work requirements based on worse case scenario of entire secondary containment base above liners to be moved to land farm proposed for the bulk fuel farm. Consultant preferred suitable location 1.5 km from fuel farm in permitted borrow area south of Milne Inlet. Assume generic secondary containment berm volume above liner = 23m x 12m x 0.30m =82 m3. 5ML fuel tank base = 137x51*0.3=2096 m3. 5ML Fuel Tank Berm =12*(2*137+2*51) = 4500Labour & equipment estimates =6678 cubes /27 cubes/truck W no pup = 247 Trips 247 trips/20trips/day/truck(10 hr@30 min/trip)= 13 days/berm. There are 5 lined berms at Milne = 2.0 days with one truck hauling. To make the process efficient, assume 5 day with two trucks and an operator for the dozer and one for the loader operation support = 15 man days. Scope based on as built (See Appendix B-2 and Appendix G-4, 2012 A&R Plan Estimating Docs\Fuel Storage Facilities\Milne Inlet Bulk Fuel Farm as Built drawings. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table . |
| 20 | A | Bldgs & Equip | REMOVE NON-CONTAMINATED BUILDINGS | Recontour surface | 3 | Person Day | 10 | $996 | $9,960 | Hours | 120 | $138 | $16,560 | $26,520 | $0 | $0 | $26,520 | $0 | $0 | 10% | $2,652 | Scope is well defined and Productivities are based upon recent operating experience. A contingency of 10% is applied in the event additional hours are required to complete the work | Assume entire Milne Inlet fuel farm base and berm walls to be levelled and contoured . Scope based on as built (See Appendix B-2 and Appendix G-4, 2012 A&R Plan Estimating Docs\Fuel Storage Facilities\Milne Inlet Bulk Fuel Farm as Built drawings. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | Explosives | Year | Labour | | | | Equipment | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$0*** | | | | ***$0*** | ***$0*** | ***$0*** | ***$0*** | ***$0*** | ***$0*** | ***$0*** | ***0%*** | ***$0*** | |
| 1 | A | Chemicals | Other | Prepare explosives for shipping | | | Person Day | | $0 | Hours | | | $0 | $0 | $0 | | | | | 0% | $0 | |
| 2 | A | Chemicals | Other | Ship explosives to Milne Inlet | | | Person Day | | $0 | | | | $0 | $0 | | | | | $0 | 0% | | |
| 3 | A | Chemicals | Other | Ship explosives via land to Milne Inlet | | | Person Day | | $0 | Hours | | | $0 | $0 | $0 | | | | | 0% | $0 | |

| | | | | Waste Management | Year | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$137,217*** | | | | ***$422,076*** | ***$559,293*** | ***$0*** | ***$203,142*** | ***$356,151*** | ***$0*** | ***$0*** | ***19%*** | ***$108,265*** | | |
| 1 | A | Bldgs & Equip | Specialized Items | **Operate Landfill** | | | | | **$111,552** | | | | **$185,472** | **$297,024** | **$0** | **$0** | **$297,024** | **$0** | **$0** | | **$57,283** | | |
| 2 | A | Bldgs & Equip | Specialized Items | Construct Access Road to Landfill including haulage | | Person Day | 0 | $0 | $0 | Hours | 0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | 0% | $0 | | Access road to landfill was constructed in 2010 and as built drawings and report completed. This task is no longer required. |
| 3 | A | Bldgs & Equip | Specialized Items | Expand Landfill Berms including haulage | 3 | Person Day | 32 | $996 | $31,872 | Hours | 384 | $138 | $52,992 | $84,864 | $0 | $0 | $84,864 | $0 | $0 | 30% | $25,459 | Scope is well defined and design drawings completed. Equipment estimates based on historical productivity. A 30 % contingency has been applied against the potential reduced civil work productivity. | 2012 basis same as 2009 - 9216 cubes /32.52 cubes/truck W no pup = 283Trips. 283 trips/16 trips/day(11 hr@40 min/trip)== 17 truck days @ 4 trucks hauling =5 days required for other equipment including Dozer, loader, excavator = 15 equipment days. Scope based on landfill design and as-built (See Appendix B-7 and Appendix G-4, \2012 A&R Plan Estimating Docs\Waste Mngmt\Mary River Landfill As built Report. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 4 | A | Bldgs & Equip | Specialized Items | Borrow Haulage required for operation of land fill to capacity | 3 | Person Day | 27 | $996 | $26,892 | Hours | 324 | $138 | $44,712 | $71,604 | $0 | $0 | $71,604 | $0 | $0 | 15% | $10,741 | Scope is well defined and design drawings completed. Equipment estimates based on historical productivity. A 15 % contingency has been applied against the potential reduced civil work productivity. | 2012 basis same as 2009 - 8668 cubes /32.52 cubes/truck W no pup =555Trips. 555 trips/16 trips/day(11 hr@40 min/trip)== 34 truck days @ 4 trucks hauling =9 days required for other equipment including Dozer, loader = 19 equipment days Scope based on landfill design and as-built (See Appendix B-7 and Appendix G-4, \2012 A&R Plan Estimating Docs\Waste Mngmt\Mary River Landfill As built Report. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 5 | A | Bldgs & Equip | Specialized Items | Borrow Haulage required for capping landfill | 3 | Person Day | 53 | $996 | $52,788 | Hours | 636 | $138 | $87,768 | $140,556 | $0 | $0 | $140,556 | $0 | $0 | 15% | $21,083 | Scope is well defined and design drawings completed. Equipment estimates based on historical productivity. A 15 % contingency has been applied against the potential reduced civil work productivity. | 2012 basis same as 2009 - 18060 cubes /32.52 cubes/truck W no pup = 283 trips. 283 trips/16 trips/day(11 hr@40 min/trip) = 17 truck days @ 4 trucks hauling =5 days required for other equipment including Dozer, loader, excavator = 15 equipment days Scope based on landfill design and as-built (See Appendix B-7 and Appendix G-4, \2012 A&R Plan Estimating Docs\Waste Mngmt\Mary River Landfill As built Report. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 6 | A | Bldgs & Equip | Specialized Items | **Ship waste by land Mary River to Milne Inlet** | | | | | **$5,337** | | | | **$31,662** | **$36,999** | **$0** | **$0** | **$36,999** | **$0** | **$0** | | **$7,400** | | |
| 7 | A | Bldgs & Equip | Specialized Items | Prepare chemicals for shipping | 3 | Person Day | 9 | $593 | $5,337 | Hours | 3 | $66 | $198 | $5,535 | $0 | $0 | $5,535 | $0 | $0 | 20% | $1,107 | The scope is well defined - All of the historical waste has been demobilized and individual w aste type production has been estimated from recent site generation rates. The preparation estimate rates is based on 2010 contractor in voiced rates & productivity . A 20% contingen cy has been applied to cover potential excess hazardous waste generation upon completion of A & R plan. | Scope based on volume estimates contained Appendix G-3, 2012 Mary River Project A & R Plan Material Balance table and 2012 - Hazardous and Non-Hazardous Material requiring disposal Inventory = 76 m3 estimate. Packaging of 76m3, based 2009 productivity require 3 days of QE representation and 2 labourers with the use of a skid steer for 12 hours/day. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | Waste Management | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 8 | A | Bldgs & Equip | Specialized Items | Disposal cost of hazardous material in the South (except bulk contaminated soil) | 3 | Person Day | | $0 | $0 | Cube | 76 | $414 | $31,464 | $31,464 | $0 | $0 | $31,464 | $0 | $0 | 20% | $6,293 | The scope is well defined - All of the historical waste has been demobilized and individual waste type production has been estimated from recent site generation rates. Disposal estimates are based on 2009 invoiced rates. A 20% contingency has been applied to cover potential excess hazardous waste disposal that would occur upon completion of a final A & R plan. | Scope based on volume estimates contained Appendix G-3, 2012 Mary River Project A & R Plan Material Balance table and 2012 - Hazardous and Non-Hazardous Material requiring disposal Inventory = 76 m3 estimate. Average disposal cost based on 2010 blended hazardous material weighted cost - See Appendix G-3, Hazardous Material Disposal Cost in the South Packaging which was used to calculate disposal cost in the south= $414 $/m3. 3rd party vendor quote supporting Units costs from 2010 are in Appendix G-4, 2012 A&R Plan Estimating Docs\Waste Mngmt\QE 2010 proposal disposal rates for hazardous material. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 9 | A | Bldgs & Equip | Specialized Items | **Sewage - Mary River** | | | | | **$13,944** | | | | **$198,918** | **$212,862** | **$0** | **$203,142** | **$9,720** | **$0** | **$0** | | **$41,600** | | |
| 10 | A | Bldgs & Equip | Specialized Items | Decant sewage lagoons | 2 | Person Day | 0 | $0 | $0 | Lot | 1 | $192,504 | $192,504 | $192,504 | $0 | $192,504 | $0 | $0 | $0 | 20% | $38,501 | The technical treatment process of lagoon sewage was confirmed and executed in 2009. The operating and maintenance unit cost are well defined based on invoiced cost. The quantity of sewage requiring treatment is based on surveyed inventory and estimated production based on budgeted person days through to planned execution date for A & R. A 20% estimate has been applied to cover potential increase in person days and the resulting increase in sewage. | Based on actual 2009 invoiced unit treatment costs, surveyed sewage inventory post 2009 treatment. No treatment in 2010. Scope based Mary River sewage lagoon engineered treatment process design. Operations manuals been included. No additional basic engineering required to develop a treatment process. See Appendix G- 4, 2012 A&R Plan Estimating Docs\Waste Mngmt\Mary Rives Sewage Lagoon Treatment Process Design. |
| 11 | A | Bldgs & Equip | Specialized Items | Sludge removal & transfer to landfill | 2 | Person Day | 10 | $996 | $9,960 | Hours | 6 | $113 | $678 | $10,638 | $0 | $10,638 | $0 | $0 | $0 | 20% | $2,128 | The estimate is based upon well defined sewage and sludge quantities and treatment and disposal process are technically well understood. A 20% estimate has been applied to cover potential increase in person days and the resulting increase in sewage. | Based on use of geotube technology in year 2. Allowance made for pumping Sludge through geotube and letting tube free drain on lagoon berm wall. Year involves transport to landfill for permanent disposal. Process approved my Province of Ontario for treatment of sewage sludge. Sludge estimate based on current measured solids of 0.5% and projected A & R sewage inventory of 6520 m3 = 32.6 m3 solids. This is equivalent to 2 Kenworth truck load to the landfill - Assume half day An allowance of $10,000 has been made for the geotube filter & 10 days labour to pump our the 32 cubes of solids. Pumping. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 12 | A | Bldgs & Equip | Specialized Items | Liner removal & berm reclamation | 3 | Person Day | 3 | $996 | $2,988 | Hours | 36 | $130 | $4,680 | $7,668 | $0 | $0 | $7,668 | $0 | $0 | 10% | $767 | All civil work requiring the lagoon fill for A & R is estimated in those tasks. Final grading & contouring civil work is minor. Assume a 10% contingency. | Assume berm fill is used in reclamation projects and haulage estimates are included in those tasks. Labour & equipment is for liner removal and final grading and contouring of areas with a dozer & grader. See Figure 8.2 for reclamation detail and Appendix B-1 and Appendix G-4, 2012 A&R Plan Estimating Docs\Waste Mngmt\Mary River Sewage Lagoons design and as builts for berm design and as built used to determine scope. See Operator labour & equipment rates - Appendix G- 3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 13 | A | Bldgs & Equip | Specialized Items | Liner disposal | 3 | Person Day | 1 | $996 | $996 | Hours | 12 | $88 | $1,056 | $2,052 | $0 | $0 | $2,052 | $0 | $0 | 10% | $205 | Scope is well defined and Labour & Equipment productivity well established. A 10% contingency is deemed adequate. | Assume 2 persons for half a day with skid steer and flat deck for transporting liner for disposal in landfill. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Waste Management | Year | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 14 | A | Bldgs & Equip | Specialized Items | **Sewage - Milne** | | | | | **$6,384** | | | | **$6,024** | **$12,408** | **$0** | **$0** | **$12,408** | **$0** | **$0** | | **$1,981** | | |
| 15 | A | Bldgs & Equip | Specialized Items | Decant sewage lagoons | 3 | Person Day | 3 | $800 | $2,400 | Hours | 0 | $0 | $0 | $2,400 | $0 | $0 | $2,400 | $0 | $0 | 20% | $480 | The technical treatment process of lagoon sewage was confirmed and executed in 2009. The operating and maintenance unit cost are well defined based on invoiced cost. The quantity of sewage requiring treatment is based on surveyed inventory and estimated production based on budgeted person days through to planned execution date for A & R. A 20% estimate has been applied to cover potential increase in person days and the resulting increase in sewage. | Sewage Lagoon current in compliance with discharge criteria and was partially discharged in 2009. Remaining sewage inventory of 114m3. At a discharge rate of 30 l/m, 3 days is required to decant the treated sewage. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 16 | A | Bldgs & Equip | Specialized Items | Sludge removal & transfer to landfill | 3 | Person Day | 1 | $996 | $996 | Hours | 12 | $138 | $1,656 | $2,652 | $0 | $0 | $2,652 | $0 | $0 | 15% | $398 | The estimate is based upon well defined sewage and sludge quantities and treatment and disposal process are technically well understood. A 15% has been applied to cover potential short fall in equipment productivity. | Sludge removal from MI Lagoon( Assume filtering of sludge added to task of decanting the sewage lagoons) Assume natural decantation followed by loader/truck removal to landfill . Based on 0.5% solids, it is expected less that 1 truck load sludge required for disposal to landfill. The one time cost of the sludge filter was included in the Mary River sludge removal cost. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 17 | A | Bldgs & Equip | Specialized Items | Liner removal & berm reclamation | 3 | Person Day | 2 | $996 | $1,992 | Hours | 24 | $138 | $3,312 | $5,304 | $0 | $0 | $5,304 | $0 | $0 | 15% | $796 | All civil work requiring the lagoon fill for A & R is estimated in those tasks. Final grading & contouring civil work is minor. Assume a 15% contingency. | Assume berm fill is used in reclamation projects and haulage estimates are included in those tasks. Labour & equipment is for liner removal and final grading and contouring of areas with a dozer & grader. Scope based on Figure 8.4 and Appendix G-4, Baffinland\2012 A&R Plan Estimating Docs\Waste Mngmt\Milne Inlet Sewage lagoon as built survey\Milne Inlet 100_06_01_sewage lagoon as built .dwg. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 18 | A | Bldgs & Equip | Specialized Items | Liner disposal | 3 | Person Day | 1 | $996 | $996 | Hours | 12 | $88 | $1,056 | $2,052 | $0 | $0 | $2,052 | $0 | $0 | 15% | $308 | Scope is well defined and Labour & Equipment productivity well established. A 15% contingency has been applied to cover potential shortfall in equipment productivity. | Assume 2 persons for half a day with skid steer and flat deck for transporting liner for disposal in landfill. Based on current truck haulage productivity between Milne Inlet and Mary River. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | Hydrocarbon Impacted Soils | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$558,000*** | | | | ***$190,080*** | ***$748,080*** | ***$0*** | ***$90,000*** | ***$658,080*** | ***$0*** | ***$0*** | ***16%*** | ***$120,912*** | | |
| 1 | A | Chemicals | CONTAMINATED SOILS | Complete phase 1 to phase 3 environmental assessment to identify hydrocarbon contaminated soil and to develop soil remediation criteria and land farm design | 2 | Lot | 1 | $90,000 | $90,000 | Hours | 0 | 0 | $0 | $90,000 | $0 | $90,000 | $0 | $0 | $0 | 30% | $27,000 | Estimate based on maximum upset price. However, proposal and quote was provided in 2009. A 30% contingency has applied to cover inflation as the quote is 2 years old and to cover additional potential assessment requirements. | Estimate based on EBA engineering proposal develop criteria, complete phase I to phase III assessment & land farm design proposal (See Appendix G-4, 2012 A&R Plan Estimating Docs\Hydrocarbon Imp Soil\EBA Phase I-3 EA and land farm design) with maximum upset price of $90K. |
| 2 | A | Bldgs & Equip | Specialized Items | **Land farm Operation** | | | **140** | | **$158,600** | | | | **$158,600** | **$317,200** | **$0** | **$0** | **$658,080** | **$0** | **$0** | | | | |
| 3 | A | Bldgs & Equip | Specialized Items | Milne Inlet - Till hydrocarbon impacted soil - Land farm operation | 3 | Person Day | 400 | $1,090 | $436,000 | Hours | 1440 | $132 | $190,080 | $626,080 | $0 | $0 | $626,080 | $0 | $0 | 15% | $93,912 | Land farming technology for treating hydrocarbon impacted soil in the arctic is proven and the techniques and scope well established. A full 12 hours/day equipment use has been applied to cost estimate which is a very conservative estimate. A general 15% Contingency has been applied to cover undefined detailed scope. | Conversion for fuel farm to land farm estimated in 'fuel storage facilities' worksheet. Year 4 basis assumes mechanic and operator execute the work required to till the hydrocarbon impacted soil work. Assume practical length of tilling season is June 15-Aug 31st or 10 weeks . Engineering design to determine detailed tilling execution strategy. Assume labour & equipment resourced at site for entire operational period. Cost out 2 persons on site for 10 weeks per year for 4 years) . Task will require a dozer & loader. Convention land farming has material tilled once/wee. Assume a third party contractor loader & dozer required for 36 hours /week to complete tilling of land farm . Blended Labour and equipment rates applied. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 4 | A | Bldgs & Equip | Specialized Items | Food & accommodations | 3 | Person Day | $0 | $0 | $0 | | | | | $0 | $0 | $0 | $0 | $0 | $0 | | | | Year 3 cost for food and accommodations in cluded in general "camp operation" workshe et |
| 5 | A | Bldgs & Equip | Specialized Items | Year 4 - 6 commercial flights for labour | 3 | Person Day | $0 | $0 | $0 | Person Flights | | | | $0 | $0 | $0 | $0 | $0 | $0 | | | | Year 3 cost for food and accommodations in cluded in general "camp operation" workshe et |
| 6 | A | Bldgs & Equip | Specialized Items | Fixed wing support (note: equip hrs refer to statute miles) | 3 | Person Day | $0 | $0 | $0 | statute miles | | | | $0 | $0 | $0 | $0 | $0 | $0 | | | | Year 3 cost for food and accommodations in cluded in general "camp operation" workshe et |
| 7 | A | Bldgs & Equip | Specialized Items | Third Party Consultant to monitor and support land farm operations | 3 | Person Day | 32 | $1,000 | $32,000 | hours | | | | $32,000 | $0 | $0 | $32,000 | $0 | $0 | | | | Year 3 cost for food and accommodations in cluded in general "camp operation" workshe et. To occur every 4 years, 6 days on site, 2 days travel |

| | | | | General Site Area | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$1,561,800*** | | | | ***$0*** | ***$1,561,800*** | ***$0*** | ***$480,600*** | ***$600,600*** | ***$480,600*** | ***$0*** | ***10%*** | ***$156,180*** | | |
| 1 | A | Bldgs & Equip | Specialized Items | **Project Management & Supervision Year 2** | | | | | **$480,600** | | | | **$0** | **$480,600** | **$0** | **$480,600** | **$0** | **$0** | **$0** | | **$48,060** | | |
| 2 | A | Bldgs & Equip | Specialized Items | Third party Contractor - Admin & supervisory staff | 2 | Person days | 300 | 1202 | $360,600 | Hours | | | $0 | $360,600 | $0 | $360,600 | $0 | $0 | $0 | 10% | $36,060 | This level of project management and third party staff levels is considered adequate for the execution of this A&R plan scope and a contingency of 10% is sufficient. | Assumes third party contractor requires the following three staff management roles - one site superintendent and one supervisor from May 1 to Sept. 30th. A blended rate reflecting the average of the three roles has been used. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 3 | A | Bldgs & Equip | Specialized Items | Project Management Supervision | 2 | Person days | 150 | 800 | $120,000 | Hours | | | $0 | $120,000 | $0 | $120,000 | $0 | $0 | $0 | 10% | $12,000 | | Assumes project management/engineering/technical support of 1 staff at site through the execution of the A&R plan from May 1 to Sept 30th. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 4 | A | Bldgs & Equip | Specialized Items | **Project Management & Supervision Year 3** | | | | | **$600,600** | | | | **$0** | **$600,600** | **$0** | **$0** | **$600,600** | **$0** | **$0** | | **$60,060** | | |
| 5 | A | Bldgs & Equip | Specialized Items | Third party Contractor - Admin & supervisory staff | 3 | Person days | 300 | 1202 | $360,600 | Hours | | | $0 | $360,600 | $0 | $0 | $360,600 | $0 | $0 | 10% | $36,060 | This level of project management and third party staff levels is considered adequate for the execution of this A&R plan scope and a contingency of 10% is sufficient. | Assumes third party contractor requires the following three staff management roles - one site superintendent and one supervisor from May 1 to Sept. 30th. A blended rate reflecting the average of the three roles has been used. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 6 | A | Bldgs & Equip | Specialized Items | Project Management Supervision | 3 | Person days | 300 | 800 | $240,000 | Hours | | | $0 | $240,000 | $0 | $0 | $240,000 | $0 | $0 | 10% | $24,000 | | Assumes project management/engineering/technical support of 2 staff at site through the execution of the A&R plan from May 1 to Sept 30th. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 7 | A | Bldgs & Equip | Specialized Items | **Project Management & Supervision Year 4** | | | | | **$480,600** | | | | **$0** | **$480,600** | **$0** | **$0** | **$0** | **$480,600** | **$0** | | **$48,060** | | |
| 8 | A | Bldgs & Equip | Specialized Items | Third party Contractor - Admin & supervisory staff | 4 | Person days | 300 | 1202 | $360,600 | Hours | | | $0 | $360,600 | $0 | $0 | $0 | $360,600 | $0 | 10% | $36,060 | This level of project management and third party staff levels is considered adequate for the execution of this A&R plan scope and a contingency of 10% is sufficient. | Assumes third party contractor requires the following three staff management roles - one site superintendent and one supervisor from May 1 to Sept. 30th. A blended rate reflecting the average of the three roles has been used. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 9 | A | Bldgs & Equip | Specialized Items | Project Management Supervision | 4 | Person days | 150 | 800 | $120,000 | Hours | | | $0 | $120,000 | $0 | $0 | $0 | $120,000 | $0 | 10% | $12,000 | | Assumes project management/engineering/technical support of 1 staff at site through the execution of the A&R plan from May 1 to Sept 30th. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | Sealift Materials | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$35,088*** | | | | ***$4,470,434*** | ***$4,505,522*** | ***$0*** | ***$3,225,680*** | ***$575,726*** | ***$629,916*** | ***$74,200*** | ***10%*** | ***$469,912*** | | |
| 1 | A | Bldgs & Equip | Specialized Items | **Freight Sealift Milne Inlet to Valleyfield Year 2** | **2** | | | | **$11,952** | | | | **$2,826,528** | **$2,838,480** | **$0** | **$2,838,480** | **$0** | **$0** | **$0** | | **$283,848** | | |
| 2 | A | Bldgs & Equip | Specialized Items | Shipment, loading and off loading | 2 | Person Day | 12 | $996 | $11,952 | Hours | 144 | $115 | $16,560 | $28,512 | $0 | $28,512 | $0 | $0 | $0 | 10% | $2,851 | Ship loading times are based on historical Milne Inlet ship loading times. A 10% contingency has been applied in the event of weather delays. | Loading from beach to ship & ship to dock included in vessel cost. 6 days to load ship. Support provided by Nuna 1 operator two shifts/day to feed the beach with loader support. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 3 | A | Bldgs & Equip | Specialized Items | Land freight for 3rd party A&R contractor equipment and supplies from mobilization location to port in Valleyfield (Year 2) | 2 | | | | $0 | Cubic meters | 4569 | $38 | $173,622 | $173,622 | $0 | $173,622 | $0 | $0 | $0 | 10% | $17,362 | 10 % contingency is appropriate given the mobilization point is likely to be closer than Edmonton, Alberta to the Port of Valleyfield , thus the land freight estimate is at the high end of potential land freight unit cost. | Unknown mobilization area for third part contractor. Assume lowest bidder will be located closer to Valleyfield than Edmonton, Alberta. Apply the $38/cubes quoted price obtained for hauling heavy equipment to Edmonton as a maximum upset price. 3rd party equipment volume required for execution of the A&R plan estimated at 4569 cubes. Estimate based on list or 3rd part equipment and material and calculated volumes(See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\Estimate of 3rd party list of equipment required for A&R.) |
| 4 | A | Bldgs & Equip | Specialized Items | Dedicated Charter Freight Sealift of 3rd party contractor equipment and supplies to Milne Inlet, and to demobilize contractor equipment currently located at MR and MI, | 2 | | | | $0 | Rev. Tonnes | 2492 | $305 | $760,060 | $760,060 | $0 | $760,060 | $0 | $0 | $0 | 10% | $76,006 | 10% Contingency established to cover potential rate increase resulting from increase in Bunker C ship fuel and higher than predicted volume | Estimate based on Estimate based on list or 3rd party equipment and material required and corresponding calculated volumes(See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\Estimate of 3rd party list of equipment required for A&R.) and all the fuel for the execution of the A&R plan to be sealift in, in year 2 = 6230 cubes * 0.4 = 2492 Revenue Tonnes. (See Appendix G-3, Mary River and Milne Inlet - Sealift volumes (m3)) & rates include provided by sealift vendor quote of $305/Rev Tonne. (See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\2011 Sealift Vendor Quotes\2011 Milne Inlet Sealift Quotes. |
| 5 | A | Bldgs & Equip | Specialized Items | Demobilize by sealift site contractor and specified BIM equipment currently located at MR and MI, | 2 | | | | $0 | Rev. Tonnes | 6455 | $198 | $1,278,090 | $1,278,090 | $0 | $1,278,090 | $0 | $0 | $0 | 10% | $127,809 | 10% Contingency established to cover potential rate increase resulting from increase in Bunker C ship fuel and higher than predicted volume | See detailed sealift backhaul volume for Year 2 in Appendix G-3, Mary River and Milne Inlet - Sealift volumes (m3). = 16139 cubes * 0.4 = 6455 Revenue Tonnes @ NEAS quoted backhaul rate of $198/Rev Tonne. (See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\2011 Sealift Vendor Quotes\2011 Milne Inlet Sealift Quotes.) |
| 6 | A | Bldgs & Equip | Specialized Items | Land freight for site contractor and BIM owned equipment currently located at MR and Milne Inlet | 2 | | | | $0 | Cubic meters | 15742 | $38 | $598,196 | $598,196 | $0 | $598,196 | $0 | $0 | $0 | 10% | $59,820 | 10% contingency is appropriate to cover volume estimating error | Land freight based on quotes provide for hauling Nuna heavy equipment backhaul to Edmonton, Alberta. This is a longer haul than all other contractor delivery sites. (Boart Long year - Hailebury, Ontario and Powder magazines, Valleyfield Que. Assume the $38/cubes quote is applied to the entire volume of contractor owned freight = Nuna (1772 ), Boart (199 ) & Dyno Nobel ( 800 ) Baffinland (2971). See Appendix G-4, 2011A&R Plan Estimating Docs\Sealift\Land freight backhaul quotes |
| 7 | A | Bldgs & Equip | Specialized Items | **Freight Sealift Milne Inlet to Valleyfield Year 3** | **3** | | | | **$0** | | | | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | **$0** | | **$0** | | |

| | | | | Sealift Materials | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 8 | A | Bldgs & Equip | Specialized Items | Dedicated Charter Freight Sealift for supply of year 4 material & supplies, and for the backhaul of MI Tote Road Culverts and remaining material and 3rd party contractor equipment from M | 3 | | | | $0 | | | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | | $0 | No freight sealift schedule for Year 3 | |
| 9 | A | Bldgs & Equip | Specialized Items | **Freight Sealift Milne Inlet to Valleyfield Year 4** | **4** | | | | **$11,952** | | | | **$617,964** | **$629,916** | **$0** | **$0** | **$0** | **$629,916** | **$0** | | **$62,992** | | |
| 10 | A | Bldgs & Equip | Specialized Items | Shipment, loading and off loading | 4 | Person Day | 12 | $996 | $11,952 | Hours | 144 | $165 | $23,760 | $35,712 | $0 | $0 | $0 | $35,712 | $0 | 10% | $3,571 | Ship loading times are based on historical Milne Inlet ship loading times. A 10% contingency has been applied in the event of weather delays. | Loading from beach to ship & ship to dock included in vessel cost. 6 days to load ship. Support provided by 3rd party contractor 1 operator two shifts/day to feed the beach with loader support. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 11 | A | Bldgs & Equip | Specialized Items | Land freight for material & supplies from mobilization location to Port of Valleyfield | 4 | | | | $0 | | | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | | $0 | | No mobilization sealift planned in Year 4. All material accounted for in Year 2 Estimate. No allowance made for land freight |
| 12 | A | Bldgs & Equip | Specialized Items | Dedicated Charter Freight Sealift for supply of year 5 & 6 material & supplies. | 4 | | | | $0 | | | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | | $0 | | No mobilization sealift planned in Year 4. All material accounted for in Year 2 Estimate |
| 13 | A | Bldgs & Equip | Specialized Items | Demobilize decommissioned material and 3rd party contractor equipment from MI | 4 | | | | $0 | Revenue tones | 2028 | $198 | $401,544 | $401,544 | $0 | $0 | $0 | $401,544 | $0 | 10% | $40,154 | 10% Contingency established to cover potential rate increase resulting from increase in Bunker C ship fuel and higher than predicted volume | See detailed sealift volume in worksheet estimating Volume of Year 4 backhaul in Appendix G-3, Mary River and Milne Inlet - Sealift volumes (m3). = 5070 cubes * 0.4 = 2028 Revenue Tonnes @ NEAS quoted backhaul rate of $198/Rev Tonne. (See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\2011 Sealift Vendor Quotes\2011 Milne Inlet Sealift Quotes.) |
| 14 | A | Bldgs & Equip | Specialized Items | Land freight for decommissioned material and equipment from Port of Valleyfield | 4 | | | | $0 | Cubes | 5070 | $38 | $192,660 | $192,660 | $0 | $0 | $0 | $192,660 | $0 | 10% | $19,266 | 10% Contingency established to cover potential rate increase from higher than predicted volume | Land freight based on quotes provide for hauling Nuna heavy equipment backhaul to Edmonton, Alberta. The exact demob location is not known. Assume a land freight rate at the high end of the scale. 5070 cubes backhauled at $38/cubes. Volume calculated in Appendix G-3, Mary River and Milne Inlet - Sealift volumes (m3). Land freight rate provided by vendor quote(See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\Land freight backhaul quotes) |
| 15 | A | Bldgs & Equip | Specialized Items | **Bulk Fuel Demobilization Sealift - Milne Inlet Year 2** | **2** | | | | **$7,200** | | | | **$380,000** | **$387,200** | **$0** | **$387,200** | **$0** | **$0** | **$0** | | **$58,080** | | |

| | | | | Sealift Materials | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 16 | A | Bldgs & Equip | Specialized Items | Dedicated charter - Bulk Fuel Tanker to backhaul bulk fuel to refinery for disposal | 2 | Person Day | 12 | $600 | $7,200 | Sailing | 1 | ######## | $380,000 | $387,200 | $0 | $387,200 | $0 | $0 | $0 | 15% | $58,080 | Estimate contains significant allowances due to the method used for the basis of the estimate. An additional 15% contingency has been applied | Estimate based on 1 bulk fuel for demobilization charter of Jan 31, 2001 bulk fuel inventor or 3.46 million litres of bulk fuel (See Appendix G-4, \2012 A&R Plan Estimating Docs\Camp Ops\2011 A&R Plan forecast Fuel Requirements and assumptions). Direct quote not available from Woodward's. Estimate based on Government of Nunavut sealift freight cost of shipping fuel to Pond Inlet of $0.07/litre. Backhaul sealift cost expected to be <50% of the cost hauling North. However, for purpose of estimate and smaller volume assume 140% of full cost for backhaul or $0.10/litre. Discussions with Eastern Seaborne refineries indicates they will take all fuel providing a minimum credit of 80% of the value of the fuel - this has not been included into he cost. Assume an additional $10,000 demurrage. Day for loading. 2012 freight cost = $0.10*3462600 litres+ 4 day demurrage ($40,000) |
| 17 | A | Bldgs & Equip | Specialized Items | Salvage of Baffinland owned fuel 2 | 2 | | | | $0 | | | | $0 | | $0 | $0 | $0 | $0 | $0 | | $0 | | No allowance made for salvage value |
| 18 | A | Bldgs & Equip | Specialized Items | **Demobilize Freight Sealift Steensby Port to Port of Valleyfield - Year 3** | **3** | | | | **$0** | | | | **$575,726** | **$575,726** | **$0** | **$0** | **$575,726** | **$0** | **$0** | | **$57,573** | | |
| 19 | B | Bldgs & Equip | Specialized Items | Shipment, loading and off loading | 3 | Person Day | 0 | $600 | $0 | Hours | 0 | | $0 | $0 | $0 | $0 | $0 | $0 | $0 | 0% | $0 | This task is already costed in the "camp & related facilities" demobilization of Steensby | |
| 20 | B | Bldgs & Equip | Specialized Items | Vessel Costs Steensby - 1 freight backhaul sealift in Year 3 | 3 | Person Day | | $0 | $0 | Rev Tonne | 1965 | $198 | $389,070 | $389,070 | $0 | $0 | $389,070 | $0 | $0 | 10% | $38,907 | 10% Contingency established to cover potential rate increase resulting from increase in Bunker C ship fuel and higher than predicted volume | See detailed sealift backhaul volume for Year 3 Steensby backhaul sealift in Appendix G-3, Mary River and Milne Inlet - Sealift volumes (m3). = 4912 cubes / 2.5 = 1966 Revenue Tonnes. Rate is based Sealift vendor quote =$198/rev Tonne. . (See Appendix G-3, 2012 A&R Plan Estimating Docs\Sealift\2011 Sealift Vendor Quotes\2011 Steensby Inlet Sealift Quotes.) |
| 21 | B | Bldgs & Equip | Specialized Items | Land Freight | 3 | | | | $0 | Cubes | 4912 | $38 | $186,656 | $186,656 | $0 | $0 | $186,656 | $0 | $0 | 10% | $18,666 | Volumes are based upon detailed material balance estimates. The majority of large pieces have quotes for land freight shipping and a unit cost developed from 2009 invoices have been applied to the remainder of the freight. . Accordingly, Baffinland considers a 10% contingency for excess volume to be appropriate. | Land freight based on quotes provide for hauling Nuna heavy equipment backhaul to Edmonton, Alberta. The exact demob location is not known. Assume a land freight rate at the high end of the scale. 4912 cubes backhauled at $38/cubes . Volume calculated in Appendix G-3, Mary River and Milne Inlet - Sealift volumes (m3). Land freight rate provided by vendor quote(See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\Land freight backhaul quotes) |

| | | | | Sealift Materials | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 22 | A | Bldgs & Equip | Specialized Items | **Freight Sealift Milne Inlet to Port of Valleyfield Year 6** | | | | | **$3,984** | | | | **$70,216** | **$74,200** | **$0** | **$0** | **$0** | **$0** | **$74,200** | | **$7,420** | | |
| 23 | A | Bldgs & Equip | Specialized Items | Shipment, loading and off loading | 6 | Person Day | 4 | $996 | $3,984 | Hours | 30 | $115 | $3,450 | $7,434 | $0 | $0 | $0 | $0 | $7,434 | 10% | $743 | Ship loading times are based on historical Milne Inlet ship loading times. A 10% contingency has been applied in the event of weather delays. | Loading from beach to ship & ship to dock included in vessel cost. 2 days to load ship. Support provided by 3rd party contractor 1 operator two shifts/day to feed the beach with loader support. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 24 | A | Bldgs & Equip | Specialized Items | Vessel & stevedoring costs for backhaul of land farm timer, tilling equipment (i.e. loader with tiller drag), accommodation trailer and residual Milne Inlet camp & support supplies and equipment. Milne Inlet to Port of Valleyfield | 6 | Person Day | | | $0 | Rev Tonne | 228 | $198 | $45,144 | $45,144 | $0 | $0 | $0 | $0 | $45,144 | 10% | $4,514 | 10% Contingency established to cover potential rate increase resulting from increase in Bunker C ship fuel and higher than predicted volume | See detailed sealift volume in worksheet estimating Volume of Year 6 backhaul in Appendix G-3, Mary River and Milne Inlet - Sealift volumes (m3). = 569 cubes * 0.4 = 228 Revenue Tonnes @ NEAS quoted backhaul rate of $198/Rev Tonne. (See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\2011 Sealift Vendor Quotes\2011 Milne Inlet Sealift Quotes.) |
| 25 | A | Bldgs & Equip | Specialized Items | Land freight cost for Year 6 backhaul sealift | 6 | Person Day | | | $0 | Cubic meters | 569 | $38 | $21,622 | $21,622 | $0 | $0 | $0 | $0 | $21,622 | 10% | $2,162 | Volumes are based upon detailed material balance estimates. The majority of large pieces have quotes for land freight shipping and a unit cost developed from 2009 invoices have been applied to the remainder of the freight. Accordingly, Baffinland considers a 10% contingency for excess volume to be appropriate. | Land freight based on quotes provide for hauling Nuna heavy equipment backhaul to Edmonton, Alberta. The exact demob location is not known. Assume a land freight rate at the high end of the scale. 569 cubes backhauled at $38/cubes Volume calculated in Appendix G-3, Mary River and Milne Inlet - Sealift volumes (m3). Land freight rate provided by vendor quote(See Appendix G-4, 2012 A&R Plan Estimating Docs\Sealift\Land freight backhaul quotes) |

| | | | | Camp Operations | Year | Labour | | | | Equipment | | | | | | | | | | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | | | | |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$1,402,545*** | | | | ***$5,627,091*** | ***$7,029,636*** | ***$0*** | ***$4,252,211*** | ***$1,536,308*** | ***$1,241,117*** | ***$0*** | ***12%*** | ***$866,142*** | | |
| 1 | A | | | **A&R Fuel Purchase** | **2** | | | | **$0** | | | | **$2,900,091** | **$2,900,091** | **$0** | **$2,900,091** | **$0** | **$0** | **$0** | | **$375,358** | | |
| 2 | A | Bldgs & Equip | Specialized items | Cash cost of fuel & barrel deposit | 2 | | | | $0 | Lot | 1 | $1,535,691 | $1,535,691 | $1,535,691 | $0 | $1,535,691 | $0 | $0 | $0 | 20% | $307,138 | Although a detailed fuel balance was completed for the execution of the entire 6 year A&R plan, a large 20% contingency has been applied to account additional potential requirements. | Assumes use of on-site fuel for reclamation purposes is not accepted. See Appendix G-4, 2012 A&R Plan Estimating Docs\Camp Ops\2011 A&R Plan Forecast Fuel Requirements &Assumptions File for detailed fuel balance. Total fuel requirements = 1,202,409 litres to execute A&R Plan. Cash cost = $1,535,691. Based on vendor quote and detailed 6 year fuel balance (See Appendix G-4, 2012 A&R Plan Estimating Docs\Camp Ops\2011 barrelled fuel quotation Assumes mobilization of fuel by Hercules aircraft and Sealift and is costed in separate tasks. |
| 3 | A | Mobilization | MOBILIZE MISC. SUPPLIES | Hercules Aircraft mobilization from Yellowknife to Mary River | 2 | | | | $0 | Hercules Charter | 12 | $113,700 | $1,364,400 | $1,364,400 | $0 | $1,364,400 | $0 | $0 | $0 | 5% | $68,220 | A small 5% has been applied to this cost for the following reason: 1. Cost base on firm vendor quote. 2. Vendor quote based on single flight. A 12 flight quote would reduce the unit price significantly. 3. The 12th flight is only 20% full and has excess capacity. | See Appendix G-4, 2012 A&R Plan Estimating Docs\Camp Ops\2011 A&R Plan Forecast Fuel Requirements &Assumptions File for detailed estimate of pre-sealift fuel required to be mobilized by Hercules. Assume required Hercules to mobilize all pre sealift fuel to Mary River. Total volume of pre-sealift fuel = 1120 barrels. A Hercules can fly 100/flight. Required flights = 12 See Appendix G-4, 2012 A&R Plan Estimating Docs\Camp Ops\2011 A&R Plan forecast Fuel Requirements and assumptions for quantity details and file See Appendix G-4, 2012 A&R Plan Estimating Docs\Camp Ops\2011 Hercules Aircraft Quote for firm Hercules quote |
| 4 | A | | | **Mary River Camp Operation Yr 2** | **2** | | | | **$381,280** | | | | **$731,720** | **$1,113,000** | **$0** | **$1,113,000** | **$0** | **$0** | **$0** | | **$117,395** | | Based on A& R plan man days/over 4 months=1152/4 months /30 days/month= 13 person at camp each day Fixed wing 2 pilots + engineer = 3 Camp support 2 cooks + 3 dishwashers/labourers Total camp = 21 |
| 5 | A | Mobilization | MOBILIZE WORKERS | Helicopter support | 2 | Person Day | | $0 | $0 | Hours | 18 | $1,590 | $28,620 | $28,620 | $0 | $28,620 | $0 | $0 | $0 | 10% | $2,862 | Helicopter hours for year 2 are based on an inspection requirements only. A 10% contingency is justified as execution of tasks is planned. | No continuous helicopter support required in year 2. Effective 2011, helicopters are positioned in Hall Beach available for general charter. Assume one mobilization & demob (5 hours return to hall beach for the purpose of a general inspection of remote camps and for planning for Year 3 activities. Assume 2 hours (Steensby inspection) + 1 hours (mid rail inspection)+6 hours (geotech hole inspection along rail route)+ 4 hours misc remote inspections. = 18 hours. See charter rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 6 | A | Mobilization | MOBILIZE WORKERS | Fixed wing Charter Support | 2 | Person Day | | $0 | $0 | Number of round trip charters | 48 | $11,900 | $571,200 | $571,200 | $0 | $571,200 | $0 | $0 | $0 | 10% | $57,120 | The fixed wing estimate is very conservative and already has built in contingency as described in the basis for the estimate. Given the detailed historical costs experience for complete seasonal operation of similar scope and the conservative estimate, a 10% contingency is considered adequate. | 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. See charter rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 7 | A | Mobilization | MOBILIZE WORKERS | Commercial flights for25 person camp (MR & MI) | 2 | Person Day | | $0 | $0 | Flights | 53 | $2,300 | $121,900 | $121,900 | $0 | $121,900 | $0 | $0 | $0 | 15% | $18,285 | Assume a 15% contingency is appropriate to cover annual variability in percentage of contractors from the south | Estimate revised to reflect updated A & R Plan requirements - Assume 25 person camp operating for 16 weeks on 4 & 2 crew rotation. =4 months* 4 weeks/month/6 weeks/flight*25 persons=66 flights. The average travel expense including flight cost from Southern Canada to Iqaluit in 2009 was $2300/rotation. Assume conservative estimate that 80% of contractors or 53 flights are from southern Canada. See commercial rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 8 | A | Bldgs & Equip | Specialized items | 21 person camp operation | 2 | Person Day | 620 | $512 | $317,440 | Hours | | | $0 | $317,440 | $0 | $317,440 | $0 | $0 | $0 | 10% | $31,744 | This estimate is reflective of camp support staff experienced at Mary River. A contingency of 10% is appropriate to compensate for additional labour. | Estimate assumes 5 support staff (2 cooks/3dishwashers/ labourers ) in addition to all contractors. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | Camp Operations | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 9 | A | Bldgs & Equip | Specialized items | Camp Operating Overhead | 2 | Person Day | 0 | $0 | $0 | Monthly Lot | 4 | $2,500 | $10,000 | $10,000 | $0 | $10,000 | $0 | $0 | $0 | 10% | $1,000 | Camp overhead budgeted based on actual invoice cost in 2009. A contingency of 10% for unspecified overhead is appropriate. | Estimate (Monthly costs): - Telephone & communications = 2 HSE dish at $500/month each + 4 satellite phones ($400) = $1400 - Office Supplies $300/month - Permits & licenses - Aerodrome communication & Handheld radio frequencies = $4000 annual = $800/ mth - Total monthly lot cost = $2100 |
| 10 | A | Bldgs & Equip | Specialized items | Food | 2 | Person Day | 3360 | $19 | $63,840 | | | | $0 | $63,840 | $0 | $63,840 | $0 | $0 | $0 | 10% | $6,384 | Food unit cost/person day based on 2009 actual invoice costs including shipping. The estimate already contains a 25% allowance for a larger camp than required by labour estimate. A contingency of 10% for additional potential food cost is appropriate. | Assume average number of 21 person/day for 4 months. See food estimate based on 2010 actual costs - Appendix G-3, 2012 Mary River Average Food Cost / Person Day Table |
| 11 | A | | | **Mary River Camp Operation Yr 3** | **3** | | | | **$179,400** | | | | **$1,168,880** | **$1,348,280** | **$0** | **$0** | **$1,348,280** | **$0** | **$0** | | **$185,333** | | Based on A& R plan average crew size = 3688 /4 months /30 days/month= 21 person at camp each day Fixed wing 2 pilots + engineer = 3 Camp support 2 cooks + 3 dishwashers/labourers Total camp = 29 |
| 12 | A | Mobilization | MOBILIZE WORKERS | Helicopter support | 3 | Person Day | | $0 | $0 | Hours | 92 | $1,590 | $146,280 | $146,280 | $0 | $0 | $146,280 | $0 | $0 | 10% | $14,628 | Helicopter estimates for the entire A & R plan have been recalculated based on known task productivity derived from 2009 work or distances. In addition to the helicopters hours costed for each task, an allowance of 62 hours of miscellaneous helicopter support (27% of task costed hours) has been included. Given the high certainty of the cost estimate and the large helicopter allowance already included, a contingency of 10% is considered adequate. This is a very conservative as it is a contingency on contingency. | Estimate revised based the following: - Maximum 4 month operating requirement - All task requiring helicopter use already budgeted elsewhere - As a comparison - In 2009, entire ops, drill, reclamation program and general helicopter support only averaged 3 hrs/day Therefore undefined general helicopter support reduced to 0.30 hrs/day + 15 hrs mobilization from Goose Bay and 15 hrs demobilization to Goose Bay Reduced from $675K in 2009. See charter rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 13 | A | Mobilization | MOBILIZE WORKERS | Fixed wing support (note: units under Equip Hrs refers to statue miles) | 3 | Person Day | | $0 | $0 | Number of round trip charters | 70 | $11,900 | $833,000 | $833,000 | $0 | $0 | $833,000 | $0 | $0 | 15% | $124,950 | The fixed wing estimate is very conservative and already has built in contingency as described in the basis for the estimate. Given the detailed historical costs experience for complete seasonal operation of similar scope and the conservative estimate, a 10% contingency is considered adequate. | On average 3.5 charter flights/week will meet the needs of a 219 man camp over 4 months. Assume 4 charters/ week to move passengers and freight. See charter rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 14 | A | Mobilization | MOBILIZE WORKERS | Commercial flights for 29 person camp (MR & MI) | 3 | Person Day | | $0 | $0 | Flights | 77 | $2,300 | $177,100 | $177,100 | $0 | $0 | $177,100 | $0 | $0 | 15% | $26,565 | Commercial flights estimate was based on a 2011 actual prices, a contingency of 15% is applied to address additional flights beyond the average calculation . | Estimate revised to reflect updated A & R Plan requirements - Assume 29 person camp operating for 50 weeks on 4 & 2 crew rotation. =5 months* 4 weeks/month/6 weeks/flight*29 persons=96 flights. The average travel expense including flight cost from Southern Canada to Iqaluit in 2009 was $2300/rotation. Assume conservative estimate that 80% of contractors or flights are from southern Canada. See commercial air flight rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 15 | A | Bldgs & Equip | Specialized items | 29 person camp operation | 3 | Person Day | 750 | $129 | $96,750 | Hours | | | $0 | $96,750 | $0 | $0 | $96,750 | $0 | $0 | 10% | $9,675 | This is the exact number of support staff used during 2009 when the camp size was 36 persons. A contingency of 10% is appropriate to compensate for additional labour. | Assumes 5 support staff (2 cooks/3dishwashers/ labourers ) in addition to all contractors. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 16 | A | Bldgs & Equip | Specialized items | Camp Operating Overhead | 3 | Person Day | 0 | $0 | $0 | Monthly Lot | 5 | $2,500 | $12,500 | $12,500 | $0 | $0 | $12,500 | $0 | $0 | 10% | $1,250 | Camp overhead budgeted based on actual invoice cost in 2009. A contingency of 10% for unspecified overhead is appropriate. | Estimate based on (Monthly costs): - Telephone & communications = 2 HSE dish at $500/month each + 4 satellite phones ($400) = $1400 - Office Supplies $300/month - Permits & licenses - Aerodrome communication & Handheld radio frequencies = $4000 annual = $800/ mth - Total monthly lot cost = $2100 |
| 17 | A | Bldgs & Equip | Specialized items | Food | 3 | Person Day | 4350 | $19 | $82,650 | | | | $0 | $82,650 | $0 | $0 | $82,650 | $0 | $0 | 10% | $8,265 | Food unit cost/person day based on 2009 actual invoice costs including shipping. The estimate already contains a 25% allowance for a larger camp than required by labour estimate. A contingency of 10% for additional potential food cost is appropriate. | Assume average number of 29 person/day for 5 months. See food estimate based on 2010 actual costs - Appendix G-3, 2012 Mary River Average Food Cost / Person Day Table |
| 18 | B | Bldgs & Equip | Specialized Items | **Steensby Inlet Camp Operation** | **3** | | | | **$18,104** | | | | **$200** | **$18,304** | **$0** | **$0** | **$18,304** | **$0** | **$0** | | **$1,830** | | |
| 19 | B | Bldgs & Equip | Specialized Items | 6 person camp operation - Decommissioning | 3 | Person Day | 24 | $530 | $12,720 | Hours | | | $0 | $12,720 | $0 | $0 | $12,720 | $0 | $0 | 10% | $1,272 | Detailed camp operating labour costs have been estimated based on historical small camp requirements. A contingency of 10% is appropriate to compensate for additional labour. | Requires 1 cook and a bear monitor/labourer. Last two days the camp is supported from Mary River by helicopter. See labour rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | | | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Camp Operations | Year | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 20 | B | Bldgs & Equip | Specialized Items | 2 person camp operation - Sealift | 3 | Person Day | 6 | $530 | $3,180 | Hours | | | $0 | $3,180 | $0 | $0 | $3,180 | $0 | $0 | 10% | $318 | Detailed camp operating labour costs have been estimated based on historical small camp requirements. A contingency of 10% is appropriate to compensate for additional labour. | Estimate for 3 day sealift. 3 Day temporary tent operation for sea lift support - Requires 1 cook & 1 bear monitors. Sealift labour budgeted at 2 since all the material is packaged and the sealift company has the equipment. Additional labour as support only. See labour rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 21 | B | Bldgs & Equip | Specialized Items | Camp Operating Overhead | 3 | Person Day | 0 | $0 | $0 | Monthly Lot | 1 | $200 | $200 | $200 | $0 | $0 | $200 | $0 | $0 | 10% | $20 | Camp overhead budgeted based on actual invoice cost in 2009. A contingency of 10% for unspecified overhead is appropriate. | Estimate based on (Monthly costs): - Telephone & communications = 1satelite phone ($100) = $100 - Office Supplies $100/month - Total monthly lot cost = $200 |
| 22 | B | Bldgs & Equip | Specialized Items | Food | 3 | Person Day | 116 | $19 | $2,204 | | | | $0 | $2,204 | $0 | $0 | $2,204 | $0 | $0 | 10% | $220 | Food unit cost/person day based on 2009 actual invoice costs including shipping. A contingency of 10% for additional potential food cost is appropriate. | Estimate based on Total Steensby Man days @ $19 / person day food . See food estimate based on 2010 actual costs - Appendix G-3, 2012 Mary River Average Food Cost / Person Day Table |
| 23 | A | Bldgs & Equip | Specialized Items | **Milne Inlet Year 2 - Operate avg 5 - person camp (16 person peak for 2 weeks)** | **2** | | | | **$235,520** | | | | **$3,600** | **$239,120** | **$0** | **$239,120** | **$0** | **$0** | **$0** | | **$23,912** | | Assume total labour requirements (334 man hours) over June-mid Sept = 4 man camp. However peak personnel will occur when demobbing bladders at 16 for 2 weeks |
| 24 | A | Bldgs & Equip | Specialized Items | 6 person camp operation (Support Labour) | 2 | Person Day | 368 | $621 | $228,528 | Hours | | $0 | $0 | $228,528 | $0 | $228,528 | $0 | $0 | $0 | 10% | $22,853 | Detailed camp operating labour costs have been estimated based on historical small camp requirements. A contingency of 10% is appropriate to compensate for additional labour. | Assume 1 cooks & 1 labourer support for camp = Total of 5 person avg. Person days reduced to 2*2 months*31 days =120 days. Add and additional cook and labourer for two months = 4 * 2 months*31 days = 248 for a total of 368 person days. See labour rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 25 | A | Bldgs & Equip | Specialized Items | Camp Operating Overhead | 2 | Person Day | 0 | $0 | $0 | Monthly Lot | 4 | $900 | $3,600 | $3,600 | $0 | $3,600 | $0 | $0 | $0 | 10% | $360 | Camp overhead budgeted based on actual invoice cost in 2009. A contingency of 10% for unspecified overhead is appropriate | Estimate based on (Monthly costs): - Telephone & communications = 1 HSE dish at $500/month each + 2 satellite phones ($200) = $700 - Office Supplies $200/month - Permits & licenses - Aerodrome communication & Handheld radio frequencies = Included in Mary River Cost - Total monthly lot cost = $900 |
| 26 | A | Bldgs & Equip | Specialized Items | Food | 2 | Person Day | 368 | $19 | $6,992 | Hours | | $0 | $0 | $6,992 | $0 | $6,992 | $0 | $0 | $0 | 10% | $699 | Food unit cost/person day based on 2010 actual invoice costs including shipping. A contingency of 10% for additional potential food cost is appropriate. | 2012 estimated contains revised person days based on Milne Inlet reclamation work and camp operations support. See food estimate based on 2010 actual costs - Appendix G-3, 2012 Mary River Average Food Cost / Person Day Table |
| 27 | A | Bldgs & Equip | Specialized Items | **Milne Inlet Year 3 - Operate avg 5 - person camp** | **6** | | | | **$158,720** | | | | **$3,600** | **$162,320** | **$0** | **$0** | **$162,320** | **$0** | **$0** | | **$16,232** | | Assume total labour requirements (334 man hours) over June-mid Sept = 4 man camp. |
| 28 | A | Bldgs & Equip | Specialized Items | 6 person camp operation (Support Labour) | 3 | Person Day | 248 | $621 | $154,008 | Hours | | $0 | $0 | $154,008 | $0 | $0 | $154,008 | $0 | $0 | 10% | $15,401 | Detailed camp operating labour costs have been estimated based on historical small camp requirements. A contingency of 10% is appropriate to compensate for additional labour. | Assume 1 cooks and 1 labourer/dishwasher support for camp = Total of 5 person avg. fro 4 months. No sealift planned. Person days = 2 persons* 4 months*31 days = 248 days. |
| 29 | A | Bldgs & Equip | Specialized Items | Camp Operating Overhead | 3 | Person Day | 0 | $0 | $0 | Monthly Lot | 4 | $900 | $3,600 | $3,600 | $0 | $0 | $3,600 | $0 | $0 | 10% | $360 | Camp overhead budgeted based on actual invoice cost in 2009. A contingency of 10% for unspecified overhead is appropriate. | Estimate based on (Monthly costs): - Telephone & communications = 1 HSE dish at $500/month each + 2 satellite phones ($200) = $700 - Office Supplies $200/month - Permits & licenses - Aerodrome communication & Handheld radio frequencies = Included in Mary River Cost - Total monthly lot cost = $900 |
| 30 | A | Bldgs & Equip | Specialized Items | Food | 3 | Person Day | 248 | $19 | $4,712 | Hours | | $0 | $0 | $4,712 | $0 | $0 | $4,712 | $0 | $0 | 10% | $471 | Food unit cost/person day based on 2009 actual invoice costs including shipping. A contingency of 10% for additional potential food cost is appropriate. | 2012 estimated contains revised person days based on Milne Inlet reclamation work and camp operations support. See food estimate based on 2010 actual costs - Appendix G-3, 2012 Mary River Average Food Cost / Person Day Table |
| 31 | A | | | **Milne Inlet Year 4 = Operate 14 person camp** | **4** | | | | **$422,317** | | | | **$818,800** | **$1,241,117** | **$0** | **$0** | **$0** | **$1,241,117** | **$0** | | **$145,621** | | Milne Inlet will be the primary camp and assume 3rd party contractor has a mobile trailer camp to support road reclamation activity when at the Mary River end of the road. Cost camp cost under the Milne Inlet Year 4 estimate. Assume total labour requirements (1343 man hours) over May to Sept = This equivalent to 10 person days for 5 months + 2 cooks and 2 dishwasher/labourers = 14 person camp. See labour rates - Appendix G- 3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |

| | | | | Camp Operations | Year | Labour | | | | Equipment | | | | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | | | | | | | | | | |
| 32 | A | Bldgs & Equip | Specialized Items | 14 person camp operation (Support Labour) | 4 | Person Day | 620 | $621 | $385,020 | Hours | | $0 | $0 | $385,020 | $0 | $0 | $0 | $385,020 | $0 | 5% | $19,251 | Detailed camp operating labour costs have been estimated based on historical small camp requirements. A contingency of 5% is appropriate to compensate for additional labour. | Assume 2 cooks and 2 labourers support for camp = Total of 4 person for 5 months Person days=4 persons*5 months*31 days month =620 days. See labour rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 33 | A | Bldgs & Equip | Specialized Items | Camp Operating Overhead | 4 | Person Day | 0 | $0 | $0 | Monthly Lot | 4 | $900 | $3,600 | $3,600 | $0 | $0 | $0 | $3,600 | $0 | 10% | $360 | Camp overhead budgeted based on actual invoice cost in 2009. A contingency of 10% for unspecified overhead is appropriate. | Estimate based on (Monthly costs): - Telephone & communications = 1 HSE dish at $500/month each + 2 satellite phones ($200) = $700 - Office Supplies $200/month - Permits & licenses - Aerodrome communication & Handheld radio frequencies = Included in Mary River Cost - Total monthly lot cost = $900 |
| 34 | A | Mobilization | MOBILIZE WORKERS | Fixed wing support (note: units under Equip Hrs refers to statue miles) | 4 | Person Day | | $0 | $0 | Number of round trip charters | 60 | $11,900 | $714,000 | $714,000 | $0 | $0 | $0 | $714,000 | $0 | 15% | $107,100 | The fixed wing estimate is very conservative and already has built in contingency as described in the basis for the estimate. Given the detailed historical costs experience for complete seasonal operation of similar scope and the conservative estimate, a 10% contingency is considered adequate. | On average 3 charter flights/week will meet the needs of a 15 man camp over5 months. Assume charters/ week to move passengers and freight. See charter aircraft rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 35 | A | Mobilization | MOBILIZE WORKERS | Commercial flights for Milne Inlet camp | 4 | Person Day | | $0 | $0 | Flights | 44 | $2,300 | $101,200 | $101,200 | $0 | $0 | $0 | $101,200 | $0 | 15% | $15,180 | Commercial flights estimate was based on a 2011 actual prices, a contingency of 15% is applied to address additional flights beyond the average calculation . | 2012 estimate revised to reflect updated A & R Plan requirements - Assume 15 person camp operating for 50 weeks on 4 & 2 crew rotation. =5 months* 4 weeks/month/6 weeks/flight*15 persons=50 flights. The average travel expense including flight cost from Southern Canada to Iqaluit in 2009 was $2300/rotation. Assume conservative estimate that 80% of contractors or flights are from southern Canada or 40 flights. See commercial air flight rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 36 | A | Bldgs & Equip | Specialized Items | Food | 4 | Person Day | 1963 | $19 | $37,297 | Hours | | $0 | $0 | $37,297 | $0 | $0 | $0 | $37,297 | $0 | 10% | $3,730 | Food unit cost/person day based on 2009 actual invoice costs including shipping. A contingency of 10% for additional potential food cost is appropriate. | 2012 estimated based on all manpower costed at Milne Inlet. Estimated total man days in year 4 = 1343(A&R plan execution)+( camp ops) 620= 1963. See food estimate based on 2010 actual costs - Appendix G-3, 2012 Mary River Average Food Cost / Person Day Table |
| 37 | B | Bldgs & Equip | Specialized | **MidRail Operate 7 person camp** | **3** | | | | **$7,204** | | | | **$200** | **$7,404** | **$0** | **$0** | **$7,404** | **$0** | **$0** | | **$461** | | |
| 38 | B | Bldgs & Equip | Specialized Items | 6 person camp operation (Support Labour) | 3 | Person Day | 9 | $621 | $5,589 | Hours | | | $0 | $5,589 | $0 | $0 | $5,589 | $0 | $0 | 5% | $279 | Detailed camp operating labour costs have been estimated based on historical small camp requirements. A contingency of 5% is appropriate to compensate for additional labour. | 2012 estimate basis - 9 days living at site requires 1 cook. Last 5 days are fly in. See labour rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 39 | B | Bldgs & Equip | Specialized Items | Camp Operating Overhead | 3 | Person Day | 0 | $0 | $0 | Monthly Lot | 1 | $200 | $200 | $200 | $0 | $0 | $200 | $0 | $0 | 10% | $20 | Camp overhead budgeted based on actual invoice cost in 2009. A contingency of 10% for unspecified overhead is appropriate. | 2012 estimate basis (Monthly costs): - Telephone & communications = 1satelite phone ($100) = $100 - Office Supplies $100/month - Total monthly lot cost = $200 |
| 40 | B | Bldgs & Equip | Specialized Items | Food | 3 | Person Day | 85 | $19 | $1,615 | | | | $0 | $1,615 | $0 | $0 | $1,615 | $0 | $0 | 10% | $162 | Food unit cost/person day based on 2009 actual invoice costs including shipping. A contingency of 10% for additional potential food cost is appropriate. 2012 estimated contains revised person days based on Mid-Rail reclamation work and camp operations support. See food estimate based on 2010 actual costs - Appendix G-3, 2012 Mary River Average Food Cost / Person Day Table | 2012 estimated contains revised person days based on Mid-Rail reclamation work and camp operations support. See food estimate based on 2010 actual costs - Appendix G-3, 2012 Mary River Average Food Cost / Person Day Table |

| | | | | Environmental Monitoring | Year | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| # | Type | Refer to Tab | Objective | ***Grand Total*** | | | | | ***$241,000*** | | | | ***$64,500*** | ***$305,500*** | ***$0*** | ***$21,100*** | ***$21,100*** | ***$21,100*** | ***$242,200*** | ***24%*** | ***$73,950*** | | |
| 1 | A | PostClosure | MONITORING & INSPECTIONS | Environmental supervision & reporting during ongoing monitoring | 6 | Person Day | 200 | $1,000 | $200,000 | Hours | 0 | $0 | $0 | $200,000 | $0 | $0 | $0 | $0 | $200,000 | 25% | $50,000 | The Environmental monitoring & reporting estimate is based upon detailed assumptions concerning analysis & reporting requirements. However, a relatively high contingency of 25% is considered appropriate to allow for possible underestimation of monitoring effort & unit costs given the long time frame to | Assumes one third party consultant retained for of monitoring associated abandonment and reclamation project. 40 days per year for 5 years of ongoing monitoring for professional consultant site supervision and reporting. See Operator labour & equipment rates Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 2 | A | PostClosure | MONITORING & INSPECTIONS | **Environmental Monitoring Year 2** | | | | | **$8,200** | | | | **$12,900** | **$21,100** | **$0** | **$21,100** | **$0** | **$0** | **$0** | | **$4,790** | | |
| 3 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - preparation/consumables | 2 | Person Day | 3 | $600 | $1,800 | Hours | 5 | $1,000 | $5,000 | $6,800 | $0 | $6,800 | $0 | $0 | $0 | 30% | $2,040 | Scope of work and materials developed for task. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of preparation time given the long time frame to completion of the task. | 3 days at site per year with $1,000 consumables while at site. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 4 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - water sampling (note: units under Equip Hrs refers to # samples) | 2 | Person Day | 0 | $600 | $0 | Samples | 43 | $100 | $4,300 | $4,300 | $0 | $4,300 | $0 | $0 | $0 | 30% | $1,290 | Detailed sampling scope developed. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of sampling time & unit costs given the long time frame to completion of the task. | Annual samples: Milne - 8 metal, 5 hydrocarbon, 3 sewage: MR - 12 metal, 5 salt, 5 hydrocarbon, 5 sewage. 2 people, 1 sample per hour average cost of $100/sample. Total Sample Samples 43 = 43 person hours |
| 5 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - site overview | 2 | Person Day | 8 | $800 | $6,400 | Hours | 0 | $0 | $0 | $6,400 | $0 | $6,400 | $0 | $0 | $0 | 20% | $1,280 | A 20% contingency has been applied for unfo | 2012 estimate based on 2 person,2 days per year to complete inspection & sampling and 1 day travel on either side. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 6 | A | PostClosure | MONITORING & INSPECTIONS | commercial flights for labour | 2 | Person Day | | $0 | $0 | Person Flights | 2 | $1,800 | $3,600 | $3,600 | $0 | $3,600 | $0 | $0 | $0 | 5% | $180 | Estimate based on average 2011 quote for commercial flights A 5% contingency has been applied | Quote based on Canadian North from Ottawa to Iqaluit round trip price. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 7 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - helicopter support | 2 | Person Day | 0 | $0 | $0 | Hours | 0 | $1,590 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | 0% | $0 | | Requirement for helicopter eliminated. All sample points are accessible a the camps or by light vehicle to the top of Deposit #1. |
| 8 | A | PostClosure | MONITORING & INSPECTIONS | **Environmental Monitoring Year 3** | | | | | **$8,200** | | | | **$12,900** | **$21,100** | **$0** | **$0** | **$21,100** | **$0** | **$0** | | **$4,790** | | |
| 9 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - preparation/consumables | 3 | Person Day | 3 | $600 | $1,800 | Hours | 5 | $1,000 | $5,000 | $6,800 | $0 | $0 | $6,800 | $0 | $0 | 30% | $2,040 | Scope of work and materials developed for task. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of preparation time given the long time frame to completion of the task. | 3 days at site per year with $1,000 consumables while at site. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 10 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - water sampling (note: units under Equip Hrs refers to # samples) | 3 | Person Day | 0 | $600 | $0 | Samples | 43 | $100 | $4,300 | $4,300 | $0 | $0 | $4,300 | $0 | $0 | 30% | $1,290 | Detailed sampling scope developed. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of sampling time & unit costs given the long time frame to completion of the task. | Annual samples: Milne - 8 metal, 5 hydrocarbon, 3 sewage: MR - 12 metal, 5 salt, 5 hydrocarbon, 5 sewage. 2 people, 1 sample per hour average cost of $100/sample. Total Sample Samples 43 = 43 person hours |
| 11 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - site overview | 3 | Person Day | 8 | $800 | $6,400 | Hours | 0 | $0 | $0 | $6,400 | $0 | $0 | $6,400 | $0 | $0 | 20% | $1,280 | A 20% contingency has been applied for unforeseen delays during site visits | 2012 estimate based on 2 person,2 days per year to complete inspection & sampling and 1 day travel on either side. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 12 | A | PostClosure | MONITORING & INSPECTIONS | Post 2011 commercial flights for labour | 3 | Person Day | | $0 | $0 | Person Flights | 2 | $1,800 | $3,600 | $3,600 | $0 | $0 | $3,600 | $0 | $0 | 5% | $180 | Estimate based on average 2011 quote for commercial flights A 5% contingency has been applied | Quote based on Canadian North from Ottawa to Iqaluit round trip price. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 13 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - helicopter support | 3 | Person Day | 0 | $0 | $0 | Hours | 0 | $1,590 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | 0% | $0 | | Requirement for helicopter eliminated. All sample points are accessible a the camps or by light vehicle to the top of Deposit #1. |
| 14 | A | PostClosure | MONITORING & INSPECTIONS | **Environmental Monitoring Year 4** | | | | | **$8,200** | | | | **$12,900** | **$21,100** | **$0** | **$0** | **$0** | **$21,100** | **$0** | | **$4,790** | | |

| | | | | | | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Environmental Monitoring | Year | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 15 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - preparation/consumables | 4 | Person Day | 3 | $600 | $1,800 | Hours | 5 | $1,000 | $5,000 | $6,800 | $0 | $0 | $0 | $6,800 | $0 | 30% | $2,040 | Scope of work and materials developed for task. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of preparation time given the long time frame to completion of the task. | 3 days at site per year with $1,000 consumables while at site. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 16 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - water sampling (note: units under Equip Hrs refers to # samples) | 4 | Person Day | 0 | $600 | $0 | Samples | 43 | $100 | $4,300 | $4,300 | $0 | $0 | $0 | $4,300 | $0 | 30% | $1,290 | Detailed sampling scope developed. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of sampling time & unit costs given the long time frame to completion of the task. | Annual samples: Milne - 8 metal, 5 hydrocarbon, 3 sewage: MR - 12 metal, 5 salt, 5 hydrocarbon, 5 sewage. 2 people, 1 sample per hour average cost of $100/sample. Total Sample Samples 43 = 43 person hours |
| 17 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - site overview | 4 | Person Day | 8 | $800 | $6,400 | Hours | 0 | $0 | $0 | $6,400 | $0 | $0 | $0 | $6,400 | $0 | 20% | $1,280 | A 20% contingency has been applied for unfo | 2012 estimate based on 2 person,2 days per year to complete inspection & sampling and 1 day travel on either side. |
| 18 | A | PostClosure | MONITORING & INSPECTIONS | Post 2011 commercial flights for labour | 4 | Person Day | | $0 | $0 | Person Flights | 2 | $1,800 | $3,600 | $3,600 | $0 | $0 | $0 | $3,600 | $0 | 5% | $180 | Estimate based on average 2011 quote for commercial flights A 5% contingency has been applied | Quote based on Canadian North from Ottawa to Iqaluit round trip price. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 19 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - helicopter support | 4 | Person Day | 0 | $0 | $0 | Hours | | $1,590 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | 0% | $0 | | Requirement for helicopter eliminated. All sample points are accessible at the camps by foot. At the end of year 3 there will be a minimum of 6 years post activity environmental monitoring at Deposit #1. No monitoring planned for Deposit #1 beyond year 3 |
| 20 | A | PostClosure | MONITORING & INSPECTIONS | **Environmental Monitoring Year 5** | | | | | **$8,200** | | | | **$12,900** | **$21,100** | **$0** | **$0** | **$0** | **$0** | **$21,100** | | **$4,790** | | |
| 21 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - preparation/consumables | 5 | Person Day | 3 | $600 | $1,800 | Hours | 5 | $1,000 | $5,000 | $6,800 | $0 | $0 | $0 | $0 | $6,800 | 30% | $2,040 | Scope of work and materials developed for task. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of preparation time given the long time frame to completion of the task. | 3 days at site per year with $1,000 consumables while at site. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 22 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - water sampling (note: units under Equip Hrs refers to # samples) | 5 | Person Day | 0 | $600 | $0 | Samples | 43 | $100 | $4,300 | $4,300 | $0 | $0 | $0 | $0 | $4,300 | 30% | $1,290 | Detailed sampling scope developed. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of sampling time & unit costs given the long time frame to completion of the task. | Annual samples: Milne - 8 metal, 5 hydrocarbon, 3 sewage: MR - 12 metal, 5 salt, 5 hydrocarbon, 5 sewage. 2 people, 1 sample per hour average cost of $100/sample. Total Sample Samples 43 = 43 person hours |
| 23 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - site overview | 5 | Person Day | 8 | $800 | $6,400 | Hours | 0 | $0 | $0 | $6,400 | $0 | $0 | $0 | $0 | $6,400 | 20% | $1,280 | A 20% contingency has been applied for unforeseen delays during site visits | 2012 estimate based on 2 person,2 days per year to complete inspection & sampling and 1 day travel on either side. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 24 | A | PostClosure | MONITORING & INSPECTIONS | Post 2011 commercial flights for labour | 5 | Person Day | | $0 | $0 | Person Flights | 2 | $1,800 | $3,600 | $3,600 | $0 | $0 | $0 | $0 | $3,600 | 5% | $180 | Estimate based on average 2011 quote for commercial flights A 5% contingency has been applied | Quote based on Canadian North from Ottawa to Iqaluit round trip price. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 25 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - helicopter support | 5 | Person Day | 0 | $0 | $0 | Hours | 0 | $1,590 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | 0% | $0 | | Requirement for helicopter eliminated. All sample points are accessible at the camps by foot. At the end of year 3 there will be a minimum of 6 years post activity environmental monitoring at Deposit #1. No monitoring planned for Deposit #1 beyond year 3 |
| 26 | A | PostClosure | MONITORING & | **Environmental Monitoring Year** | | | | | **$8,200** | | | | **$12,900** | **$21,100** | **$0** | **$0** | **$0** | **$0** | **$21,100** | | **$4,790** | | |
| 27 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - preparation/consumables | 6 | Person Day | 3 | $600 | $1,800 | Hours | 5 | $1,000 | $5,000 | $6,800 | $0 | $0 | $0 | $0 | $6,800 | 30% | $2,040 | Scope of work and materials developed for task. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of preparation time given the long time frame to completion of the task. | 3 days at site per year with $1,000 consumables while at site. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 28 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visits - water sampling (note: units under Equip Hrs refers to # samples) | 6 | Person Day | 0 | $600 | $0 | Samples | 43 | $100 | $4,300 | $4,300 | $0 | $0 | $0 | $0 | $4,300 | 30% | $1,290 | Detailed sampling scope developed. However, a relatively high contingency of 30% is considered appropriate to allow for possible underestimation of sampling time & unit costs given the long time frame to completion of the task. | Annual samples: Milne - 8 metal, 5 hydrocarbon, 3 sewage: MR - 12 metal, 5 salt, 5 hydrocarbon, 5 sewage. 2 people, 1 sample per hour average cost of $100/sample. Total Sample Samples 43 = 43 person hours |

| | | | | Environmental Monitoring | Year | Labour | | | | Equipment | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Units | Person Days | Unit Rate | Cost | Units | Equip Hrs | Unit Rate | Cost | Total cost | Yr 1 Cost | Yr 2 Cost | Yr 3 Cost | Yr 4 Cost | >Yr 4 Cost | Contingency (%) | Contingency | Basis for 2013 Contingency | Basis for 2013 Estimate |
| 29 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - site overview | 6 | Person Day | 8 | $800 | $6,400 | Hours | 0 | $0 | $0 | $6,400 | $0 | $0 | $0 | $0 | $6,400 | 20% | $1,280 | A 20% contingency has been applied for unforeseen delays during site visits | 2012 estimate based on 2 person,2 days per year to complete inspection & sampling and 1 day travel on either side. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 30 | A | PostClosure | MONITORING & INSPECTIONS | Post 2011 commercial flights for labour | 6 | Person Day | | $0 | $0 | Person Flights | 2 | $1,800 | $3,600 | $3,600 | $0 | $0 | $0 | $0 | $3,600 | 5% | $180 | Estimate based on average 2011 quote for commercial flights A 5% contingency has been applied | Quote based on Canadian North from Ottawa to Iqaluit round trip price. See Operator labour & equipment rates - Appendix G-3, 2012 A&R Schedule of Labour, Equipment & Charter Rates Table |
| 31 | A | PostClosure | MONITORING & INSPECTIONS | Annual site visit - helicopter support | 6 | Person Day | 0 | $0 | $0 | Hours | 0 | $1,590 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | 0% | $0 | | Requirement for helicopter eliminated. All sample points are accessible at the camps by foot. At the end of year 3 there will be a minimum of 6 years post activity environmental monitoring at Deposit #1. No monitoring planned for Deposit #1 beyond year 3 |

**List of Baffinland Equipment To Be Salvaged** **2013 A & R Plan**

| | Net Book Value at end 2010 | Salvage Value | 2013 Salvage Value (Year 1) | 2014 Salvage Value (Year 2) | 2015 Salvage Value (Year 3) | 2016 Salvage Value (Year 4) | >2016 Salvage Value (>Year 4) | Basis for 2013 Estimate |
|---|---|---|---|---|---|---|---|---|
| **Total Salvage** | **$ 7,996,573** | **$ 2,824,697** | **$ -** | **$ 1,460,032** | **$ 1,364,665** | **$ -** | **$ -** | |
| **Sub-Total Fixed Assets** | **$ 2,927,216** | **$ 1,463,608** | **$ -** | **$ 98,943** | **$ 1,364,665** | **$ -** | **$ -** | |
| **Mary River/Milne Inlet Sealift** | | | | | | | | |
| PO10056 Toromont-generator | $ 407,835 | $ 203,917 | | | $ 203,917 | | | |
| PO10007 S Huot barge loader | $ 197,886 | $ 98,943 | | $ 98,943 | | | | |
| Cover All North | $ 197,012 | $ 98,506 | | | $ 98,506 | | | |
| | | | | | | | | |
| **Steensby Inlet Sealift** | | | | | | | | |
| Anmar - used camp | $ 1,595,000 | $ 797,500 | | | $ 797,500 | | | |
| Toromont Arctic - road handler | $ 299,629 | $ 149,815 | | | $ 149,815 | | | |
| Battlefield Equipment Rentals - CAT277C | $ 84,000 | $ 42,000 | | | $ 42,000 | | | |
| Battlefield Equipment Rentals - Telehandler | $ 112,000 | $ 56,000 | | | $ 56,000 | | | |
| Toromont Arctic - fork extension-950H 8' wit | $ 8,000 | $ 4,000 | | | $ 4,000 | | | |
| Herbs welding PO50048 sled deck | $ 25,855 | $ 12,928 | | | $ 12,928 | | | |
| | | | | | | | | |
| | | | | | | | | |
| **Sub-Total Fuel Assets** | **$ 5,069,356** | **$ 1,361,089** | | **$ 1,361,089** | | | | |
| **Fuel Inventory + Barrel Deposit** | **$ 5,069,356** | **$ 1,361,089** | | **$ 1,361,089** | | | | - 25% Salvage Value overall for fuel.<br>**Barrelled Fuel**<br>- 2011 Book value of fuel = $1.38/l (purchase price) + $50 drum deposit<br>- Total number barrels at Mary River, Milne Inlet and Steensby on Dec 2011= 2500 barrels = 4.22 ML (Bulk Fuel)<br>- 2011 book value of 2500 ba (As provided by BIM) |

The following criteria have been used to determine assets to be included in salvage - Equipment and supplies are ready to demob and are high value assets not requiring any significant labour cost/demob cost.