

## BAFFINLAND IRON MINES CORPORATION MARY RIVER PROJECT

### 2009 ABANDONMENT AND RECLAMATION PLAN



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#### *PREPARED FOR*

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**BAFFINLAND IRON MINES CORPORATION**  
**MARY RIVER PROJECT**

**2009 ABANDONMENT AND RECLAMATION PLAN**  
**(REF. NO. NB102-181/15-1)**

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0	Issued in Final	March 26, 2009	<i>M.</i>

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**BAFFINLAND IRON MINES CORPORATION  
MARY RIVER PROJECT**

**2009 ABANDONMENT AND RECLAMATION PLAN  
(REF. NO. NB102-181/15-1)**

**EXECUTIVE SUMMARY**

Foreword

The Mary River Project is an advanced iron ore exploration project located in the northern Baffin Island region of Nunavut (Figure 1.1). The project is wholly owned by Canadian mining company Baffinland Iron Mines Corporation (Baffinland). Baffinland has released a Definitive Feasibility Study (DFS) demonstrating the robust potential of full-scale development and has initiated the regulatory approval process for full-scale development. This abandonment and reclamation plan (A&R Plan) was prepared to address closure and reclamation in accordance with best corporate governance practices and as a condition of the surface lease held by Baffinland with the Qikiqtani Inuit Association.

Earlier versions of this A&R Plan were prepared to support environmental screening and permitting activities for the bulk sampling program and to reflect the outcome of the environmental screening and changes to the scope of the work as provided by Amendment No. 2 to the Nunavut Water Board (NWB) water licence as well as the comments made by the NWB (Knight Piésold Ref. No. NB102-00181/6-7, Rev. 2, dated 31-March-2008).

This document is an update to the March 2008 version in consideration of changes to the scope of the work, shipment of the bulk sample as well as the comments made by the NWB and the QIA.

This updated A&R Plan will become the closure document that Baffinland will follow if there were no immediate or pending plans to advance the project towards mine development, subject to any future revisions required to reflect material changes. This plan provides a full cost of implementing closure that addresses all project-related activity areas and infrastructure related to the Mary River Project that will be in place assuming an unplanned (i.e. "worst case" scenario) shut-down as of March 31, 2010. This is a hypothetical date as actual closure timing is currently unknown and coincides with the requirements in the surface lease.

Key differences in the assumptions included in the 2009, compared to the 2008 plan include:

- Mobilization activities in 2008 anticipated continuing to advance the project beyond the bulk sample to full scale development. As a consequence, more fuel and equipment is currently on-site. Demobilization of these resources is included in the revised plan.
- Actual site conditions and changes in site conditions from that which was assumed in the 2008 plan
- Inclusion of activities which were previously accounted for as part of ongoing field operations and not part of reclamation. For example, this plan now includes final landscape grading and contouring of disturbed areas, construction of the landfill and access road plus much of its operation, contractor demobilization and increased supervision as a cost of closure versus being an element of operations of the Bulk Sampling Program.

Any reconciliation to the previous A&R cost estimate is of little use/relevance since the scopes and underlying assumptions differ.

#### Site Description

The Mary River Project is an advanced exploration project. Programs and activities are designed to support advancing the Project to full-scale development. In summary, project-related activity areas and infrastructure related to the existing Mary River Project include:

#### Camps and Related Facilities

- A 100-person winterized exploration tent camp and a 100-person all-season tent camp, and ancillary facilities (e.g. washroom/dry, firehall, workshop, sea containers for storage, camp generators, incinerator, sewage tanks/treatment plants/ponds, mobile equipment, etc) at Mary River.
- An all-season 60 person fully serviced trailer camp, associated facilities and related infrastructure at Milne Inlet constructed to support the Milne Inlet Tote Road construction activities, seasonal re-supply, and barge loading of the bulk sample.
- A temporary tent camp, associated facilities and related infrastructure for approximately 40 people part way along the potential future railway alignment north of Cockburn Lake referred to as the Mid Rail camp constructed to support the geotechnical drill program between Mary River and Steensby Inlet, as well as environmental studies based in the area.
- A temporary tent camp, associated facilities and related infrastructure for approximately 50 people with associated facilities and related infrastructure constructed to support environmental studies, seasonal re-supply, on-ice port site drilling and geotechnical drilling in the general southern area of the rail alignment. A sea-lift in 2008 delivered a trailer camp (12 trailer units still in storage at laydown area) to Steensby Inlet to replace or supplement the tent camp for use in the future field programs.
- Two temporary refuge stations along the Milne Inlet Tote Road and an emergency survival trailer parked at the crusher location near Deposit No. 1.
- Communication towers and repeater stations positioned at Milne Inlet, Mary River camp and two along the Milne Inlet Tote Road. Weather stations located at Mary River and both Milne Inlet and Steensby Inlet. A test wind tower northeast of Mary River Camp.

#### Bulk Sample Pit and Stockpiles

- A side hill cut single mining bulk sample pit approximately 10 m deep on Deposit No. 1.
- A stockpile containing approximately 28,000 tonnes of surficial weathered ore excavated from the surface of Deposit No. 1 remains on the deposit.
- Approximately 6,000 tonnes of representative (i.e. ore grade) material in the bulk sample pit.
- Stockpiles containing approximately 25,000 tonnes of non-representative ore (i.e. separate lump and fine stockpiles) at the Mary River crusher site.
- An ore stockpile pad containing approximately 24,000 tonnes of non-representative ore at Milne Inlet.
- Approximately 6,000 tonnes of representative (i.e. ore grade) material is stockpiled on the ore pad at Milne Inlet.



#### Roads and Borrow Sources

- A 105 km road between the Mary River Site and Milne Inlet referred to as the Milne Inlet Tote Road.
- Three main sand and gravel borrow sources, a rock quarry at Mary River, and sand and gravel sources from within the road alignment.
- Mine haulage road from the ridgeline on Deposit No. 1 to the crusher location.
- Two gravel airstrips with temporary lighting at the Mary River airstrip.

#### Fuel Storage

- A lined bulk fuel storage facility with a capacity of 1.5 million litres, double walled 75,000 litre tank in lined containment and lined re-fuelling stations at the Mary River camp.
- A lined bladder tank farm with an approximate capacity of 8.25-million litres as well as a lined re-fuelling station and re-supply pipeline at the Milne Inlet camp.
- Drum caches in lined containment situated at Milne Inlet, Mary, River, Steensby Inlet and Mid Rail Camps.

#### Abandonment Scenarios

Two abandonment scenarios have been conceived in this A&R Plan: temporary suspension, and final abandonment. A temporary suspension of activities means the temporary cessation of the current program operations, either as planned or due to unforeseen circumstances, typically lasting for weeks to months but could conceivably last for a year or longer. This could be due to economic or operational difficulties that would cause a temporary cessation of current operations at the project sites, such as a prolonged period of poor weather and related issues, fuel shortages, mechanical problems with critical equipment, unanticipated delays in the project timeline, or availability of financing. All facilities will be secured in a manner similar to the seasonal shutdown of the existing Mary River camp that has occurred in past years.

Final closure would be undertaken if a decision was made to cease all activities at Mary River due to unforeseen circumstances or if there were no immediate or pending plans to advance the project towards mine development.

Final closure and reclamation will include removing all equipment and materials either off-site or into an on-site landfill at Mary River (for inert, non-hazardous, non-combustible materials), and contouring ground surfaces. Equipment and materials to be taken off-site will be transported overland from Mary River Camp to Milne Inlet. Materials and Equipment at Mid Rail Camp will be flown to Steensby Camp or the Mary River Camp. Arrangements will be made with a sealift contractor to collect the shipment of materials and equipment at Milne Inlet and Steensby Inlet and ship materials offsite for re-sale, salvage or disposal.

The timing of final closure and reclamation is largely governed by site access and weather. It is estimated that a total of five months will be required to remove equipment and materials from Mary River with a crew of about 50 people.

#### Follow-Up and Monitoring

All development areas related to the Project will be subjected to a closure inspection by a company representative or contractor, and a brief closure and reclamation report with photographs will be prepared, documenting the reclamation work completed and the site conditions following closure.

During the follow-up and monitoring period, sand and gravel contaminated with petroleum products will be managed in a land farm at Milne Inlet. This land farm will be decommissioned near the end of the monitoring period.

Monitoring and follow-up inspections will be conducted at the Mary River Project area in order to assess the physical and chemical stability of the various components after closure and reclamation of the facilities. Annual inspections of the affected sites will be carried out for up to five years following the final closure to demonstrate that conditions have not changed and remain both physically and chemically stable.

#### Estimated Cost

The estimated cost to complete the final closure work described in this A&R Plan is \$10,583,928





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**BAFFINLAND IRON MINES CORPORATION  
MARY RIVER PROJECT**

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**SECTION 1.0 - INTRODUCTION**

The Mary River Project is an advanced iron ore exploration project located in the northern Baffin Island region of Nunavut (Figure 1.1). The project is wholly owned by Canadian mining company Baffinland Iron Mines Corporation (Baffinland). Baffinland has released a Definitive Feasibility Study (DFS) demonstrating the robust potential of full-scale development and has initiated the regulatory approval process for full-scale development. This abandonment and reclamation plan (A&R Plan) was prepared to address closure and reclamation in accordance with best corporate governance practices and as a condition of the surface lease held by Baffinland with the Qikiqtani Inuit Association.

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Key differences in the assumptions included in the 2009, compared to the 2008 plan include:

- Mobilization activities in 2008 anticipated continuing to advance the project beyond the bulk sample to full scale development. As a consequence, more fuel and equipment is currently on-site. Demobilization of these resources is included in the revised plan.
- Actual site conditions and changes in site conditions from that which was assumed in the 2008 plan
- Inclusion of activities which were previously accounted for as part of ongoing field operations and not part of reclamation. For example, this plan now includes final landscape grading and contouring of disturbed areas, construction of the landfill and access road plus much of its operation, contractor demobilization and increased supervision as a cost of closure versus being an element of operations of the Bulk Sampling Program.

Any reconciliation to the previous A&R cost estimate is of little use/relevance since the scopes and underlying assumptions differ.

## 1.1 EXISTING PERMITS

Exploration is focused on Federal Mineral Leases 2483, 2484 and 2485 that were established in the 1960s before the Nunavut Land Claims Agreement and are wholly held by Baffinland.

The exploration and geotechnical activities, the bulk sample program and any future closure and reclamation activities that may be undertaken, are subject to the terms and conditions of the following core authorizations issued to Baffinland:

Type of Authorization	Approval No.	Authorizing Agency	Governing Activity	Period Valid
Water License (Type B)	2BB-MRY0710 (including Amendments 1 and 2)	NWB	Water use and waste disposal	July 16, 2007 to Dec 31, 2010
Land Use Permit	N2006C0036	INAC	Exploration and Geotechnical Activities on Crown Land	April 4, 2007 to April 4, 2010
Land Use Permit	N2007F0004	INAC	Road Construction on Crown Land	July 6, 2007 to July 6, 2009 <sup>2</sup>
Commercial Lease for Inuit Owned Lands	Q07L3C001	QIA	Mining and exploration activities on Inuit Owned Land	August 1, 2007 to October 31, 2009 <sup>1</sup>
Quarry Permit	2007QP0098	INAC	Quarrying on Crown Land	July 6, 2007 to June 25, 2009 <sup>2</sup>
Letter of Advice	File No. NU-06-0084, dated July 25, 2007	DFO	Crossing installations at Category Small Watercourses	Not applicable
HADD Authorization <i>Fisheries Act</i> S.35(2)	File No. NU-06-0084, dated August 3, 2007	DFO	Crossing installations within fish habitat at 25 watercourses	Not applicable
<i>Navigable Waters Protection Act</i> Approval	8200-07-10265 8200-07-10266 8200-07-10267 8200-07-10268 8200-07-10269 8200-07-10270 8200-07-10271 8200-07-10272 8200-07-10273 8200-07-10274	Transport Canada	Construction of crossings in 10 navigable waters	September 6, 2007 to June 30, 2015(pending)

### NOTES:

1. Q05L2C14 includes an extension provision that Baffinland intends to exercise in 2009.
2. At the time of this Plan, an application has been submitted to INAC requesting a one (1) year extension to the land use permit and the issuance of a new, one (1) year quarry permit.

## 1.2 APPLICABLE GUIDELINES

The following guidelines were referenced during the development of this A&R Plan:

- *Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories*, by the Northwest Territories Water Board, September 1990
- *Mine Site Reclamation Policy for Nunavut*, by Indian and Northern Affairs Canada, 2002
- *Mine Site Reclamation Guidelines for the Northwest Territories*, by Indian and Northern Affairs Canada, January 2007
- *Mine Reclamation in Northwest Territories and Yukon*, Prepared by Steffen, Robertson and Kirsten (B.C.) Inc. for the Northern Affairs Program of the Department of Indian Affairs and Northern Development, April 1992

The Mary River Project is not a mine site but rather an advanced exploration project. Programs and activities are designed to support advancing the Project to full-scale development. Although the above listed policies and guidelines do not apply to exploration or advanced exploration stages of the development of a mineral property, and only apply to new and developed mines and their mining-related activities, they have been considered when preparing this A&R Plan.

## **SECTION 2.0 - CLOSURE & RECLAMATION PLAN OBJECTIVES**

In accordance with the objectives outlined in the cited guidelines, the general closure and reclamation goals of this A&R Plan are to:

- Provide for the long-term physical and chemical stability of the Project areas so as to protect the public's health and safety
- Enhance natural recovery of the disturbed areas to a state that is compatible with surrounding land uses and to allow for future use by people and wildlife
- Implement reclamation designs that limit the need for long-term maintenance and monitoring

This A&R Plan is written with a view to address all project-related activity areas and infrastructure.

## SECTION 3.0 - SITE DESCRIPTION

### 3.1 OVERVIEW

#### 3.1.1 Brief Overview of Past Project Activities

Baffinland resumed mineral exploration activities in 2004 after a 40-year hiatus in activity at Mary River. Baffinland has since continued to undertake programs and activities in support of advancing its Mary River Project.

Initially, a camp and support facilities was established at Mary River, adjacent to an existing airstrip, temporary facilities were constructed at Milne Inlet for receiving materials and supplies, equipment was off-loaded at Milne Inlet by sea-lift and moved into the site over winter road, and drilling on Deposit No. 1 recommenced. Investigatory geotechnical drilling programs at potential infrastructure sites associated with a full-scale mining development also commenced.

Additional exploration drilling and resource evaluation on Deposit No's. 1, 2 and 3, geotechnical drilling at Project development areas, environmental baseline and monitoring studies, a Bulk Sample Program with the addition of a new camp along the proposed rail alignment and upgrades and expansions to the existing camps, related infrastructure and the Tote Road to support the different programs has followed.

Figures 3.1 to 3.5 shows the location of activity areas related to the Mary River Project.

Baffinland has released a Definitive Feasibility Study (DFS) demonstrating the robust potential of full-scale development and has initiated the regulatory approval process for full-scale development. Baffinland has worked in earnest with its financial advisors in seeking a strategic partner or partners needed for the proposed transition from exploration to development and eventually production.

#### 3.1.2 2009 Work Plan

The current world financial crisis and economic outlook has had a major dampening effect on the resource sector, adding time and complexity to the strategic partnering initiative, and the resources currently available to support the 2009 work plan. Although at the time of writing the Company's work plan is still in the development stage, the current economic climate is expected to result in a significant decrease in development planning efforts undertaken in 2009. This will translate into a deferral in advancement of further engineering design, geotechnical drilling, and other technical support studies required for the detailed planning of the proposed Mary River Project. Field programs instead will focus on infill exploration drilling on Deposits No. 2 and/or 3 with a goal of transitioning resources currently in the 'inferred' category to the 'indicated' category'. Ultimately, the 2009 work plan will be based, in part, on availability of financing and the outcome of the strategic partnering initiative.

Key programs and activities that will be undertaken in 2009 in support of continued advancement of the Mary River Project include:

- Off-season presence at the Mary River site in the interest maintaining site access and security
- Operation of the Mary River camp to support a modest and approximate 2,200 metre exploration drill program between June and September
- Planning and execution of a training program for driller helpers to support 2009 exploration
- Transport of needed fuel and supplies stored at Milne Inlet to the Mary River camp site using the upgraded Milne Inlet Tote Road
- Helicopter and fixed wing aircraft support as required to service the exploration drilling program and other general site activities, including environmental monitoring
- Follow-up construction and ongoing monitoring activities in accordance with the No Net Loss and Monitoring Plan under the Fisheries Authorization issued in relation to the Tote Road
- Continued progressive reclamation of areas of current and past use in association with exploration drilling, geotechnical drilling, and bulk sample programs
- Upon further treatment and/or confirmation that effluent criteria as stipulated by the Water Licence have been met, discharge of the polishing/waste storage pond contents at Mary River and Milne Inlet to the approved receiving locations
- Demobilization of contractors' equipment and supplies used to support the bulk sample program that is not required for near term activities by a single dry cargo sea-lift from Milne Inlet
- Demobilization of barrel fuel currently stored and in place to support field studies and geotechnical drilling by a single dry cargo sea-lift from Steensby Inlet. In 2009, it is expected that the Steensby, Mid Rail, and Milne Inlet Camps will remain unoccupied.

Should additional financing become available, Baffinland may increase field activities accordingly. Equipment, infrastructure, consumables and regulatory permits are currently in place to support a substantially larger exploration drilling program, resumption of the geotechnical drilling program needed to support engineering planning, as well as undertaking any further environmental baseline and other scientific and engineering studies required for project planning.

### 3.2 BULK SAMPLE PIT AND STOCKPILES

#### 3.2.1 Bulk Sample Pit

A single mining bulk sample pit positioned across the crest and east side of the North Limb of Deposit No. 1 was constructed as a side-hill cut in 2008. Two 5 m high benches were blasted using explosives and excavated down the east slope of the deposit (680 and 685 benches, respectively). The pit was designed to be free-draining (i.e. side hill cut) so that no water is impounded. The approximate location of the bulk sample pit is shown on Figure 3.2.

#### 3.2.2 Stockpiles

Stockpiles created during the bulk sampling program at Deposit No. 1, Mary River and Milne Inlet include:

**Deposit No. 1** - A stockpile containing approximately 28,000 tonnes of surficial weathered ore excavated from the surface of Deposit No. 1 remains on the deposit. The weathered ore stockpile

location is shown on Figure 3.2. The roadbed between the stockpile and the pit was also constructed from weathered ore. Approximately 6,000 tonnes of representative (i.e. ore grade) material was left in the bulk sample pit.

**Mary River** - Stockpiles containing approximately 25,000 tonnes of non-representative ore (i.e. separate lump and fine stockpiles) remain at the Mary River crusher site. The approximate location of the two stockpiles at the crusher are shown on Figure 3.2.

**Milne Inlet** - The ore stockpile pad containing approximately 24,000 tonnes of non-representative ore remains at Milne Inlet. Approximately 6,000 tonnes of representative (i.e. ore grade) material is stockpiled on this pad at Milne Inlet. The approximate stockpile locations at Milne Inlet are shown on Figure 3.3.

### 3.2.3 Geochemistry

In addition to metallurgical testing of the bulk sample ore, an environmental geochemical testing program was undertaken in 2008 to assess the potential for waste rock, residual ore and the exposed pit to leach metals and/or acidity that could potentially degrade the quality of receiving surface waters (appended to Baffinland Iron Mines Corporation Mary River Project, 2008 Annual Report to the Nunavut Water Board). This testing program was carried out according to the general requirements recommended by Price, 1979 which is generally regarded as being representative of industry best practice within Canada.

In general, mine wastes have the potential to degrade surface water quality when they contain sulphide minerals, which oxidize when exposed to the atmosphere and release soluble acidity and metals, or when they contain soluble minerals, which will leach metals when they dissolve in contact water.

In planning for the bulk sample program, the risk for poor quality run-off was predicted to be low, based upon existing knowledge gained from testing of samples collected elsewhere from Deposit No. 1. The 2008 environmental geochemical testing program was developed to test representative samples of the materials and landforms generated from the bulk sample program in order to validate these predictions.

Representative geological samples were collected and submitted to the analytical laboratory of SGS Lakefield Research Ltd. for major elements content characterization, modified acid-base accounting (ABA) to assess acid generating characteristics, and short-term leach testing (modified synthetic precipitation leaching procedure) to assess susceptibility to leach metals. Representative samples were collected from the i) weathered ore stockpiled on the Deposit No. 1, ii) non-representative ore stockpiled at the Mary River crusher site and the stockpile pad at Milne Inlet, and iii) representative ore left exposed in the bench walls of the pit and stockpiled at Milne Inlet.

The results from this program validated predictions that were made during the environmental screening. Test results showed low to non-detectable levels of sulphide-sulphur. All samples

contained sulphide-sulphur at concentrations below the laboratory analytical detection limit of 0.01% (by weight) except for one sample of representative ore (measured at 0.01% sulphide-sulphur) and one sample of nonrepresentative ore (measured at 0.02% sulphide-sulphur).

The mean ratio of neutralization potential (NP) to acid potential (AP) of samples of; i) the weathered ore stockpiled on the Deposit No. 1, ii) non-representative ore stockpiled at the Mary River crusher site and the stockpile pad at Milne Inlet, and iii) representative ore left exposed in the bench walls of the pit and stockpiled at Milne Inlet were measured at 6.2, 5.9, and 8.1, respectively. These measurements compare to commonly referenced screening criteria by Price, 1997 which classifies samples with an NP/AP ratio greater than 4 as being non-acid generating.

Short -term leach test results indicated a low risk of significant metal leaching. This risk is likely to be further diminished by the dry arid climate at the site. Metal concentrations from short-term leach tests were all below concentration limits established for: i) the bulk sample water license (Section 3.2.1), ii) concentration limits listed under Schedule 4 of the Metal Mines Effluent Regulations (MMER), and iii) most metal concentrations were below the more stringent CCME guidelines for the Protection of Aquatic Life (CCME-PAL). Note that Schedule 4 MMER limits are generally applied to end-of-pipe discharges from metal mines in Canada and CCME-PAL are applicable to receiving water quality.

### 3.3 CAMPS AND RELATED FACILITIES

Camp facilities are described below and locations are shown on Figure 3.1.

Mary River camp is a 100-person winterized exploration tent camp and a 100-person all-season tent camp, with ancillary facilities. Specifically there are 26 Weatherhaven tents, 11 Norseman tents, 3 Weatherhaven washroom/dry tents, 1 Weatherhaven firehall tent, 1 Weatherhaven kitchen (old) tent, 3 Weatherhaven workshop tents, 40 sea containers used for storage, three main camp generators, incinerator, 3 concrete sewage tanks, 1 plastic sewage tank, 1 sewage treatment plant, 3 sewage ponds, 13 fuel bladder tanks, mobile equipment along with laydown areas. The existing all-season exploration camp, primary ancillary facilities and related infrastructure at Mary River are shown on Figure 3.2.

The Milne Inlet camp is an all-season fully serviced trailer camp for approximately 60 people, associated facilities and related infrastructure. Specifically there are 10 accommodation trailers, 9 work tents, 1 large Weatherhaven workshop tent, two main generators, incinerator, oil/water separator, 1 sewage treatment plant, 1 sewage pond, 73 fuel bladder tanks, mobile equipment along with a laydown area. Milne Inlet camp will remain essentially unoccupied in 2009 except for maybe a 2 person skeleton crew. The existing site layout at Milne Inlet is shown on Figure 3.3.

The Mid Rail camp used to support the geotechnical drill program between Mary River and Steensby Inlet, as well as environmental studies based in the area is a temporary seasonally occupied tent camp for approximately 40 people part way along the potential future railway alignment north of Cockburn Lake. There are 18 wooden structure accommodation/working tents for the kitchen and dining, living quarters,



washrooms, laundry and water storage, generator, etc along with a small laydown area. The camp will be unoccupied in 2009. The existing site layout at Mid Rail camp is shown on Figure 3.4.

The Steensby Inlet camp is a seasonally occupied tent camp for approximately 50 people with associated facilities and related infrastructure used to support environmental studies, on-ice port site drilling and geotechnical drilling in the general southern area of the rail alignment. Specifically there are 16 wooden structure accommodation/working tents (for the kitchen and dining, living quarters, washrooms, laundry and water storage, generator), two main generators, incinerator, 6800 fuel drums, mobile equipment (4 pieces) along with a laydown area. A sea-lift in 2008 delivered a trailer camp (12 trailer units still in storage at laydown area) to Steensby Inlet to replace or supplement the tent camp for use in the future field programs. The camp will be unoccupied in 2009. The existing site layout at Steensby Inlet is shown on Figure 3.5.

There are two temporary refuge stations consisting each of a small half size trailer with bottled water and fuel storage area for 4 fuel drums located at kilometre 33 and 68 of the Milne Inlet Tote Road.

An emergency survival trailer is parked at the crusher location near Deposit No. 1

Communication towers and repeater stations are positioned at Milne Inlet, Mary River and two along the Milne Inlet Tote Road. Weather stations are located at Mary River and both Milne Inlet and Steensby Inlet. A 60-m high test wind tower lying on the tundra is located approximately 19.6 km northeast of Mary River Camp to record information on wind speeds and direction.

### 3.4 EQUIPMENT

A portion of the equipment and materials used for the Bulk Sample Program and no longer required was backhauled to southern Canada in 2008. Only a portion of the equipment and materials intended for demobilization was removed from site in 2008 as the loading of a second sea-lift was terminated early as a result of weather. The remaining portion will likely be removed in 2009 with a single dry cargo sea-lift from Milne Inlet.

A list of equipment anticipated on-site after the planned sea-lifts in 2009 includes the following:

Item	No. of Units	Item	No. of Units
Snowmobile/ATV	11	Excavators	2
Camp	6	Fork Lifts (ZoomBooms)	4
Incinerator	7	Fuel Tanks (steel)	2
Airstrip Lights	1	Rescue Boat	1
Sewage Treatment Facilities	3	Emergency Trailers	2
Camp Gensets	10	Radio Towers	4
Aux Gensets	10	Rigmats	48
Haul Road Trucks	4	Office Trailers	7
Haul Road Truck Pups	2	Graders	1
Dozers	3	Water Tanks	2
Loaders	2	Waste Tank	1
Supervisor Vehicles	4	Drills	10
Light Plants	2	Maintenance Vehicles	2
Fuel Truck	1	Emergency Vehicles	1

### 3.5 ROADS AND AIRSTRIPS

There are two existing gravel airstrips used for the project. Temporary lighting is installed at the Mary River airstrip.

The Milne Inlet Tote Road is an existing 105 km road between the Mary River Site and Milne Inlet. The existing road was upgraded in 2007 and 2008 and generally included excavating sand and gravel for the road bed from within the road alignment, and supplemented with material from large designated borrow/quarry areas, adding the fill to the roadbed where required and installing crossing structures of various sizes (mainly culverts) at watercourses and drainages. Subject to future permitting, it is planned that the road will continue to be used to provide all-season access throughout construction of the mine. Figure 3.1 shows the existing road alignment and the borrow sources identified for quarrying. There are smaller access roads to Deposit No. 1, the salt station and explosives storage area.

### 3.6 BORROW SOURCES

Fill materials needed for upgrade of the Tote Road, the mine haul road and other site civil works were obtained from within the road alignment and from three main borrow sources and one quarry, at locations shown on Figure 3.1. Approximately 1,093,029 m<sup>3</sup> of sand and gravel have been excavated from within the road alignment and these main borrow sources and quarries to support the project.

Recontouring of borrow areas has commenced, with further work to be undertaken in 2009 to confirm that the as-built conditions are suitable for eventual decommissioning and to determine reclamation requirements to meet closure permits and provide a simple scope for each borrow area. Recontouring of borrow areas from within the road alignment to minimize ponding, erosion and sediment run-off to receiving waters will be ongoing in 2009 for those areas identified as requiring additional work.

### 3.7 FUEL STORAGE

Fuel storage facilities are located at the camp and crusher area at Mary River, at Milne Inlet, Refuge Stations, Mid Rail Camp and at Steensby Inlet Camp.

Bulk fuel storage facilities include:

- An 8.25-million litre capacity bulk fuel storage facility at Milne Inlet, consisting of seventy three 114,000 L fuel bladders in a lined containment as well as a lined re-fuelling station and resupply pipeline
- Bulk fuel bladder tank farm near the Mary River Camp with a capacity of 1.5 million litres, consisting of thirteen 114,000 L bladders in lined containment. A double walled 75,000 litre tank in lined containment.

Refuelling stations at Milne Inlet and Mary River are equipped with a lined and bermed area to contain any minor spills or leaks during refuelling. The liner is protected by sand bedding and vehicles and equipment drive onto the lined area to refuel.

In addition, drum caches in lined containment are also situated at Milne Inlet, Mary, River, Steensby Inlet and Mid Rail Camps. The total number of 200 L drums currently stored on-site is approximately 10,102.

Most of the barrel fuel currently stored at Steensby Inlet in place to support field studies and geotechnical drilling is currently planned to be demobilized in 2009 by a single dry cargo sea-lift from Steensby Inlet.

### 3.8 CHEMICALS

Some chemicals and potentially hazardous materials associated with project operations include:

- Oils, greases, lubricants, and drilling additives for mining and heavy equipment
- Calcium chloride flakes for drill water for exploration drilling
- Lead acid batteries and cleaning supplies at camp sites
- Waste oils generated from mobile equipment and generators

Lubricants and oils, as well as both new and used batteries, are stored in containers. Waste oils are stored in drums in lined containment, until transported to Milne Inlet and sent offsite via sealift to a registered hazardous waste disposal facility or to recycling depots. Calcium chloride flakes are stored in designated locations remote from water at Milne Inlet and Mary River.

Included in a 2008 sea-lift backhaul was a portion of the hazardous and non-landfillable wastes generated from current and historic activities at Mary River destined for licenced disposal and recycling facilities. Only a portion intended for demobilization was removed from site in 2008 as the loading of the final sea-lift was terminated early as a result of weather.

### 3.9 EXPLOSIVES

A portion of the pre-packaged emulsion and high explosives (Class A) required for the Bulk Sample Program remains and are stored in the 3 explosives magazines used for transport of the explosives to Mary River. The self contained explosives magazines are positioned in conformance with the *NWT/Nunavut Mine Health and Safety Act* and regulations. Detonators and explosives are stored in separate magazines, and inventory is strictly controlled with supervisory control. The explosives magazines are located away from other infrastructure in accordance with the British Table of Distances, and warning signs are prominently posted.

### 3.10 WASTE AND WATER MANAGEMENT

Water is supplied to each camp as follows:

- The water supply and treatment system (heated intake, ultra-violet disinfection) at Mary River supplies water to the combined population at the camp site
- Water supply at the Milne Inlet site consists of holding tanks that are filled by truck from a nearby lake and treated using an ultra-violet (UV) disinfection system
- Drinking water at the Mid Rail Camp comes from the adjacent unnamed lake, stored in holding tanks and treated using an ultra-violet (UV) light disinfection system

- Drinking water at Steensby Inlet Camp, is sourced from the unnamed in-land freshwater lake and treated using an ultra-violet (UV) disinfection system

Sewage and greywater is treated and disposed of at each camp as follows:

- Sewage and grey water at Mary River is treated using a pre-engineered rotating biological contractor sewage treatment plant followed by ultraviolet disinfection. Three polishing waste storage ponds (PWSP) are in place to receive treated sewage not meeting criteria for direct discharge via a 2 km heat traced pipeline into Sheardown Lake. Two of these ponds are full and there are plans to decant them in 2009. A Tanks-A-Lot sewage treatment system exists but is no longer used.
- There is a rotating biological contractor sewage treatment plant followed by ultraviolet disinfection at Milne Inlet camp to treat the sewage and grey water. A polishing waste stabilization pond is in place to receive treated sewage not meeting criteria for direct discharge to the receiving environment. The pond is planned to be decanted in 2009. Treated effluent is discharged by truck to a surface drainage channel discharging to Milne Inlet. During 2009 Milne Inlet camp will remain essentially unoccupied and latrine toilets (commercially purchased “Pacto” systems) will be used. Any toilet waste will be collected from the outhouses and incinerated in a dual-stage, forced air incinerator.
- Toilet wastes collected from the outhouses at Steensby Inlet and Mid Rail Camp is incinerated in a dual-stage, forced air incinerator at each of the camps. Greywater is disposed of in a sump established at each camp. During 2009, Steensby Inlet and Mid Rail Camp will be unoccupied.

Solid wastes are stored and disposed of as follows:

- Camp incinerators exist at each of the Mary River, Milne Inlet, Steensby Inlet and Mid Rail camps for disposal of inert combustible non-hazardous solid wastes. Ash is collected in containers to help prevent wind distribution.
- Inert non-combustible wastes such as scrap metal, plastic, rubber, metals, wood that is not burned and ashes from the incinerator is collected and stored in preparation for disposal in the landfill at Mary River or hauled to Milne Inlet for disposal off site
- Wastes generated at the refuge stations is stored in containers or ore sacks and backhauled to Mary River for disposal by incineration or eventual landfilling, as appropriate or to Milne Inlet for shipment off site
- Waste oil and other hazardous and recyclable wastes are collected, temporarily stored on-site in a lined containment area and backhauled to Milne Inlet or Steensby Inlet in preparation for shipment off site. Used batteries are collected in sealed containers and transported off site. Empty fuel drums are crushed and packaged and temporarily stored on-site in preparation for transport off-site by sealift where they will be recycled.
- The planned access road and landfill as approved by the Nunavut Water Board has not yet been constructed at Mary River. This closure plan assumes the construction and operation of the landfill will be performed as part of final closure.

## **SECTION 4.0 - TEMPORARY SUSPENSION**

A temporary suspension of activities means the temporary cessation of the current program operations, either as planned or due to unforeseen circumstances.

A planned shutdown occurs when there is a potential for economic or operational difficulties that would cause a temporary cessation of current operations at the project sites. The program could be temporarily suspended because of unforeseen circumstances such as a prolonged period of poor weather and related issues, fuel shortages, mechanical problems with critical equipment, unanticipated delays in the project timeline, or availability of financing. Temporary suspension typically could last for a period of weeks to several months but could conceivably last for a year or longer. The intention however, would be to immediately resume operations as soon as all issues have been resolved. All facilities will be secured in a manner similar to the seasonal shutdown of the existing Mary River camp that has occurred in past years.

### **4.1 BULK SAMPLE PIT**

Mining from the side-hill cut bulk sample pit was completed in 2008. The bulk sample pit was confirmed by land survey at its completion in 2008 to be free-draining. The pit will be visually inspected as part of the monitoring program to identify any indications of acid generation or metal leaching, and the drainage that collects downstream of the bulk sample pit will be sampled and tested for general chemistry and metals during the semi-annually (twice per year) site visits (discussed below).

### **4.2 STOCKPILES**

The weathered ore at top of Deposit No. 1, including the weathered ore roadbed between the stockpile and the pit has been progressively reclaimed and is expected to be physically stable in the long term. Inspection will be carried out to verify this. Side slopes of the non-representative ore at the crusher location and residual ore stockpiles at Milne Inlet will be re-graded prior to temporary suspension. Any seepage observed from the stockpiles will be sampled and tested for general chemistry and metals during the semi-annual (twice per year) site visits (discussed below).

### **4.3 CAMP AND RELATED FACILITIES**

The following measures have been performed at the Milne Inlet, Steensby and Mid Rail camps and will be undertaken at the Mary River camp facilities in a temporary suspension scenario:

- Tents and camp facilities (i.e., kitchens, outhouses, showers, warehouses, etc.) will be thoroughly cleaned and all open food and wastes incinerated. All unopened food supplies will be contained in sealed and secure containers so as not to attract any wildlife to the site.
- Oil stoves and propane systems will be shut off and supply oil drums and propane cylinders firmly closed
- Diesel generators will be shut down and winterized according to their manufacturer's procedures; fuel hoses will be drained and storage tanks connected to the power supply will be sealed and inspected

#### 4.4 EQUIPMENT

Heavy equipment and vehicles will be consolidated at either the Mary River or Milne Inlet camps. Small equipment will be returned to a designated warehouse where they will be securely stored.

#### 4.5 ROADS AND AIRSTRIPS

No closure measures are proposed for roads and airstrips during temporary suspension. An inspection of the airstrips and roads will be undertaken to ensure there is no impeded drainage or substantial erosion that requires attention.

#### 4.6 BORROW AREAS

Progressive reclamation of borrow areas as part of operations has commenced, including maintaining stable side slopes and grading for natural drainage. The borrow areas that have not been inspected at the onset of temporary suspension will be inspected, and re-grading will be completed as required to ensure there are no drainage issues or risk for substantial erosion that require attention.

#### 4.7 FUEL STORAGE

Bulk fuel storage facilities at Mary River and Milne Inlet sites will be inspected for leaks and all valves and dispensers closed and secured. Drums of fuel will be left within the lined containment areas.

#### 4.8 CHEMICALS

All chemicals present, such as cleaning supplies, lubricants, antifreeze, oils, and greases will be stored away in secure buildings and properly sealed.

#### 4.9 EXPLOSIVES

All explosives will be placed in the explosives magazines and locked.

#### 4.10 WATER SUPPLY AND WASTE MANAGEMENT

The water supply systems (tanks, pipes, and lines) will be completely drained, removed and stored away. Waste water treatment facilities will be shut down according to manufacturer's procedures, and any remaining sewage or sludge will be directed to the polishing/waste stabilization ponds.

Combustible non-hazardous inert wastes will be incinerated and any non-combustible inert wastes will be stored securely at their respective remote locations to be eventually landfilled.

Hazardous waste will remain stored in a manner that minimizes environmental risk in preparation for final off-site disposal and/or recycling.

4.11 MONITORING

Baffinland will arrange semi-annual (twice per year) site visits to inspect the camps, and repairs will be made as necessary. These visits would continue until activities resume. Under this scenario, Baffinland would notify the NWB and QIA of planned site visits so that the NWB and QIA could chose to attend if desired. QIA and NWB will be copied on all follow-up reports.

Water quality monitoring will be carried out at the stockpile locations and the bulk sample pit as indicated above, and in accordance with the conditions of the water license.

## SECTION 5.0 - FINAL CLOSURE

Final closure would be undertaken if a decision was made to cease all activities at Mary River due to unforeseen circumstances or if there were no immediate or pending plans to advance the project towards mine development.

Final closure and reclamation will include removing all equipment and materials either off-site or into an on-site landfill at Mary River (for inert, non-hazardous, non-combustible materials), and contouring ground surfaces. Equipment and materials to be taken off-site will be transported overland from Mary River Camp to Milne Inlet. Materials and Equipment at Mid Rail Camp will be flown to Steensby Camp or the Mary River Camp. Arrangements will be made with a sealift contractor to collect the shipment of materials and equipment at Milne Inlet and Steensby Inlet and ship material offsite for re-sale, salvage or disposal.

Most materials and equipment found at the project sites will have some residual value for either re-sale or relocation to another exploration site. It is possible some or all of the camp infrastructure and equipment could be airlifted or sealifted to another exploration site or could possibly be donated to the local communities.

### 5.1 BULK SAMPLE PIT

As described in Section 3.3.2, there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material in the ore left exposed in the bench walls of the pit. The walls and floor of the pit will be visually inspected as part of the monitoring program to identify any indications of acid generation or metal leaching, and any seepage that collects in or downstream of the bulk sample pit will be sampled and tested for general chemistry and metals during the site visits (discussed below).

The shallow side-hill cut pit area created on Deposit No. 1 will be inspected for any physically unstable surfaces and to validate that the pit is draining properly. The bulk sample pit was confirmed by land survey at its completion in 2008 to be free draining and will be left open. There were no stability issues noted by the Mine Inspector during his inspection in September of 2008. Rehabilitation measures will be undertaken if necessary to ensure that unstable areas do not remain. This may include additional blasting, excavation or backfilling using weathered ore.

### 5.2 STOCKPILES

It has been demonstrated from the 2008 environmental geochemical testing program that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material in the i) weathered ore stockpiled on the Deposit No. 1, ii) non-representative ore stockpiled at the Mary River crusher site and the stockpile pad at Milne Inlet, and iii) representative ore left exposed in the bench walls of the pit and stockpiled at Milne Inlet. Any seepage observed below the weathered ore stockpile during follow-up monitoring will be sampled and tested for general chemistry and metals during the annual post-closure site visits (discussed below).



The weathered ore stockpiled at top of Deposit No. 1, including the weathered ore roadbed between the stockpile and the pit has been progressively reclaimed and is expected to be physically stable in the long term. Inspection will be carried out to verify this.

The representative (i.e. ore grade) material left in the bulk sample pit was contoured and left in a stable and free draining state at the end of the 2008 field season.

The non-representative ore stockpiled at the Mary River crusher site will be re-graded as required to ensure the area is physically stable.

The stockpile of representative ore at Milne Inlet will be re-graded as required over the non-representative ore pad to ensure the area is physically stable and covered in 0.3 m of locally available borrow material for aesthetics purposes and to prevent dusting of the beach head.

The contingency plan involving mixing of neutralizing material with potentially ARD/ML material that was included in the previous A&R Plan is no longer required. The results from the 2008 environmental geochemical testing program and short term leach tests have demonstrated that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material sampled.

### 5.3 CAMP AND RELATED FACILITIES

Most materials found at the camp sites are either control burned, landfilled at the Mary River landfill, or backhauled for disposal or salvage. Most materials found at the camp sites will have residual value and may be salvaged for resale and relocated off-site by sea-lift. Tent facilities and Quonset buildings will be dismantled and, with the pre-fabricated trailers, will be transported overland to Milne Inlet, landfilled at the Mary River landfill, or control burned. Wooden structures such as warehouses, outhouses, tent floors, bunk beds and tables will be dismantled, salvaged for re-use by others, or burned on site. Only clean wood, wood that has not been coated with preservative chemicals or paint, will be considered for burning.

All camp areas will be inspected for signs of fuel spills and any contaminated materials excavated as described in Section 5.10. Ground surfaces will be re-contoured if necessary to ensure long-term physical stability.

Generators will be prepared for travel, transported overland to Milne Inlet, and sent off-site on sealift for re-sale. Fuel storage, hoses and filters associated with the power supply will be drained. Waste oil, residual fuels and oil/fuel filters will be managed as hazardous waste, contained and removed from site to a licensed waste disposal facility.

Drill sites in operation or undergoing progressive reclamation will be closed as per the operational licensing and permitting requirements. Exploration drill core will be transferred to sea containers for long term storage adjacent to airstrip. Geotechnical core will be disposed of in the landfill.

#### 5.4 ROADS AND AIRSTRIPS

Airstrips will remain to allow for future access to the site for exploration, site inspections and other monitoring activities. Temporary airstrip lighting at Mary River will be removed.

The temporary roads including Milne Inlet Tote Road, access road to Deposit No. 1, landfill, salt station, and explosives access will be inspected and any areas of significant erosion will be re-graded to improve stability and minimize sediment run-off to receiving waters. Four (4) sea can crossings and six (6) culvert crossings deemed as navigable waters under authorization by Transport Canada and the Federal Department of Fisheries and Oceans along the Milne Inlet Tote Road are required to be removed and the crossing re-graded at closure. The culverts and sea-cans will be disposed of in an inert landfill at Mary River. Alternately the sea cans may be hauled to Milne Inlet and shipped off site for disposal or recycling. The roadbed will remain for other users, in accordance with the road's designation of public access in the Nunavut Land Claim Agreement.

#### 5.5 BORROW AND QUARRY AREAS

Progressive reclamation of borrow and quarry areas has commenced as part of operations, including maintaining stable side slopes and grading for natural drainage to minimize ponding, erosion and sediment run-off to receiving waters. Reclamation of borrow areas from within the road alignment will continue in 2009 as part of operations and be completed during final closure for those areas identified as requiring additional work. The three primary borrow sites and one quarry will require reclamation at final closure. Final re-grading will be completed as required for drainage control and limit the potential for excessive erosion. Borrow and quarry areas will be revisited as part of the post-closure monitoring program, to document that no substantial thaw settlement has occurred that will necessitate further remedial action.

#### 5.6 FUEL STORAGE

Drums of fuel will be consolidated, inspected and securely sealed. Any open drums of diesel, off-specification fuel and waste oil will be shipped to registered hazardous waste disposal facilities or to recycling depots. Sealed fuel drums may be sold locally or to other users in the region. Drums will be transported overland to Milne Inlet or by air to Steensby Inlet and loaded onto sealift. Empty fuel drums will be crushed and sealifted off-site for steel recycling or, if suitable for reuse, transported by sealift off-site where they will be returned to the vendor. Fuel could also be burned at site assuming that any necessary permits are secured.

Fuel bladders will be drained using compressed air, transferred to a truck, and relocated to Milne Inlet where they will be removed offsite for salvage. Any fuel remaining will be loaded onto a sealift and transported to other users or will be shipped to registered hazardous waste disposal facilities or to recycling depots. Fuel could also be burned at site assuming that any necessary permits are secured. The Mary River fuel storage facility will be emptied and decommissioned first, followed by the Milne Inlet facility once any excess fuel has been taken off site.

Containment for each fuel storage facility consists of an earthen berm lined with a petroleum-resistant geomembrane liner. Any bedding material inside the liner will be tested for petroleum hydrocarbons before

being removed. Liners will be sent off-site for disposal at a licensed facility. Soil beneath the lined areas will also be tested for petroleum hydrocarbons. Disposal of contaminated soils is described in Section 5.10.

#### 5.7 CHEMICALS

Chemicals, such as cleaning supplies, lubricants, antifreeze, oils, and greases will be placed in a sea container and will be transported off-site for either re-use or disposal.

Waste oil will be shipped to registered hazardous waste disposal facilities or to recycling depots. Used batteries and any other hazardous waste will be taken off-site to a licensed disposal facility for recycling or proper disposal.

#### 5.8 EXPLOSIVES

Unused explosives will be securely contained in magazines and removed from site. The three explosives magazines located at Mary River will be transported to Milne Inlet and sent offsite via sealift to a licensed recipient for proper disposal or re-use.

#### 5.9 WASTE AND WATER MANAGEMENT

An access road and landfill as approved by the Nunavut Water Board will be constructed and operated at Mary River as described in the Bulk Sampling Program Landfill Design and Operations (Baffinland Iron Mines Corporation, Submission of an Addendum to the Landfill Site Design Report for the Mary River Project. NWB File: 2BB-MRY0710/Part D19, October 27, 2008) for the disposal of bulky inert wastes, including wood, steel, rubber and plastics. Bulky wastes remnant of historic exploration activities will be relocated to the landfill. No organic or hazardous wastes will be disposed of in the landfill. The landfill site will be covered with a 1.5 m thick layer of inert overburden.

Combustible non-hazardous inert wastes will be incinerated on site. Non-combustible non-hazardous inert bulky waste that has no salvage value will be landfilled on-site.

Existing bulky wastes from the 1960s, equipment and materials associated with recent project activities, will be inspected for any hazardous materials. Oil pans and fuel tanks will be drained and the oil or fuel shipped to registered hazardous waste disposal facilities or to recycling depots. Any remaining hazardous components such as batteries, tanks and filters will be removed from site to a licensed off-site facility.

The water supply system (tanks and lines) will be drained, dismantled, and will be either dismantled for disposal in the landfill at Mary River or will be transported to Milne Inlet for salvage or disposal off-site.

Grey-water sumps will be backfilled and contoured to grade. Sewage treatment plants will be decommissioned in accordance with manufacturer procedures/recommendations, and any remaining sewage or sludge will be sent to the polishing/waste storage pond. The polishing/waste stabilization ponds will be decanted and the solids left to dry. Dried solids will either be buried in situ or disposed of at the on-site landfill upon confirmation as non-hazardous waste. Liners will be removed and the polishing/waste stabilization ponds will be contoured. This material could also serve as a contingency for use in contouring

other areas, if required, without triggering borrow royalty fees. The treatment plants will be prepared for shipping and will be transported to Milne Inlet to be loaded onto sealift and shipped to other users or disposed of at site in the landfill. The concrete tanks associated with Tanks-A-Lot treatment facility will be broken-up and disposed of in the inert landfill at Mary River.

#### 5.10 CONTAMINATED SOILS

Any contaminated soils may be managed in-situ on site or excavated using the skid steers or excavators and loaded into fibreglass ore sacks and removed off-site for disposal at a licensed treatment or disposal facility.

During the follow-up and monitoring period, sand and gravel contaminated with petroleum products will be managed in a land farm at Milne Inlet. This land farm will be decommissioned near the end of the monitoring period.

#### 5.11 TIMING AND SCHEDULE OF FINAL CLOSURE

The timing of closure and reclamation is largely governed by weather. Activities such as removal of lined containment facilities and the testing and excavation of affected soils are better completed during summer months when the ground surface is not frozen. Overland access can be year-round until the ten (10) navigable crossings are removed from the Milne Inlet Tote Road which will occur upon final retreat from Mary River camp. Timing of shipping off-site for proper disposal will be governed by sealift schedule, which is possible only during the open water period of August to October.

The reclamation activities are expected to be undertaken primarily during the months between March and October under favourable weather conditions although most reclamation can occur through the winter period.

If final closure was implemented earlier, a similar schedule would apply, considering the timing constraints for reclamation activities and demobilization.

It is estimated that a total of five months will be required to complete closure and reclamation activities with a crew of about 50 people. The current Mary River Camp will be scaled down to a 50-person capacity, initially, and then removed completely once all other reclamation activities are complete. The reclamation crew will move to Milne Inlet and then to the Steensby Inlet and Mid Rail to complete reclamation at these camps.

Final closure could be undertaken under favourable weather conditions, leading up to sealift in August through October.

## **SECTION 6.0 - FOLLOW-UP MONITORING**

Monitoring and follow-up inspections will be conducted at the Mary River Project area in order to assess the physical and chemical stability of the various components after closure and reclamation of the facilities. Annual inspections of the affected sites will be carried out for up to five years following the final closure to demonstrate that conditions have not changed and remain both physically and chemically stable. The monitoring program may be discontinued earlier than five years, only if monitoring results indicate that site conditions are stable, and agreement can be reached with the landowner(s) and Nunavut Water Board.

The physical stability of the bulk sample pit, weathered ore and waste rock stockpile, Milne Inlet Tote Road and other project components shall be monitored through visual inspection.

During the follow-up and monitoring period, sand and gravel contaminated with petroleum products will be managed in a land farm at Milne Inlet. This land farm will be decommissioned near the end of the monitoring period.

The chemical stability of the site will be monitored through visual inspection as well as surface water sampling and analyses, during the closure period and for up to five years post-closure, or as otherwise dictated by the water license to document that its quality is not adversely affected by the closed Project components. The monitoring plan will continue through closure and post-closure periods.

At the conclusion of the post-closure monitoring period (i.e., in the fifth year of monitoring), all development areas related to the Project will be subjected to a closure inspection by a company representative or contractor, and a brief closure and reclamation report with photographs will be prepared, documenting the reclamation work completed and the site conditions following closure.

## **SECTION 7.0 - ESTIMATED CLOSURE COSTS**

The estimated cost to complete the final closure work described in this A&R Plan is shown on Table 7.1. This plan provides a full cost of implementing closure that addresses all project-related activity areas and infrastructure related to the Mary River Project that will be in place assuming an unplanned (i.e. "worst case" scenario) shut-down as of March 31, 2010. This is a hypothetical date that corresponds with the requirements of the surface lease, as actual closure timing is currently unknown. The state at the time of closure is different from the 2008 Plan based on (a) actual results of the bulk sample program and (b) a current plan to continue to plan for full-scale development.

The following assumptions have been made in developing the cost estimate:

- Contractor and Baffinland equipment that are at site after the completion of the bulk sample program and the 2009 sea-lifts will be available to carry out the final abandonment activities
- Reclamation is carried out by a third-party contractor
- Demobilisation activities will be coordinated with the numerous community sealifts performed each year in the area
- The monthly cost to operate the camp at Mary River during final closure will be based on actual camp costs estimated from experience to date
- A dedicated tanker ship sealift will be used to remove the bulk fuel from the project
- That fuel is represented as a non-cash contribution to the execution of closure
- Progressive reclamation to be completed in 2009 is an operational cost and therefore not included in final closure costs
- Baffinland corporate office costs during abandonment, reclamation and post-closure monitoring are excluded from the cost estimate
- No contingency is applied to the cost estimate
- No cost escalation or inflation is applied to the cost estimate
- All significant work is assumed to be completed in 2009 and 2010. Schedule delay could add cost.

The estimated cost to complete the final closure work described in this A&R Plan is \$12,043,131.

Items of significant value such as the barge loader, large gensets, large equipment and the new trailers at Steensby that will be backhauled by sealift and items required to be removed from site such as the estimated 2.2 million litres of fuel backhauled by tanker ship will have salvage value. A salvage value of \$1,459,203 million based on the items and fuel removed from site at closure has been estimated. The total estimated cost, less salvage value is \$10,583,928.

## **SECTION 8.0 - ESTIMATED CLOSURE COSTS USING RECLAIM**

As required by the Nunavut Water Board (NWB) General Conditions of the water licence, a supplemental reclamation cost assessment for an assumed closure and reclamation of Baffinland's Mary River project in 2010 was completed using the RECLAIM model (version 5.1). The RECLAIM modelling was based on this abandonment and reclamation plan.

The prescribed methodology of assessing the full cost for closure and reclamation is with the RECLAIM model (version 5.1), which is based on a unit cost table that is part of the model. The unit cost table lists common reclamation activities that may be carried out at a particular mine site and the associated unit costs (based on 2005 data) for each activity. An attempt was made to include all reclamation activities identified within the A&R Plan into the RECLAIM model. The limitations of the RECLAIM model include the use of prescribed rates which may not exactly match the proposed reclamation activity and are based on a historic database and therefore may not be current. Although the unit rates in the table can be altered, the intent of performing the cost estimate using the RECLAIM model wasn't to alter the model to mimic the method, and thus the cost estimate presented in this Abandonment and Reclamation Plan, but to incorporate unit rates provided in the model as much as possible to come up with an estimate. In a few cases, unit rates were specified. In most cases the unit number for each line item in the RECLAIM model is a known quantity based on the actual physical layout, inventory, distances, etc. at the site. In cases where quantities were unknown conservative estimates were incorporated into the model.

The estimated cost to complete the final closure work using the RECLAIM model less salvage is \$6,750,361. A summary of the estimated cost using RECLAIM is shown on Table 8.1. The results of the RECLAIM model are attached.

The estimated cost less salvage to complete the final closure work included in the A&R Plan was \$10,583,928. This cost was determined based on Baffinland's experience operating in North Baffin Island and Knight Piésold's experience with closure work in Canada and internationally.

The costs presented in the A&R Plan are higher than those calculated using the RECLAIM model.

## SECTION 9.0 - REFERENCES

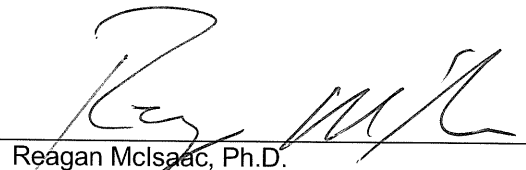
1. Indian and Northern Affairs Canada. Mine Site Reclamation Policy for Nunavut. Ottawa, 2002.
2. Indian and Northern Affairs Canada. Mine Site Reclamation Policy for Nunavut. Indian and Northern Affairs Canada, 2007.
3. Knight Piesold. Bulk Sampling Program Abandonment and Reclamation Plan. Ref. No. NB102-00181/6-7, Rev. 2, dated 31-March-2008).
4. Northwest Territories Water Board. Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories. September 1990.
5. Martin van Rooy. Report of an Inspector of Mines - Mary River Project. Nunavut Workers' Safety and Compensation Commission, September 22/23, 2008.
6. Price. W.A. Draft Guidelines and Recommended Methods for the Prediction of Metal Leaching and Acid Rock Drainage at Minesites in British Columbia. Smithers, B.C.: Ministry of Employment and Investment, Energy and Minerals Division, 1997.
7. Steffen, Robertson and Kirsten (B.C.) Inc. Mine Reclamation in Northwest Territories and Yukon. Prepared under contract for the Northern Water Resource Studies Program, Water Resources Division, Natural Resources and Environment Branch, Department of Indian Affairs and Northern Development. April 1992.



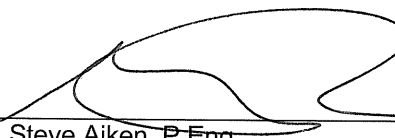
**SECTION 10.0 - CERTIFICATION**

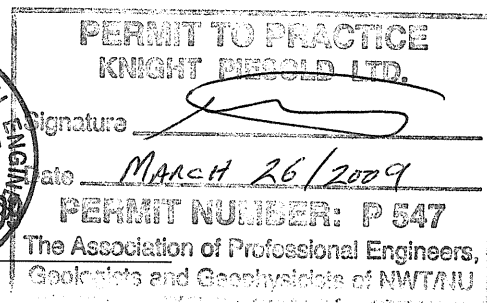
This report was prepared, reviewed and approved by the undersigned.

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TABLE 7.1

BAFFINLAND IRON MINES CORPORATION  
MARY RIVER PROJECT

ESTIMATED COSTS FOR FINAL CLOSURE

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Components and Tasks	Labour	Equipment	Task Reclamation	Component Reclamation	Basis for Estimate
<b>Bulk Sample Pit</b>					
Bulk Sample Pit	\$ -	\$ -	\$ -	\$ -	Ore removed for the bulk sample program produced a small side hill cut. The pit was confirmed by land survey at its completion in 2008 to be free draining. Slopes were stabilized in 2008 (see Mr. Martin van Rooy's (Mine Inspector with the Nunavut WSCC) Report dated September 22 and 23, 2008). The results from the 2008 environmental geochemical testing program and short term leach tests have demonstrated that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material sampled. The pit will not require any reclamation.
<b>Mineral Exploration Areas (Deposits No. 1, 2, 3)</b>					
Mineral exploration areas	\$ 44,800	\$ 102,000	\$ 146,800	\$ 146,800	Exploration holes are backfilled, residual casing is cut at surface, and sumps are graded to natural contours. Salt mixing stations and water pump stations are dismantled and removed from site. Drills are dismantled and removed from exploration areas. Exploration drill core is transferred to sea containers for long term storage.
<b>Remote Sites</b>					
Remote sites	\$ 35,000	\$ 500,500	\$ 535,500	\$ 535,500	Geotechnical drill holes are backfilled, residual casing/thermistors are cut at surface, and sumps are graded to natural contours. Equipment and materials at remote sites (wind tower, communications towers, metrological stations, hydrology stations, current meters) are decommissioned and removed.
<b>Stockpiles</b>					
Stockpiles	\$ 13,200	\$ 33,000	\$ 46,200	\$ 46,200	The weathered ore stockpiled at top of Deposit No. 1, including the weathered ore roadbed between the stockpile and the pit has been progressively reclaimed and is expected to be physically stable in the long term. Inspection will be carried out to verify this. The representative material left in the bulk sample pit was contoured and left in a stable and free draining state at the end of the 2008 field season. The non-representative ore stockpiled at the Mary River crusher site is re-graded. The stockpile of representative ore at Milne Inlet is re-graded over the non-representative ore pad and covered in 0.3 m of locally available borrow material for aesthetics purposes and to prevent dusting of the beach head.
<b>Camps and Related Facilities</b>					
Mary River camp	\$ 475,528	\$ 649,872	\$ 1,125,400		In general, reclamation of the Mary River camp assumes; decommissioning and landfilling of the 100-person weatherhaven camp, stand alone accommodation/work structures including 26 Weatherhaven and 11 Norseman tents, 3 Weatherhaven washroom/dry tents, 1 Weatherhaven firehall tent, 1 Weatherhaven kitchen (old) tent, 3 Weatherhaven workshop tents. Decommissioning and packaging of three main generators and the incinerator. Mobile equipment is prepared for travel to Milne Inlet. A load, haul and dump operation for materials landfilling. Trucking material to Milne Inlet for removal off-site. Light truck and electrician support. Organizing and package Boart, Springdale, Nunas and BIMs material for shipment. Isolating gensets. Disassemble water and sewage pipes and recover electrical wire. Site cleanup and coarse contouring and final grading.
Refuge Sites	\$ 4,200	\$ 4,500	\$ 8,700		Decommission, package and organize material for shipment and trucking material to Milne Inlet for removal.
Milne Inlet camp	\$ 208,800	\$ 135,984	\$ 344,784		In general, reclamation of the Milne Inlet camp assumes; decommissioning and packaging of the 10 ATCO trailers, 9 work tents, 1 large Weatherhaven workshop tent. Decommissioning and packaging of two main generators and the incinerator. Operation of oil/water separator. Prepare mobile equipment for removal. A load, haul and dump operation for materials landfilling at Mary River. Organizing and package Nuna containers and miscellaneous material for shipment. Prepare BIM barge loader for removal. Isolate genset. Disassemble sewage lines and recover electrical wire. Site cleanup and coarse contouring and final grading.
Mid-Rail Camp	\$ 45,600	\$ 90,000	\$ 135,600		In general, reclamation of the Mid-Rail camp assumes; decommissioning, burning and packaging of the 18 wood structure tents. Decommissioning and packaging of generator and incinerator. Decommissioning of laydown areas. Organize material for shipment. Transport material via helicopter to Mary River camp for removal/landfilling. Site cleanup.
Steensby Inlet Camp	\$ 73,200	\$ 76,600	\$ 149,800	\$ 1,764,284	In general, reclamation of the Steensby Inlet camp assumes; decommissioning, burning and packaging of the 25 wooden structure tents. Decommission, prepare and package the generator, incinerator, laydown areas. Remove floating dock and water line. Organizing material for shipment and sealfit support. Site cleanup.

TABLE 7.1

BAFFINLAND IRON MINES CORPORATION  
MARY RIVER PROJECT

ESTIMATED COSTS FOR FINAL CLOSURE

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Components and Tasks	Labour	Equipment	Task Reclamation	Component Reclamation	Basis for Estimate
<b>Roads and Airstrips</b>					
Roads	\$ 221,543	\$ 553,857	\$ 775,400		During closure the Tote Road will be maintained while hauling equipment and material between Mary River and Milne Inlet. Erosion damage occurring during closure on Milne Inlet Tote Road and the access road to Deposit No. 1 will be repaired. The roadbed will remain for other users, in accordance with the road's designation of public access in the Nunavut Land Claim Agreement. The temporary roads including Milne Inlet Tote Road, access road to Deposit No. 1, landfill, salt station, and explosives access are graded and contoured. Four (4) sea can crossings and six (6) culvert crossings deemed as navigable waters under authorization by Transport Canada and the Federal Department of Fisheries and Oceans along the Milne Inlet Tote Road are removed and the crossing re-graded.
Airstrips	\$ 13,800	\$ 14,400	\$ 28,200	\$ 803,600	Airstrips will remain to allow for future access to the site for exploration, site inspections and other monitoring activities. Temporary airstrip lighting at Mary River is removed and airstrip lighting ditches are backfilled and graded.
<b>Borrow/Quarry Areas</b>					
Borrow/Quarry Areas	\$ 88,710	\$ 216,400	\$ 305,110	\$ 305,110	Progressive reclamation of borrow and quarry areas has commenced as part of operations, including maintaining stable side slopes and grading for natural drainage to minimize ponding, erosion and sediment run-off to receiving waters. Reclamation of borrow areas from within the road alignment will continue in 2009 as part of operations and be completed during final closure for those areas identified as requiring additional work. At closure, the primary borrow and quarry sites are contoured and graded as required. Borrow material royalties for the material required for reclamation have been included. Berm material from the sewage ponds and fuel farms is available without attracting the borrow royalty fee.
<b>Fuel Storage Facilities (Bulk and Drums)</b>					
Mary River Fuel Farm	\$ 12,600	\$ 7,650	\$ 20,250		Excess fuel at Mary River camp is delivered to Milne Inlet. 11 bladder tanks are drained, folded and containerized (including piping). Geomembrane liner is removed, cut and packaged. Remaining borrow material in the berms is re-contoured.
Milne Inlet Fuel Farm	\$ 53,400	\$ 25,950	\$ 79,350	\$ 99,600	Excess fuel in Milne Inlet bulk fuel farm is transferred to a dedicated tanker ship sealift. 73 bladder tanks are drained, folded and containerized. Piping is removed from fuel farm. Geomembrane liner is removed, cut and packaged. Remaining borrow material in the berms is re-contoured.
<b>Explosives</b>					
Explosives	\$ 3,600	\$ 4,200	\$ 7,800	\$ 7,800	Three explosives magazines are prepared for shipment and trucked to Milne Inlet.
<b>Waste Management</b>					
Landfill	\$ 81,000	\$ 202,500	\$ 283,500		Excavate, load, haul and place borrow material to construct (i.e. access road and berms), operate (i.e. daily cover) and cap (i.e. 1.5 m cover) Mary River landfill as approved by Nunavut Water Board.
Prepare chemicals for shipping/disposal cost of hazardous material	\$ 41,400	\$ 76,725	\$ 118,125		Prepare hazardous material inventory for shipping. Disposal cost of hazardous material in the South (except hydrocarbon impacted soil which will be landfarmed) as detailed in the QE hazardous material inventory completed in Aug 2008.
Sewage lagoons at Mary River camp	\$ 21,647	\$ 2,803	\$ 24,450		The polishing/waste stabilization ponds will be decanted in 2009 and the solids left to dry. Excavate, load, haul and place dried solids at the on-site landfill. Liner is removed, cut and packaged. Remaining borrow material in the berms is re-contoured.
Sewage lagoons at Milne Inlet	\$ 2,400	\$ 6,000	\$ 8,400	\$ 434,475	The polishing/waste stabilization pond will be decanted in 2009 and the solids left to dry. Excavate, load, haul and place dried solids at the on-site landfill. Liner is removed, cut and packaged. Remaining borrow material in the berms is re-contoured.
<b>Hydrocarbon Impacted Soils</b>					
Hydrocarbon Impacted Soils	\$ 288,040	\$ 110,850	\$ 398,890	\$ 398,890	Collect and test soil samples including bedding material inside liner of Milne Inlet fuel storage area. Operate oil/water separation and activated carbon at Milne Inlets bermed/lined landfarm each year for 3 years. Till hydrocarbon impacted soil each year for 3 years. Mobilize/demobilize workers each year. Operate 2-person trailer for 2 months each year for 3 years. Freight community sealift backhaul in 2013 to remove liner, tilling equipment, and trailer. Third party consultant to verify site cleanup completion.

TABLE 7.1

BAFFINLAND IRON MINES CORPORATION  
MARY RIVER PROJECT

ESTIMATED COSTS FOR FINAL CLOSURE

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Components and Tasks	Labour	Equipment	Task Reclamation	Component Reclamation	Basis for Estimate
<b>General Site Area</b>					
General Site Area	\$ 495,000	\$ -	\$ 495,000	\$ 495,000	Assume 6 person civil contractor support staff (i.e. administration, supervisor(s), surveyor, etc) during reclamation period.
<b>Sealift Materials from Milne Inlet and Steensby Inlet to Montreal</b>					
Sea-lifts from Milne	\$ 23,400	\$ 1,418,335	\$ 1,441,735		Loading and vessel costs for 2 freight backhaul sealifts. Vessel cost for 1 bulk fuel backhaul sealift. Backhaul shipping volumes have been estimated based upon incoming sea lift volumes, airlift volumes, estimated consumption, estimated burn quantities and estimated landfill quantities. Loading from beach to ship & ship to dock included in vessel cost.
Sea-lifts from Steensby	\$ -	\$ 359,957	\$ 359,957		Vessel cost for 1 freight backhaul sealift on a cargo vessel used to supply regional communities. Backhaul shipping volumes have been estimated based upon incoming sea lift volumes, airlift volumes, estimated consumption, estimated burn quantities and estimated landfill quantities. Loading from beach to ship & ship to dock included in vessel cost.
Landfreight	\$ -	\$ 600,000	\$ 600,000	\$ 2,401,692	Land freight costs from regional centre to final destination assuming oversize trucks.
<b>Camp Operating Costs</b>					
Camp Operations during closure	\$ 1,145,970	\$ 2,891,110	\$ 4,037,080	\$ 4,037,080	Includes camp operations with support staff (i.e. cooks, dishwashers, labourers, bearmonitors, etc), food, commercial flights, fixed wing support from Iqaluit including fuel purchases. Miscellaneous helicopter support. Standby costs for equipment during decommissioning and shipment.
<b>Environmental Monitoring</b>					
Environmental Monitoring	\$ 240,600	\$ 326,500	\$ 567,100	\$ 567,100	Environmental supervision & reporting for 5 years during ongoing monitoring following final closure and includes annual site visits by two persons, water sampling (collection and testing) and helicopter support with a mobilization fee on each occasion.
<b>Salvage</b>					
Salvage	\$ -	\$ 1,459,203	\$ 1,459,203	\$ 1,459,203	Items of significant value such as the barge loader, large gensets, large equipment and the new trailers at Steensby that will be backhauled by sealift and items required to be removed from site such as the estimated 2.2 million litres of fuel backhauled by tanker ship will have salvage value. Equipment salvage was based on 50% of the depreciated fixed asset value projected to December 2009. Fuel salvage value was based on 25% of the fuel value assuming a \$1.11/litre bulk fuel cost.
<b>Total</b>				<b>\$ 10,583,928</b>	

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NOTES:

THE FOLLOWING ASSUMPTIONS HAVE BEEN MADE IN DEVELOPING THE COST ESTIMATE:

1. CONTRACTOR AND BAFFINLAND EQUIPMENT THAT ARE AT SITE AFTER THE COMPLETION OF THE BULK SAMPLE PROGRAM AND THE 2009 SEA-LIFTS WILL BE AVAILABLE TO CARRY OUT THE FINAL ABANDONMENT ACTIVITIES.
2. RECLAMATION IS CARRIED OUT BY A THIRD PARTY CONTRACTOR.
3. DEMOBILIZATION ACTIVITIES WILL BE COORDINATED WITH THE NUMEROUS COMMUNITY SEALIFTS PERFORMED EACH YEAR IN THE AREA.
4. A DEDICATED TANKER SHIP SEALIFT WILL BE USED TO REMOVE THE BULK FUEL FROM THE PROJECT.
5. THE MONTHLY COST TO OPERATE THE CAMP AT MARY RIVER DURING FINAL CLOSURE WILL BE BASED ON ACTUAL CAMP COSTS ESTIMATED FROM EXPERIENCE TO DATE.
6. THAT FUEL IS REPRESENTED AS A NON-CASH CONTRIBUTION TO THE EXECUTION OF CLOSURE.
7. PROGRESSIVE RECLAMATION TO BE COMPLETED IN 2009 IS AN OPERATIONAL COST AND THEREFORE NOT INCLUDED IN FINAL CLOSURE COSTS.
8. EQUIPMENT RATES ARE PRIMARILY \$125/HR. LABOUR RATES ARE PRIMARILY \$600/DAY. THE RATES DO NOT INCLUDE THE COST FOR FUEL. THE FUEL ON SITE HAS BEEN PAID FOR AND IS AVAILABLE FOR RECLAMATION ACTIVITIES.
9. BAFFINLAND CORPORATE OFFICE COSTS DURING ABANDONMENT, RECLAMATION AND POST-CLOSURE MONITORING ARE EXCLUDED FROM THE COST ESTIMATE.
10. NO CONTINGENCY IS APPLIED TO THE COST ESTIMATE.
11. NO COST ESCALATION OR INFLATION IS APPLIED TO THE COST ESTIMATE.
12. ALL SIGNIFICANT WORK IS ASSUMED TO BE COMPLETED IN 2009 AND 2010. SCHEDULE DELAY COULD ADD COST.

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REV	DATE	DESCRIPTION	PREPD	CHKD	APPD

TABLE 8.1

**BAFFINLAND IRON MINES CORPORATION  
MARY RIVER PROJECT**

**SUMMARY OF ESTIMATED COSTS FOR FINAL ABANDONMENT BASED ON THE RECLAIM MODEL**

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**SUMMARY OF COSTS**

**Capital Costs**

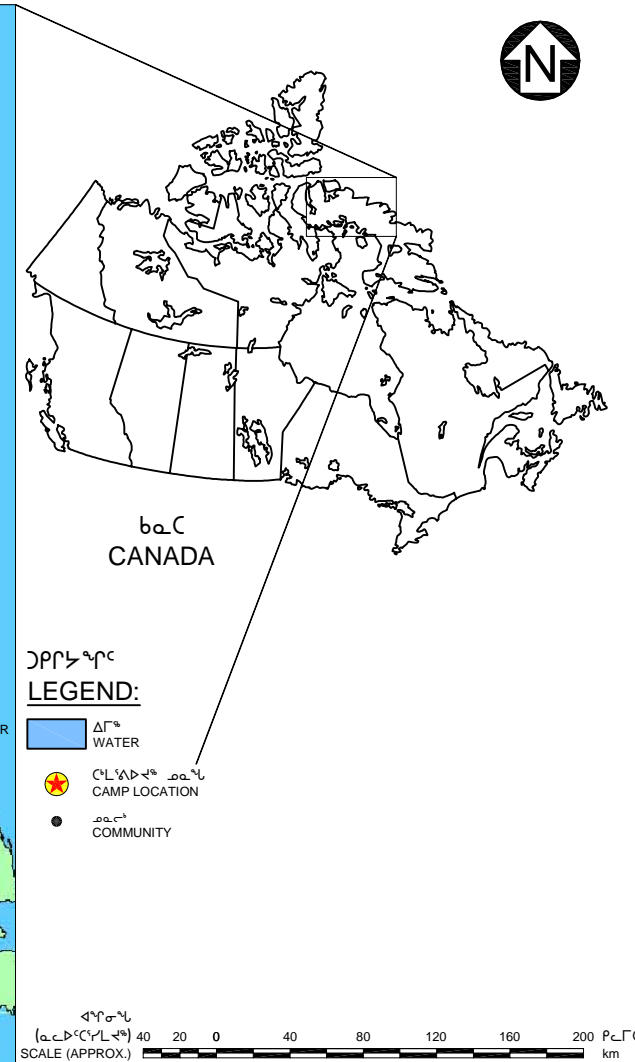
COMPONENT TYPE	COMPONENT NAME	TOTAL COST	Land Liability	Water Liability
OPEN PIT	Bulk Sample Pit	\$78,000.00	\$78,000	\$0
UNDERGROUND MINE	0	<b>NO UNDERGROUND MINE</b>		
TAILINGS	0	<b>NO TAILINGS FACILITY</b>		
ROCK PILE	0	\$31,994.00	\$31,994	\$0
BUILDINGS AND EQUIPMENT	0	\$1,521,716.80	\$1,395,794	\$125,923
CHEMICALS AND SOIL MANAGEMENT	0	\$737,567.00	\$698,191	\$39,376
WATER MANAGEMENT	0	\$1,507.50	\$0	\$1,508
POST-CLOSURE SITE MAINTENANCE		\$171,725.38	\$80,139	\$91,587
<b>SUBTOTAL</b>		<b>\$2,542,511</b>	<b>\$2,284,118</b>	<b>\$258,393</b>
<b>Percentages</b>				
MOBILIZATION/DEMobilIZATION	0	\$4,812,527		
MONITORING AND MAINTENANCE	0	\$524,000		
SALVAGE		\$1,459,203		
PROJECT MANAGEMENT - Project Management costs have already been included in the Monitoring and Maintenance costs				
ENGINEERING	3 %	\$76,275		
CONTINGENCY	10 %	\$254,251		
<b>TOTAL</b>		<b>\$6,750,361</b>		

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**NOTE:**

1. TABLE DEVELOPED BASED RECLAIM MODEL 5.1 FORMAT.

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**MARY RIVER PROJECT**

**PROJECT LOCATION MAP**

	P/A NO. NB102-00181/15	REF. 1	REV. 0
	<b>FIGURE 1.1</b>		





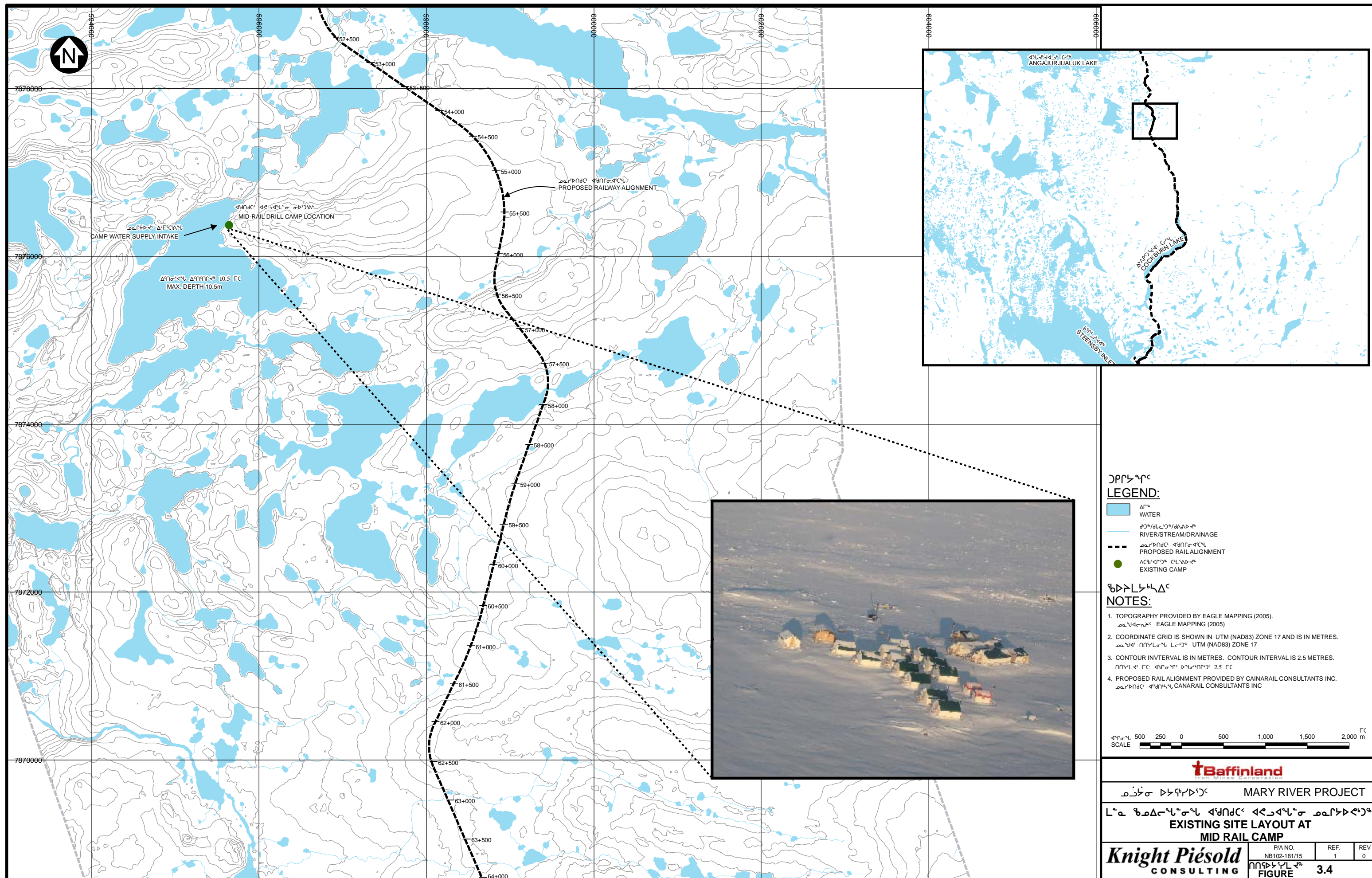
















**APPENDIX A**

**RECLAIM MODEL RESULTS**

(Pages A-1 to A-20)

**SUMMARY OF COSTS****Capital Costs**

<b>COMPONENT TYPE</b>	<b>COMPONENT NAME</b>	<b>TOTAL COST</b>	<b>Land Liability</b>	<b>Water Liability</b>
OPEN PIT	Bulk Sample Pit	\$78,000.00	\$78,000	\$0
<del>UNDERGROUND MINE</del>	0	<b>NO UNDERGROUND MINE</b>		
<del>TAILINGS</del>	0	<b>NO TAILINGS FACILITY</b>		
ROCK PILE	0	\$31,994.00	\$31,994	\$0
BUILDINGS AND EQUIPMENT	0	\$1,521,716.80	\$1,395,794	\$125,923
CHEMICALS AND SOIL MANAGEMENT	0	\$737,567.00	\$698,191	\$39,376
WATER MANAGEMENT	0	\$1,507.50	\$0	\$1,508
POST-CLOSURE SITE MAINTENANCE		\$171,725.38	\$80,139	\$91,587
<b>SUBTOTAL</b>		<b>\$2,542,511</b>	<b>\$2,284,118</b>	<b>\$258,393</b>
<b>Percentages</b>				
MOBILIZATION/DEMOBILIZATION	0	\$4,812,527		
MONITORING AND MAINTENANCE	0	\$524,000		
SALVAGE		\$1,459,203		
PROJECT MANAGEMENT - Project Management costs have already been included in the Monitoring and Maintenance costs				
ENGINEERING	3 %	\$76,275		
CONTINGENCY	10 %	\$254,251		
<b>TOTAL</b>		<b>\$6,750,361</b>		

Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to

Mary River already accounted

1

Open Pit Name: Bulk Sample Pit Pit # 1

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
A OBJECTIVE: CONTROL ACCESS								
. • Controlled access is not required.								
B OBJECTIVE: STABILIZE SLOPES								
. • Slopes were stabilized in 2008 (see Mr. Martin van Rooy - Mine Inspector with the Nunavut WSCC Report dated September 22 and 23, 2008).								
C OBJECTIVE: COVER/CONTOUR SLOPES								
. • Weathered shallow bulk sample pit will not require capping. The results from the 2008 environmental geochemical testing program and short term leach tests have demonstrated that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material sampled. Any seepage observed below the weathered ore stockpile during follow-up monitoring will be sampled and tested for general chemistry and metals during the annual post-closure site visits.								
. OBJECTIVE: SPILLWAY								
. • Spillway is not required at this site as pit is self-draining. The bulk sample pit was confirmed by land survey at its completion in 2008 to be free draining								
E OBJECTIVE: FLOOD PIT								
. • Shallow pit is self draining and thus will not be flooded.								
F RECLAIM QUARRIES								
. Recontour borrow areas and quarries as required using dozer	m3	40000	DRh	1.95	\$78,000	100%	\$78,000	\$0
H OTHER ITEMS								
.								
Subtotal					\$78,000	100%	\$78,000	\$0
					Total Pit	Percent Land	Total Land	Total Water

Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to Mary River already accounted for.

1	Underground Mine Name _____	UG Mine #	1					
ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
<b>A OBJECTIVE: CONTROL ACCESS</b>								
Fence	m		#N/A	0	\$0		\$0	\$0
. Signs	each		#N/A	0	\$0		\$0	\$0
. Ditch, mat'l A	m3		#N/A	0	\$0		\$0	\$0
. , mat'l B	m3		#N/A	0	\$0		\$0	\$0
. Berm	m3		#N/A	0	\$0		\$0	\$0
. Block adits	m3		#N/A	0	\$0		\$0	\$0
. Cap shaft	m3		#N/A	0	\$0		\$0	\$0
. Cap raise #1	m3		#N/A	0	\$0		\$0	\$0
. Cap raise #2	m3		#N/A	0	\$0		\$0	\$0
. Backfill adits	m3		#N/A	0	\$0		\$0	\$0
. Backfill shaft	m3		#N/A	0	\$0		\$0	\$0
. Backfill raise #1	m3		#N/A	0	\$0		\$0	\$0
. Backfill raise #2	m3		#N/A	0	\$0		\$0	\$0
. Backfill open stopes	m3		#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>B OBJECTIVE: STABILIZE GROUND SURFACE</b>								
. Backfill mine			#N/A	0	\$0		\$0	\$0
. Collapse crown pillar	m3		#N/A	0	\$0		\$0	\$0
. Contour, mat'l	m3		#N/A	0	\$0		\$0	\$0
. , mat'l B	m3		#N/A	0	\$0		\$0	\$0
. Maintain debris pile "WITC" (U/G/MAINTENANCE" costing component)			#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>C OBJECTIVE: CLOSURE</b>								
. Plug adits	m3		#N/A	0	\$0		\$0	\$0
. Plug drillholes to surface	each		#N/A	0	\$0		\$0	\$0
. Grouting	m3		#N/A	0	\$0		\$0	\$0
. Lime addition, kg/m3 of water	tonne		#N/A	0	\$0		\$0	\$0
. Truck waste from Milne Inlet Camp to Mary River Camp for landfilling	tonne		#N/A	0	\$0		\$0	\$0
<b>D OBJECTIVE: HAZARDOUS MATERIALS</b>								
. remove hazardous materials	each		#N/A	0			\$0	\$0
. remove/decontam. equipment	each		#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>E SPECIALIZED ITEMS</b>								
.			#N/A	0	\$0		\$0	\$0
Subtotal					\$0	#DIV/0!	\$0	\$0
					Total U/G	Percent Land	Total Land	Total Water



1 Tailing Impoundment Name: \_\_\_\_\_ Impoundment # 1

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
<b>A OBJECTIVE: CONTROL ACCESS</b>								
Fence	m		#N/A	0	\$0		\$0	\$0
. Signs	each		#N/A	0	\$0		\$0	\$0
. Ditch, mat'l A	m3		#N/A	0	\$0		\$0	\$0
. , mat'l B	m3		#N/A	0	\$0		\$0	\$0
. Berm	m3		#N/A	0	\$0		\$0	\$0
. Block roads	m3		#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>B OBJECTIVE: STABILIZE EMBANKMENT</b>								
. 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
. Raise crest	m3		#N/A	0	\$0		\$0	\$0
. Flatten slopes	m3		#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>C OBJECTIVE: COVER TAILINGS</b>								
. Soil cover	m3		#N/A	0	\$0		\$0	\$0
. Rip rap	m3		#N/A	0	\$0		\$0	\$0
. Vegetate			#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>D OBJECTIVE: FLOOD TAILINGS</b>								
. Ditch, mat'l A			#N/A	0	\$0		\$0	\$0
. , mat'l B			#N/A	0	\$0		\$0	\$0
. Raise crest	m3		#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>E OBJECTIVE: TAILINGS SUPERNATANT</b>								
. Truck waste from Mary River Camp to Mary River Camp for landfilling	m3		#N/A	0	\$0		\$0	\$0
. Supply reagents	tonne		#N/A	0	\$0		\$0	\$0
. Operate treatment plant	m3		#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>F OBJECTIVE: UPGRADE SPILLWAY</b>								
. 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
<b>G OBJECTIVE: STABILIZE DECANT SYSTEM</b>								
. Remove	m3		#N/A	0	\$0		\$0	\$0
. Plug/backfill	m3		#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>H OBJECTIVE: REMOVE TAILINGS DISCHARGE</b>								
. Cyclones	m3		#N/A	0	\$0		\$0	\$0
. Pipe	m3		#N/A	0	\$0		\$0	\$0
. Other			#N/A	0	\$0		\$0	\$0
<b>I SPECIALIZED ITEMS</b>								
.			#N/A	0	\$0			\$0
Subtotal					\$0	#DIV/0!	\$0	\$0
					Total Tailings	Percent Land	Total Land	Total Water

1 **Rock Pile Name:** \_\_\_\_\_ **Rock Pile #:** 1

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
<b>A OBJECTIVE: STABILIZE SLOPES</b>								
<ul style="list-style-type: none"> <li>The surficial weathered ore stockpiled at top of Deposit No. 1 (approximately 28,000 t) and the weathered ore roadbed between the stockpile and the pit has been progressively reclaimed and is expected to be physically stable in the long term.</li> <li>The approximately 6,000 t of representative (i.e. ore grade) material left in the bulk sample pit was contoured and left in a stable and free draining state at the end of the 2008 field season.</li> <li>The non-representative ore (approx. 25,000 t) stockpiled at the Mary River crusher site will be re-graded as required to ensure the area is physically stable.</li> <li>The stockpile of representative ore (approx. 6,000t) at Milne Inlet will be re-graded as required over the non-representative ore pad (approx. 24,000 t) to ensure the area is physically stable and covered in 0.3 m of locally available borrow material for aesthetics purposes and to prevent dusting of the beach head.</li> </ul>								
Bulldoze/trim non-representative ore stockpiled at Mary River crusher site	m3	2000	DSI	0.78	\$1,560	100%	\$1,560	\$0
Bulldoze/trim stockpile of representative ore and the non-representative ore pad at Milne Inlet	m3	2300	DSI	0.78	\$1,794	100%	\$1,794	\$0
<b>B OBJECTIVE: COVER DUMP</b>								
<ul style="list-style-type: none"> <li>It has been demonstrated from the 2008 environmental geochemical testing program that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material in the i) weathered ore stockpiled on the Deposit No. 1, ii) non-representative ore stockpiled at the Mary River crusher site and the stockpile pad at Milne Inlet, and iii) representative ore left exposed in the bench walls of the pit and stockpiled at Milne Inlet.</li> <li>The stockpile of representative ore (approx. 6,000t) at Milne Inlet will be re-graded as required over the non-representative ore pad (approx. 24,000 t) to ensure the area is physically stable and covered in 0.3 m of locally available borrow material for aesthetics purposes and to prevent dusting of the beach head.</li> </ul>								
Excavate, load, haul and place 0.3m borrow cover over representative and non-representative ore at Milne Inlet	m3	3200	SB4h	8.95	\$28,640	100%	\$28,640	\$0
<b>C OBJECTIVE: RELOCATE DUMPS</b>								
<ul style="list-style-type: none"> <li>Not applicable. Stockpiles will not be relocated. It has been demonstrated from the 2008 environmental geochemical testing program that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material in the i) weathered ore stockpiled on the Deposit No. 1, ii) non-representative ore stockpiled at the Mary River crusher site and the stockpile pad at Milne Inlet, and iii) representative ore left exposed in the bench walls of the pit and stockpiled at Milne Inlet.</li> </ul>								
<b>D OBJECTIVE: COLLECT AND TREAT</b>								
<ul style="list-style-type: none"> <li>Not applicable. It has been demonstrated from the 2008 environmental geochemical testing program that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material in the i) weathered ore stockpiled on the Deposit No. 1, ii) non-representative ore stockpiled at the Mary River crusher site and the stockpile pad at Milne Inlet, and iii) representative ore left exposed in the bench walls of the pit and stockpiled at Milne Inlet. Any seepage observed below the weathered ore stockpile during follow-up monitoring will be sampled and tested for general chemistry and metals during the annual post-closure site visits.</li> </ul>								
<b>E OBJECTIVE: DEVELOP WETLAND</b>								
<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>								
<b>F SPECIALIZED ITEMS</b>								
<ul style="list-style-type: none"> <li>Not applicable.</li> </ul>								
Subtotal					\$31,994	100.0%	\$31,994	\$0
					Total for Rock Pile	Percent Land	Total Land	Total Water

Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to Mary River already accounted for.

**Building / Equip Name: \_\_\_\_\_ Bldg / Equip #: 1**

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
<b>A OBJECTIVE: DISPOSE MOBILE EQUIPMENT (Decontaminate and ship)</b>								
Demobilize mobile equipment to Milne Inlet - 100km by road (cost is included in Activity G)								
Demobilize mobile equipment at Rail Camp to Mary River - by helicopter	\$/hr	3	MHEA	1500	\$4,500	100%	\$4,500	\$0
<b>B OBJECTIVE: DISPOSE STATIONARY EQUIPMENT (Decontaminate and ship)</b>								
Demobilize stationary equipment to Milne Inlet - 100km by road - generators, sewage treatment plant, etc. (cost is included in Activity G)								
Demobilize stationary equipment at Rail Camp to Mary River camp by helicopter - generators, incinerator, etc.	\$/hr	6	MHEA	1500	\$9,000	100%	\$9,000	\$0
<b>C OBJECTIVE: DISPOSE ORE CONCENTRATION EQUIPMENT (Decontaminate and ship)</b>								
• There will be no ore concentration equipment at site								
<b>D OBJECTIVE: DISPOSE WATER TREATMENT EQUIPMENT (Decontaminate and ship)</b>								
Remove plumbing	m	1300	PPSI	0.5	\$650	100%	\$650	\$0
<b>E OBJECTIVE: DECONTAMINATE BUILDINGS &amp; TANKS (and transport to Milne Inlet)</b>								
Camp (Mary River Camp, Milne Inlet, Mid-way, Rail Camp, Steensby Camp and temp. drill camps)	person-days	250	#N/A	600	\$150,000	100%	\$150,000	\$0
Drain, fold, and containerize Mary River and Milne Inlet bulk fuel bladders	L.S.	1	#N/A	75,000	\$75,000	100%	\$75,000	\$0
Remove and package geomembrane liners	m3	6000	SB2h	5.97	\$35,820	100%	\$35,820	\$0
Decontaminate buried concrete sewage system tank in A-Lot	person-days	4	#N/A	600	\$2,400	100%	\$2,400	\$0
<b>F OBJECTIVE: MOTHBALL BUILDINGS</b>								
• No buildings (mothball) will remain								
Airstrips will remain (inspect and repair any erosion) and remove temporary airstrip lighting at Mary River	m3	6000	DSI	0.78	\$4,680	100%	\$4,680	\$0
<b>G OBJECTIVE: REMOVE BUILDINGS (to Milne Inlet)</b>								
Mary River camp	m2	10000	BRW1I	21.5	\$215,000	100%	\$215,000	\$0
Truck approx. 160 containers to Milne Inlet	\$/km/160 pcs	32000	MHERI	2.81	\$89,920	100%	\$89,920	\$0
Milne Inlet camp	m2	5000	BRW1I	21.5	\$107,500	100%	\$107,500	\$0
Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to Mary River already accounted for.	\$/km/50 pcs	0	MHERI	2.81	\$0	100%	\$0	\$0
Refuge stations	m2	200	BRW1I	21.5	\$4,300	100%	\$4,300	\$0
Decommission remote sites and mineral exploration areas (helicopter support included in mobilization costs)	m2	2750	BRS1h	52.8	\$145,200	100%	\$145,200	\$0
Remove boneyard waste to landfill	m3	500	SB1h	4.85	\$2,425	100%	\$2,425	\$0
Rail Camp	m2	1000	BRW1I	21.5	\$21,500	100%	\$21,500	\$0
Transport material from Rail Camp to Mary River	\$/hr	51	MHEA	1500	\$76,500	100%	\$76,500	\$0
Steensby Camp	m2	1500	BRW1I	21.5	\$32,250	100%	\$32,250	\$0
<b>H OBJECTIVE: BREAK BASEMENT SLABS</b>								
• No concrete slabs are present. The camp structures are founded on wooden floor systems.								
<b>I OBJECTIVE: REMOVE BURIED TANKS</b>								
Demolish buried concrete sewage system tank in A-Lot	m3	500	RB1I	9.35	\$4,675	100%	\$4,675	\$0
Remove demolished concrete sewage system tank in A-Lot to landfill	m3	500	SB1h	4.85	\$2,425	100%	\$2,425	\$0

Building / Equip Name: \_\_\_\_\_ Bldg / Equip #: 1

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
J OBJECTIVE: LANDFILL FOR DEMOLITION WASTE								
Excavate, load, haul and place borrow material to construct landfill -								
including access road, berms, operations	m3	21,000	SB3h	5.31	\$111,510	100%	\$111,510	\$0
Placement of waste materials into landfill	m3	15400	SB3h	5.31	\$81,774	100%	\$81,774	\$0
Apply cover over landfill	m3	18000	SB3h	5.31	\$95,580	100%	\$95,580	\$0
K OBJECTIVE: GRADE AND CONTOUR								
Recontour camp site areas as required (using dozer)	m3	12500	DSH	3.11	\$38,875	100%	\$38,875	\$0
L OBJECTIVE: RECLAIM ROADS								
• There was an existing tote road and will remain at abandonment.								
Remove 10 navigatable water crossings - 30 days x crew of 6	person-days	180	#N/A	600	\$108,000	0%	\$0	\$108,000
Excavate, load and haul to landfill/Milne Inlet	m3	1702	SB11	3.2	\$5,446	0%	\$0	\$5,446
Additional cost to haul sea containters, culverts, etc 60km to								
landfill/Milne Inlet	\$/load/km	4440	MHERI	2.81	\$12,476	0%	\$0	\$12,476
Grade and contour road surfaces using dozer	m3	40000	DSI	0.78	\$31,200	100%	\$31,200	\$0
K SPECIALIZED ITEMS								
Borrow material royalty fees from reclamation activities net of								
borrow material removed from existing bermed facilities	t	21244	#N/A	2.5	\$53,110	100%	\$53,110	\$0

Subtotal	\$1,521,717	91.7%	\$1,395,794	\$125,923
	Total Buildings	Percent Land	Total Land	Total Water

**Chemicals and Soil Contamination:****1**

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
<b>Note:</b> 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.								
A LABORATORY CHEMICALS								
· Miscellaneous	pallet	2	LCRh	2320	\$4,640	100%	\$4,640	\$0
B PCB, hauling								
· • No PCB's								
C FUEL								
Fuel - Return excess fuel at Mary River to Milne (approx 300,000L)								
· Road is 100km long.	\$/km/10 loads	2000	MHERI	2.81	\$5,620	100%	\$5,620	\$0
· Transfer fuel from Milne Inlet fuel farm to tanker	L.S.	1	#N/A	18,000	\$18,000	100%	\$18,000	\$0
D WASTE OIL								
· Prepare hazardous materials for shipping	L.S.	1	#N/A	67,000	\$67,000	100%	\$67,000	\$0
Oils/lubricants - transported to Milne Inlet. Progressive reclamation in 2008 has reduced volume to dispose of at abandonment.								
	litre	592,000	ORI	0.35	\$207,200	100%	\$207,200	\$0
E PROCESS OR TREATMENT CHEMICALS								
· • None								
F EXPLOSIVES								
· Transport explosives magazines to Milne Inlet	\$/km/3 pcs	600	MHERH	8.42	\$5,052	100%	\$5,052	\$0
G CONTAMINATED SOILS								
Operate Oil water separation/activated carbon at Milne Inlets								
· bermed/lined landfarm each year for 3 years	L.S.	1	#N/A	1E+05	\$115,500	100%	\$115,500	\$0
· Till hydrocarbon impacted soil each year for 3 years.	m3	3750	CSRI	38.5	\$144,375	100%	\$144,375	\$0
Remove GM fuel lines and package for sealift backhaul (cost is included in Activity E of Bldgs & Equip worksheet)								
· Recontour surface (included in Activity K of Bldgs & Equip worksheet)								
Freight community sealift backhaul in 2013 to remove liner, tilling equipment (i.e. loader with tiller drag), and trailer								
· MOB workers	L.S.	1	#N/A	30000	\$30,000		\$0	\$30,000
· Operate 2-person trailer for 2 months each year for 3 years	person	24	MM<h	990	\$23,760	90%	\$21,384	\$2,376
· Third Party Consultant to verify site cleanup completion	month	6	ACCMI	1320	\$7,920	100%	\$7,920	\$0
Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to Mary River already accounted for.	L.S.	1	#N/A	7000	\$7,000		\$0	\$7,000
H Haz. Mat. testing & assessment								
· Technician and analyses	L.S.	1	#N/A	50000	\$50,000	100%	\$50,000	\$0
OTHER								
· Haz. Mat. waste disposal fee	L.S.	1	#N/A	51500	\$51,500	100%	\$51,500	\$0
Subtotal					\$737,567	94.7%	\$698,191	\$39,376
					Total Chemical	Percent Land	Total Land	Total Water

1 **Water Management Project:** \_\_\_\_\_ **Project # 1**

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
A OBJECTIVE: STABILIZE EMBANKMENT								
. • No embankment								
B OBJECTIVE: UPGRADE SPILLWAY								
. • No spillway								
C OBJECTIVE: STABILIZE SEDIMENT CONTAINMENT PONDS								
. Sludge removal	m3	150	SB1h	4.85	\$728	0%	\$0	\$728
. Regrade two sediment containment ponds with dozer	m3	1000	DSI	0.78	\$780	0%	\$0	\$780
D OBJECTIVE: BREACH EMBANKMENT								
. • No embankment								
E OBJECTIVE: STABILIZE DITCHES								
. • No ditches								
F OBJECTIVE: BREACH DITCHES								
. • No ditches								
G OBJECTIVE: REMOVE PIPELINES								
. • Remove pipes - Included in Activity E of Bldgs & Equip worksheet								
H OBJECTIVE: REMOVE STORAGE TANKS								
. • Remove tanks & plumbing - Included in Activity D of Bldgs & Equip worksheet								
I OBJECTIVE: COLLECT DRAINAGE FOR TREATMENT								
. • No ongoing treatment required								
J Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to Mary River already accounted for.								
. • No treatment plant necessary								
<b>Subtotal</b>					\$1,508	0.0%	\$0	\$1,508
					Total	Percent	Total	Total
					Water	Land	Land	Water

1 Mobilization Name: _____			Mob # 1 _____						
ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost	
A MOBILIZE HEAVY EQUIPMENT									
Equipment to regional centre									
Community sealift for materials from Milne Inlet and Steensby Inlet to Montreal requiring off-site salvage or disposal.	L.S.	1	#N/A	2E+06	\$1,550,000	100%	\$1,550,000	\$0	
Bulk fuel backhaul sealift from Milne	L.S.	1	#N/A	260000	\$260,000	100%	\$260,000	\$0	
Land freight from regional centre	L.S.	1	#N/A	600000	\$600,000	100%	\$600,000	\$0	
Equipment, regional centre to site									
• Sufficient equipment on site from bulk sample program for reclamation activities - NUNA/QC/BIM									
Standby costs for equipment (during decommissioning and shipment)	L.S.	1	#N/A	800000	\$800,000	100%	\$800,000	\$0	
B MOBILIZE CAMP									
• Use existing camp for reclamation									
C MOBILIZE WORKERS									
MOB workers (212 flights accounting for rotations)	person	212	MM>h	1320	\$279,840	90%	\$251,856	\$27,984	
D MOBILIZE MISC. SUPPLIES									
• Sufficient supplies remain from bulk sample program for reclamation activities									
Helicopter Support	hours	450	#N/A	1500	\$675,000	90%	\$607,500	\$67,500	
E MOBILIZE & HOUSE WORKERS person days									
Operate 40-person camp for 5 months	month	200	ACCMI	1320	\$264,000	100%	\$264,000	\$0	
WINTER ROAD									
Operate Milne Inlet Tote Road during reclamation	km	100	WRh	2620	\$262,000	100%	\$262,000	\$0	
F BONDING									
2.5 basis points of total bond amount	0.00025	1	#N/A	1687.4	\$1,687	100%	\$1,687	\$0	
G Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to Mary River already accounted for.									
	L.S.	1	#N/A	20000	\$20,000	100%	\$20,000	\$0	
H INSURANCE lump sum									
	L.S.	1	#N/A	100000	\$100,000	100%	\$100,000	\$0	
Subtotal						\$4,812,527	98.0%	\$4,717,043	\$95,484
					Total Mob.	Percent Land	Total Land	Total Water	

**Monitoring & Maintenance****Mon / Mtce # 1**

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
A OBJECTIVE: INSPECTIONS								
. Site supervision during final abandonment	L.S.	1	#N/A	495000	\$495,000	100%	\$495,000	\$0
. Water sampling	year	1	WSh	9000	\$9,000	0%	\$0	\$9,000
. Additional water sampling costs per year	year	1	WSh	9000	\$9,000	0%	\$0	\$9,000
. Reporting	report	1	RPT	11000	\$11,000	80%	\$8,800	\$2,200

## B OBJECTIVE: MAINTENANCE

- Except for the landfarm (see Activity G in Chemicals worksheet) no items will remain that need to be maintained post-closure.

Subtotal	\$524,000	96.1%	\$503,800	\$20,200
	Total Pit	Percent Land	Total Land	Total Water

Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to Mary River already accounted for.



**Post-Closure Site Maintenance**

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
<b>A WATER TREATMENT</b>								
<ul style="list-style-type: none"> <li>Not Applicable. On-going water treatment will not occur. Shallow pit areas will remain free draining. The results from the 2008 environmental geochemical testing program and short term leach tests have demonstrated that there is virtually no potential for enhanced release of acidity or metals in response to oxidative weathering of the material sampled.</li> </ul>								
<b>B Cover Maintenance</b>								
<ul style="list-style-type: none"> <li>Cover material on the site is not required except for the landfill. A cover (1.5m) will be placed on the landfill with gentle slopes. Ongoing problems with erosion and integrity is not anticipated. However, the cover will be inspected every year for 5 years post closure (SEE BELOW).</li> </ul>								
<b>C Spillway Maintenance</b>								
<ul style="list-style-type: none"> <li>Not applicable. No spillways to maintain.</li> </ul>								
<b>D Other</b>								
Annual site visits (4 years post closure)	visit	2	Vlh	7100	\$14,200	80%	\$11,360	\$2,840
Annual reporting (4 years post closure)	report	1	RPT	11000	\$11,000	80%	\$8,800	\$2,200
Annual water sampling (43 samples; 4 years post closure)	year	1	WSh	9000	\$9,000	0%	\$0	\$9,000
Additional water sampling costs per year		1	WSh	9000	\$9,000	0%	\$0	\$9,000
Subtotal, Annual post-closure costs					\$43,200		\$20,160	\$23,040
Discount rate for calculation of net present value of post-closure cost, %			0.25%				\$0	
Number of years of post-closure activity			4	years			\$0	
Present Value of payment stream					\$171,725	46.7%	\$80,139	\$91,587
					Total Post closure	Percent Land	Total Land	Total Water

Truck waste from Milne Inlet Camp to Mary River Camp for landfilling. Backhaul from Milne to Mary River already accounted for.

**WATER TREATMENT COSTS****ANNUAL VOLUME OF WATER (m3)** \_\_\_\_\_**Reagent addition rates**

<b>Reagent</b>	<b>kg reagent/m3 water</b>	<b>cost in \$/kg, FOB site</b>	<b>Annual reagent cost</b>
H2O2	0.1 kg/m3	1.5	\$0
lime	kg/m3	0.45	\$0
ferric sulphate	kg/m3		\$0
ferrous sulphate	kg/m3		\$0
flocculents	kg/m3		\$0
<b>TOTAL</b>			<b>\$0</b>

**Supplies and Labour**

power, kW-hr	0 rate, \$/kW-h	\$0
misc. supplies, hoses, tools		\$0
sampling equip.		\$0
equip. maintenance and parts		\$0
water analysis		\$0
reporting		\$0
truck rental		\$0
annual mileage		\$0
road maintenance & spot cleaning		\$0
electrician/mechanic to repair plant & power supply		\$0
<b>Annual cost</b>		<b>\$0</b>
labor hourly rate	35	
men per day for water treatment work		1
on site, days per year		0
spring/fall maintenance, extra work		0
hours worked per year		0
Truck waste from Milne Inlet		\$0
<b>annual labor cost</b>		<b>\$0</b>
<b>Total, labour and suppli</b>		<b>\$0</b>
<b>TOTAL ANNUAL COSTS, reagents plus labour and supplies</b>		<b>\$0</b>
<b>Average treatment cost, \$/m3</b>		<b>\$0.00</b>

<b>Water analyses</b>	
samples per month	10
analysis cost/sample	100
shipping	200
<b>Total Water Sampling</b>	<b>1200</b>

<b>Site Access</b>	
<b>annual site access cost</b>	
road	\$0
air	\$0
winter road	\$0

## Unit Cost Table

ITEM	Detail	COST CODE	UNITS	LOW \$	HIGH \$	SPECIFIED \$	COMMENTS
<b>1 excavate Rock, Bulk</b>							
	drill, blast, load						
	short haul (<500m) Dump	RB1	m3	9.35	14	#N/A	quarry operations for bulk fill
	RB1 + long haul, up to 1500 m	RB2	m3	9.9	14.6	#N/A	
	RB1 + spread and compact	RB3	m3	9.9	14.6	#N/A	
	RB1 + long haul + spread and compact	RB4	m3	10.45	25.25	#N/A	
	RB1 + Specified activity	RBS	m3	#N/A	#N/A	#N/A	
<b>2 excavate Rock, Controlled</b>							
	drill, blast, load						
	short haul (<500m) Dump	RC1	m3	22	33	#N/A	spillway excavation
	RC1 + long haul, up to 1500 m	RC2	m3	10.45	15.1	#N/A	
	RC1 + spread and compact	RC3	m3	9.9	14.6	#N/A	
	RC1 + long haul + spread and compact	RC4	m3	11.1	15.73	#N/A	
	RC1 + Specified activity	RCS	m3	#N/A	#N/A	145	\$145/M3-drift excavation
<b>3 excavate Soil, Bulk</b>							
	excavate, load						
	short haul (<500m) dump	SB1	m3	3.2	4.85	#N/A	LOW cost: excavation of loose soil, high volume
	SB1 + long haul, up to 1500 m	SB2	m3	3.98	5.97	#N/A	LOW cost: excavation of loose soil, 1.5 km haul, high volume
	SB1 + spread and compact	SB3	m3	3.7	5.31	#N/A	
	SB1 + long haul + spread and compact	SB4	m3	4.5	8.95	#N/A	LOW cost: excavation of loose soil, 1.5 km haul, high volume, const. of simple soil cover
	SB1 + Specified activity	SBS	m3	2.31	6.38	10.95	LOW cost: rehandle waste rock dump into pit, >500,000 m3, 2 km haul SPECIFIED cost: rehandle waste rock, haul 3 km, place & compact on dam
	Soil, tailings	SBT	m3	3.03	7.15		LOW cost: doze tailings, HIGH cost: excavate & short haul
<b>4 excavate Soil, Controlled</b>							
	excavate, load						
	short haul (<500 m), dump	SC1	m3	5.61	7.65	#N/A	
	SC1 + long haul, up to 1500 m	SC2	m3	6.95	9.64	#N/A	
	SC1 + spread and compact	SC3	m3	5.61	11.66	#N/A	HIGH cost: for simple soil covers
	SC1 + long haul + spread and compact	SC4	m3	6.3	19.05	#N/A	HIGH cost: for complex covers & dam construction, spillway repair, LOW volume
	Truck w/SC1 + Specified activity	SCS	m3	#N/A	#N/A	15.75	SPECIFIED cost: backfill adit with waste rock
<b>Geo-synthetics</b>							
	geotextile, filter cloth	GST	M2	0.99	1.98	#N/A	FOB Edmonton, add shipping & installation
	geogrid	GSG	M2	4.73		#N/A	

## Unit Cost Table

ITEM	Detail	COST CODE	UNITS	LOW \$	HIGH \$	SPECIFIED \$	
	liner, HDPE	GSHDPE M2		5.89		#N/A	
	liner, PVC	GSPVC M2				#N/A	
	geosynthetic installation	GSI m2		0.83	1	#N/A	
	bentonite soil ammendment	GSBA tonne		253	286	#N/A	FOB Edmonton, add shipping & mixing
<b>Shaft, Raise &amp; Portal Closures</b>							
	Shaft & Raises	SR m2		530	1750	#N/A	LOW cost: pre-cast concrete slabs, little site prep. HIGH cost: for hand construction, remote site
	Portals	POR m3			205	1000	HIGH cost: for excavate & backfill collapsed portal SPECIFIED cost: installed pressure plug
<b>5 Concrete work</b>							
	Small pour, no forms	CS m3		297	595	#N/A	
	Large pour, no forms	CL m3		235	350	#N/A	
	Small pour, Formed	CSF m3		350	1750	#N/A	
	Large pour, Formed	CLF m3		290	410	#N/A	
<b>6 Vegetation</b>							
	Hydroseed, Flat	VHF ha		1595	4950	#N/A	
	Hydroseed, Sloped	VHS ha		1848	5555	#N/A	
	veg. Blanket/erosion mat	VB ha		11000	13200	#N/A	
	Tree planting	VT ha		11000	13200	#N/A	
	Wetland species	VW ha		55000	82500	#N/A	
<b>7 Pumps</b>							
	Small, <	PS each		3000	6000	#N/A	
	Large, >	PL each		5000	100000	#N/A	large - 250 hp Gould w/diesel motor
<b>8 PiPes</b>							
	Small, < 6 inch diameter	PPS m		0.5	5	#N/A	LOW cost: pipe removal, HIGH cost: supply new pipe SPECIFIED: small, heat traced & insulated pipe
	Large, > 6 inch diameter	PPL m		1	180	#N/A	LOW cost: pipe removal, HIGH cost: supply 24" 100 psi HDPE pipe, FOB Edm.  add shipping & installation

## Unit Cost Table

ITEM	Detail	COST CODE	UNITS	LOW \$	HIGH \$	SPECIFIED \$
9	pump sand BackFill	BF	m3	5.5	16.5	#N/A
10	Fence	F	m	11	165	#N/A
11	Signs	S	each	11	33	#N/A
12	rock, Drill and Blast only	DB	m3	11	22	#N/A
	(flatten slope, collapse drift)					
13	excavate Rip Rap					
	drill, blast, load short haul (<500 m) dump and spread	RR1	m3	10.95	16.35	#N/A
	RR1 + long haul	RR2	m3	11.1	16.95	#N/A
	excavate rock from waste dump, short haul, spread	RR3	m3	4.2	5.78	#N/A
	RR3 + long haul	RR4	m3	4.68	6.25	#N/A
	specified rip rap source	RR5	m3	#N/A	#N/A	#N/A
14	Import LimeStone	ILS	tonne	8.8	13.2	#N/A
15	Import LiMe	ILM	tonne	165	495	#N/A
						LOW cost: bulk shipping, high volume, FOB Vancouver/Edmonton HIGH cost: bags delivered to central Yukon, small volume
16	Grouting	G	m3	198	240	#N/A
						HIGH cost: cement, FOB Yellowknife
17	Dozing					
	doze Rock piles	DR	m3	0.85	1.95	#N/A
	doze overburden/Soil piles	DS	m3	0.78	3.11	#N/A
						HIGH cost: push up to 300 m
18						
	regrade	DRE	hr			300
						#N/A
19						
						#N/A
						#N/A
20						
			each	0	0	#N/A
			each			#N/A
21	Buildings - Decontaminate					

## Unit Cost Table

ITEM	Detail	COST CODE	UNITS	LOW \$	HIGH \$	SPECIFIED \$	
	Chemicals	BDC	m3	#N/A	#N/A	#N/A	
	Asbestos	BDA	m2	21	42	#N/A	LOW cost: removal of asbestos siding & flooring HIGH cost: removal of insulated pipes, friable asbestos
<b>22 Buildings - Remove</b>	areas are per floor on 3 m average height						LOW cost: removal and on-site disposal - small wooden structures
	Wood - teardown	BRW1	m2	21.5	33	#N/A	
	Wood - burn	BRW2	m2	5.5	11	#N/A	
	Masonry	BRM	m2	23.65	33	#N/A	
	Concrete	BRC	m	33	49.5	6	LOW cost: removal of building perimeter walls, HIGH cost: per m3 for bulk concrete
	Steel - teardown	BRS1	m2	35.2	52.8	240	SPECIFIED cost: \$/m2 to break floor slab
	Steel - salvage	BRS2	m2	55	82.5	#N/A	SPECIFIED cost: demolition shear \$/hour operating
<b>23 Power &amp; Pipe Lines</b>							
	Power lines, remove	POWR	each	20.9	4620	#N/A	
						#N/A	
<b>24 Laboratory Chemicals</b>							
	Remove from site	LCR	pallet	1750	2320	#N/A	
	Dispose on site	LCD	each	#N/A	#N/A	#N/A	
<b>25 PCB - Remove from site</b>		PCBR	litre	33	38.5	#N/A	LOW cost: shipping, handling & disposal from Yellowknife
<b>26 Fuel</b>							
	Remove from site	FR	kg	0	1.02	#N/A	
	Burn on site	FB	kg	#N/A	#N/A	#N/A	
<b>27 Oil</b>							
	Remove from site	OR	litre	0.35	1.02	#N/A	
	Burn on site	OB	litre	0.35	0.55	#N/A	
<b>28 Process Chemicals</b>							
	Remove from site	PCR	kg	0.35	2.05	#N/A	
	Dispose on site	PCD	kg	#N/A	#N/A	#N/A	
<b>29 Explosives</b>							
	Remove from site	ER	kg	0	2.2	#N/A	
	Dispose on site	ED	kg	#N/A	#N/A	#N/A	

## Unit Cost Table

ITEM	Detail	COST CODE	UNITS	LOW \$	HIGH \$	SPECIFIED \$	
30	<b>Contaminated Soils</b>						
	Remediate on site	CSR	m3	38.5	120	#N/A	LOW cost: bio-remediate on-site. HIGH cost: ship off-site to landfill as haz. waste
	consolidate & cover	Use cost code items 1 - 4					
	cover in place	Use cost code items 1 - 4					
31	<b>Mobilize Heavy Equipment</b>						
	Road access	MHER	\$/km	2.81	8.42	2.05	SPECIFIED cost: \$/tonne/km in cargo plane
	Air access	MHEA	each	#N/A	#N/A	1375	SPECIFIED cost: helicopter cost, \$/hr of operation
32	<b>Mobilize Camp</b>						
	<20 persons Road access	MC<R	each	#N/A	#N/A	#N/A	
	<20 persons Air access	MC<A	each	#N/A	#N/A	#N/A	
33	<b>Mobilize Workers</b>						
	mobilize	MM<	person	193	990	#N/A	LOW cost: road access. HIGH cost: transport by Twin Otter aircraft
	>20 persons	MM>	person	990	1320	#N/A	
34	<b>ACCoModation</b>	ACCM	month	1320	1980	#N/A	LOW cost, accom in existing camp, per man, HIGH cost: - supply new camp
35	<b>Mobilize Misc. Supplies</b>	MMS	each	#N/A	#N/A	#N/A	LOW cost: winter road - limited use, LOW snowfall
36	<b>Winter Road</b>	WR	km	1320	2620	#N/A	
37	<b>Visual site Inspection</b>	VI	each	3520	7100	10000	
38	<b>Survey site Inspection</b>	SI	each	#N/A	#N/A	#N/A	
39	<b>Water Sampling</b>	WS	each	5500	9000	#N/A	
40	<b>site inspection RePorT</b>	RPT	each	#N/A	11000	#N/A	
41	<b>Security Guard</b>	SG	pers/mc	5500	7700	#N/A	
42	<b>Maintain Pumping</b>	MP	month	3300	#N/A	#N/A	
43	<b>Clear SpillWay</b>	CSW	each	1870	5280	#N/A	
44	<b>Build Treatment Plant</b>						
	Small (< 1000 m3/d)	BTPS	lump su	1E+06	2E+06	#N/A	
	Large (> 1000 m3/d)	BTPL	lump su	2E+06	3.5E+6	#N/A	
45	<b>Operate Treatment Plant</b>	OTP	m3	0.29	1.65	#N/A	
46	<b>SCariFY road and install water breaks</b>	SCFY	km	3525	4950	#N/A	

## Unit Cost Table

ITEM	Detail	COST CODE	UNITS	LOW \$	HIGH \$	SPECIFIED \$
<b>water treatment chemicals</b>						
ferric sulphate		ferric	kg	0.67		
ferrous sulphate		ferrous	kg	0.44		
lime		lime	kg	0.3		
hydrogen peroxide, 50%		hperox	kg	1.43		
Sodium Metabisulfate		Nametab	kg	0.99		
Caustic soda, 50%		caustic	kg	0.62		
Sulfuric acid, 93%		sulfuric	kg	0.26		
flocculant		flocc	kg	5.39		
copper sulphate		copper	kg			
typical shipping, to Whitehorse or Yellowknife			kg	0.072		
<b>Typical Labour &amp; Equipment Rates</b>						
Site manager			\$/hr	70	80	
Mine superintendent			\$/hr		60	
Environmental coordinator			\$/hr		60	
Journeyman (mech, elec, weld)			\$/hr	50	60	
Equipment operator			\$/hr	45	55	
labour - skilled			\$/hr	35	38	
labour - unskilled			\$/hr	32	35	
Security / first aid			\$/hr	38	48	
Admin.			\$/hr	42	49	
Front end loader, 900, Cat990			\$/hr		330	
excavator, Cat230			\$/hr		175	
dump truck - tandem			\$/hr			
dump truck off road, Cat 777			\$/hr	265		
dozer, D8, D10			\$/hr	170	300	