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

m

594500 E | 596000 E | 597500 E | 599000 E

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

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

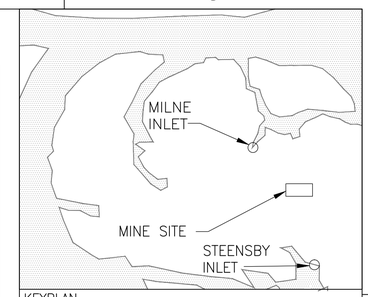
STEENSBY INLET

N

RECLAMATION AREA - AFTER OPERATION

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

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



KEYPLAN

LEGENDS:

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

NOTE(S):

1. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL IS 5 METRES.
4. AS-CONSTRUCTED INFORMATION PROVIDED BY GENIVAR IN 2008.
5. PROPOSED PERMANENT WORKS LAYOUT SHOWN FOR REFERENCE PURPOSES ONLY. DO NOT USE FOR CONSTRUCTION.

SCALE 300 150 0 500 1000 1500 m

SCALE 1:15,000

DRAWING NO.	DRAWING TITLE

REFERENCE DRAWINGS

ISSUED FOR USE

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

REVISIONS

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

ISSUE AUTHORIZATION

HATCH™

Baffinland Iron Mines Corporation

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

MARY RIVER PROJECT

PRELIMINARY MINE CLOSURE AND RECLAMATION PLAN STEENSBY PORT FINAL CLOSURE PHASE

SCALE: AS NOTED

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

REV. B

Appendix B
Mining Reclaim Assumptions and Spreadsheet Snapshots

Safety • Quality • Sustainability • Innovation

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B.1 Open Pit

Objective: Control Access

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

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

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

Objective: Spillway

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

Objective: Reclaim Quarries

A majority of the quarries will be reclaimed after construction. It is assumed that four (4) of the 63 quarries will be reclaimed at closure. Excess rock will be placed back in the quarries. An estimated 5% of the total surface of the quarries will be covered by excess rock, at a minimum of 1m. The borrow pit slopes will be contoured. It has been assumed that 20% of the total area of the borrow pit will undergo re-contouring.

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

B.2 Rock Pile

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

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

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

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B.3 Buildings and Equipment

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

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

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

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

As well as:

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

In the Tables B2, B5, and B7, P stands for Piles and S for Shallow Foundations.

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

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

Objective: Dispose Mobile Equipment

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

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

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B.3.1 Milne Inlet

Objective: Remove Buildings

Table B-1 summarizes the buildings at Milne Inlet.

Table B-1: Buildings at Milne Inlet

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

Existing camps account for 1,250 m2.

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

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

B.3.2 Tote Road

Objective: Reclaim Roads

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

B.3.3 Mary River Mine Site

Objective: Reclaim Airstrip

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

Objective: Landfill for Demolition Waste

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

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Objective: Reclaim Roads

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

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

Table B-2: Buildings at Mary River

		Footprint m2	Foundation
PIT OFFICE & LUNCH ROOM (MR)	offices/warehouse/accom	532.8	
EMULSION PLANT BUILDING (MR)	ANFO plant	372.1	
MMU BUILDING (MR)	ANFO plant	558.2	
PRIMARY CRUSHER BUILDING (MR)	crushing plant	720.0	P
SECONDARY CRUSHER BUILDING (MR)	crushing plant	630.0	S
CONVEYOR TUNNEL EXIT BUILDING (MR)	crushing plant	240.0	
MAINTENANCE OF WAY BUILDING (MR)	maintenance shop	1600	P
ACCOMMODATION BUILDING (MR)	offices/warehouse/accom	4207.0	P
SERVICES BUILDING (MR)	offices/warehouse/accom	6739.0	P
UNHEATED STORAGE BUILDING (MR)	offices/warehouse/accom	2550.0	P
TRUCK WARMING BUILDING (MR)	offices/warehouse/accom	2550.0	
ADMINISTRATION BUILDING (MR)	offices/warehouse/accom	1483.0	P
AIRSTRIP SHELTER (MR)	other	300.0	S
DE-ICING EQUIPMENT STORAGE (MR)	other	300.0	P
MAINTENANCE & CARGO BUILDING (MR)	other	300.0	P
FIELD ELECTRICAL CENTRE (MR)	other	40.0	S
LAKE PUMP HOUSE (MR)	water treatment plant	72.0	S
POTABLE WATER TREATMENT BUILDING (MR)	water treatment plant	178.2	P
FIRE PUMP HOUSE (MR)	other	450	P
SEWAGE TREATMENT BUILDING (MR)	water treatment plant	1680.0	P
EMERGENCY BOILER BUILDING (MR)	other	180.0	P
SOLID WASTE DISPOSAL & INCINERATOR SYSTEM BUILDING (MR)	consolidate & dump boneyard debris	1200.0	P
TELECOMMUNICATIONS & SIGNALLING SHELTER & TOWER (MR)	other		
POWER PLANT BUILDING (MR)	power plant	3600.0	P
E-HOUSE FOR 1000-BLD-1210.100 (MR)	power plant	216.0	P
E-HOUSE FOR 1000-BLD-1230.100 (MR)	power plant	540.0	S
E-HOUSE FOR 4000-BLD-4220.101 (MR)	power plant	216.0	P
E-HOUSE FOR 4000-BLD-4290.102 (MR)	power plant	72.0	P
E-HOUSE FOR 4000-BLD-4310.100 (MR)	power plant	144.0	P
E-HOUSE FOR 4000-BLD-4320.100 (MR)	power plant	144.0	P
E-HOUSE FOR 4000-BLD-4330.101 (MR)	power plant	72.0	P
E-HOUSE FOR FUEL UNLOADING STATION (MR)	power plant	144.0	P
E-HOUSE FOR 4000-BLD-4330.102 (MR)	power plant	144.0	P
E-HOUSE FOR 4000-BLD-4340.100 (MR)	power plant	144.0	P
E-HOUSE FOR 4000-BLD-4350.100 (MR)	power plant	72.0	P
E-HOUSE FOR 5000-BLD-5130.102 (MR)	power plant	540.0	P
E-HOUSE FOR 5000-BLD-5130.103 (MR)	power plant	540.0	P
E-HOUSE FOR 5000-BLD-5180.100 (MR)	power plant	216.0	P
UTILIDORS (MR)	other	2761.7	P
TRANSFER TOWER 5130-TT-001 (MR)	conveyors & transfer towers	297.0	P
TRANSFER TOWER 5130-TT-002 (MR)	conveyors & transfer towers	252.0	P
TRANSFER TOWER 5130-TT-003 (MR)	conveyors & transfer towers	140.0	P
TRANSFER TOWER 5130-TT-004 (MR)	conveyors & transfer towers	180.0	P
RAIL CAR LOADING STATION BUILDING (MR)	other	408.3	P

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NOTE: Fuel Storage areas were not included in the building list. This area represents 13,130 m2. It is assumed 75% of this area will need to be reclaimed and this cost was captured in this estimate.

Table B-3: Vehicles at Mary River Mine Site

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

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Table B-4: Aircraft Equipment at Mary River

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

Objective: Specialized Items

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

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

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

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

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B.3.4 Railway and Access Roads

Objective: Reclaim railway

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

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

Table B-5: Buildings along the Railway

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

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Table B-6: Equipment along the Railway

Equipment	Total Units
Locomotives	11
Cars	433
Total	444

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

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

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

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

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

B.3.5 Steensby Port

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

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Table B-7: Buildings at Steensby Port

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

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

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Table B-8: Vehicles at Steensby Port

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

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Table B-9: Aircraft equipment at Steensby Port

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

Objective: Specialized items

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

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

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

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B.4 Chemicals

Objective: Hazardous materials audit

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

Objective: Hazardous Materials to be Consolidated for Removal

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

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

Objective: Contaminated Soil Removal

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

Objective: Contaminated Soil Removal

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

Objective: Other

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

B.5 Water

Objective: Remove Pipelines

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

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

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B.6 Mobilization

Objective: Mobilize Heavy Equipment

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

Objective: Mobilize Camps

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

Objective: Mobilize Workers

Labour cost is included in the unit cost for each action required. For reference, the labour rates for the Mary River Project are listed in table B-11.

Table B-11: Labour Rates for Mary River Project

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

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

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carry 112 passengers and the total cost is $88,875.52 (supplier estimate: Canadian North Airlines).

Objective: Mobilize Misc. Supplies

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

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

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

Additionally, the freight off-load manpower costs $47,845,200 per year (Table B-12).

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

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Table B-12: Freight off-load manpower cost per season

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

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Table B-13: Budgetary Rates for Marine Equipment

BUDGETARY RATES FOR MARINE EQUIPMENT OPTION 2:

MOBILIZATION & DEMOBILIZATION COSTS:

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

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

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

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

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

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

TUG COSTS ON SITE:

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

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

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

STEVEDORING COSTS ON SITE:

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

Notes:

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

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Objective: Worker Accommodation

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

Objective: Interim Care and Maintenance

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

POST CLOSURE

Objective: Monitoring and Inspections

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

Objective: Cover Maintenance

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

Objective: Spillway Maintenance

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

Objective: Post-closure Water Treatment

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

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

ON-GOING WATER

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

- Sampling equipment: $4,200;
- Equipment maintenance and parts: $5,000;
- Water analysis: $6,400;
- Annual labour cost: $1,800 (3 men per day, 1 day per year at hourly rate $75,00); and

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- Annual site access cost: $88,875.52 (2011 Charter quote for a round trip Ottawa – Iqaluit – Mary River).

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

INDIRECT COSTS

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

Labour Wages

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

Management Costs

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

Workers Accommodation and Food

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

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Table B-14: Mine Closure and Reclamation Cost Summary

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

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Table B-15: Mine Closure and Reclamation Cost – Open pit

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

ACTIVITY/MATERIAL	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
OBJECTIVE: CONTROL ACCESS								
Fence	m		#N/A	0.00	$0	100%	$0	$0
Signs	each	9	SH	35.64	$321	100%	$321	$0
Berm at crest	m	4300	RBS	29.53	$126,969	100%	$126,969	$0
Block roads	m3		#N/A	0.00	$0		$0	$0
Other			#N/A		$0		$0	$0
OBJECTIVE: STABILIZE SLOPES								
Off-load crest, soil A	m3		#N/A	0	$0		$0	$0
Off-load crest, soil B	m3		#N/A	0	$0		$0	$0
Doze/trimoverburden at crest	m3		#N/A	0	$0		$0	$0
Drill & blast pit crest	m3		#N/A	0	$0		$0	$0
buttress slope	m3		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: COVER/CONTOUR SLOPES								
Dump demolition materials (pit or landfill or qı	m3	3724.3566	SC1H	8.262	$30,771	100%	$30,771	$0
Place overburden over demolition material	m3	124145.22	RB1L	10.098	$1,253,618	100%	$1,253,618	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Vegetate slopes	ha		#N/A	0	$0		$0	$0
Vegetate pit floor	ha		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
OBJECTIVE: SPILLWAY								
Excavate channel, soil A	m3	375	RC2H	16.308	$6,116		$0	$6,116
Excavate channel, soil B	m3		#N/A	0	$0		$0	$0
Concrete	m3		#N/A	0	$0		$0	$0
Rip rap	m3		#N/A	0	$0		$0	$0
Other	each		#N/A	0	$0		$0	$0
OBJECTIVE: FLOOD PIT								
remove stationary equipment (sump pump)	each		#N/A	0	$0		$0	$0
remove power lines	each		#N/A	0	$0		$0	$0
Embankment/dam - Soil A	m3		#N/A	0	$0		$0	$0
Embankment/dam - Soil B	m3		#N/A	0	$0		$0	$0
supply/install pump & piping system	each		#N/A	0	$0		$0	$0
operate pumps to flood pit	each		#N/A	0	$0		$0	$0
Llme addition, _____ kg/m3 of water	tonne		#N/A	0	$0		$0	$0
Lime, purchase and shipping	tonne		#N/A	0	$0		$0	$0
Other			#N/A	0	$0		$0	$0
RECLAIM QUARRIES								
Contour slopes	m3	3238.09524	DSH	3.3588	$10,876	100%	$10,876	$0
Berm at crest	m3		#N/A	0	$0		$0	$0
Place overburder	m3	809.52381	SBCL	3	$2,429	100%	$2,429	$0
Vegetate	m3		#N/A	0	$0		$0	$0
OTHER ITEMS								
Stability inspection		1	sis	16667	$16,667	100%	$16,667	$0
Reclaim road to primary crusher (scarification)		8	scs	1000	$8,000	100%	$8,000	$0
			Subtotal		$1,455,765	100%	$1,449,650	$6,116
						Pct Land	Total Land	Total Water

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Table B-16: Mine Closure and Reclamation Cost – Rock Pile

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

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

	Cost	% Land	Land Cost	Water Cost
Subtotal	$192,957	9%	$16,667	$176,290
		% Land	Total Land	Total Water

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Table B-17: Mine Closure and Reclamation Cost – Milne Port

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

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

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Table B-18: Mine Closure and Reclamation Cost – Tote Road

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

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

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Table B-19: Mine Closure and Reclamation Cost – Mary River Mine

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

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

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Table B-20: Mine Closure and Reclamation Cost – Railway

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

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

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Table B-21: Mine Closure and Reclamation Cost – Steensby Port

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

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

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Table B-22: Mine Closure and Reclamation Cost – Chemicals

Chemicals and Soil Contamination:

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

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Table B-23: Mine Closure and Reclamation Cost – Water Management

Water Management :

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

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Table B-24: Mine Closure and Reclamation Cost – Mobilization

Mobilization:

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

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Table B-25: Mine Closure and Reclamation Cost – Post-Closure

Post-Closure Monitoring & Maintenance:

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

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Table B-26: Mine Closure and Reclamation Cost – On-going Water

WATER TREATMENT COSTS

ANNUAL VOLUME OF WATER (m3) _____

Reagent addition rates

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

Supplies and Labour

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

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

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

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Appendix C

Mine Closure and Reclamation Planning Guidelines, Regulations, and Lease Requirements

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

Table C-1: Qikiqtani Inuit Association, Commercial Lease No.: QIOC3001 (2010)

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

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Table C-2: Qikiqtani Inuit Association

Abandonment and Reclamation Policy for Inuit Owned Lands, Qikiqtani Inuit Association -Department of Lands and Resources (2010)	
Key Mine Closure and Reclamation Plan Guidelines	*Preliminary* MC&RP Report Section
Abandonment and Reclamation Plan (Preliminary Closure Plan) is to be a standalone document with supporting rationale and detail.	All
All referenced documents must be properly cited including document name, author, section and page number.	15
Rationale on how the Preliminary Closure Plan understands and satisfies the QIA's *Guiding Principle's on Reclamation:*	1
• Inuit Owned Land (IOL) to be returned to a safe and stable condition capable of maintaining the ecosystem integrity consistent with Inuit societal and cultural needs and aspirations.	3.3
Ensure the physical, chemical and biological stability of the mine site for closure.	8
Reclamation should be aesthetically and environmentally compatible with the surrounding area.	5.1
Reclamation should be consistent with locally valued ecosystem components and regional planning objectives.	11
Integrate Inuit Qaujimatajatuqangit (Inuit knowledge) and consultation with Community Land and Resources Committee(s).	2.4
Meet applicable federal and territorial public health and safety requirements.	Appendix C
Minimize human health risks.	6.1, 7.1 and 8.1
Utilize progressive reclamation where possible.	5
Undertake research for the site as necessary.	2.2
Post closure monitoring, if required.	9
Financial security estimate for each mine component - results should be methodical and self explanatory. A comprehensive summary of closure cost estimate should be included.	12 and Appendix B
Contingency costs are to be included in the closure cost estimate.	Appendix B
Cost estimate to assume worst case scenario.	12 and Appendix B
Cost estimate for an independent third-party contractor to close out the site (including mobilization and equipment).	12 and Appendix B
Progressive reclamation credits may be applied to closure cost estimate.	To be included in *Interim* Closure Plan for submission
Provide a list of mine components that are considered in the Preliminary Closure Plan.	Table 3-1
Provide evidence to support the QIA policy assumptions for Preliminary Closure Plans.	1, Table C-2

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Table C-3: Territorial Lands Act

Territorial Land Use Regulations (TLUR 2010)		
Key Mine Closure and Reclamation Plan Guidelines	TLUR Section	*Preliminary* MC&RP Report Section
All closure work shall be carried out in accordance with permit requirements as stated in the *Territorial Land Use Regulations*.	s. 8 through 10, 31	2.1
"Subject to the terms and conditions of his permit or the express written authority of an inspector, every permittee shall replace all materials removed by him in the course of excavating, other than rock trenching, and shall level and compact the area of excavation."	s. 12	8
"Restore the channel and bed of the stream to their original alignment and cross-section."	s. 13.(1 b)	8.12
"Subject to the terms and conditions of his permit, every permittee shall, after completion of a land use operation, restore the permit area as nearly as possible to the same condition as it was prior to commencement of the land use operation."	s. 18	5.1
Remove all buildings equipment, machinery, storage equipment/containers and materials onsite.	s. 19.(1)	8.3 and 8.4
A final plan will be issued to the "engineer" within 60 days following completion of the land use operation or expiration of the permit.	s. 33	8
All plan drawings shall be: • Drawn to scale that clearly illustrates all mine features; • Shows the scale on the drawing; and • Provide geographic co-ordinates.	s.35	Appendix A
"In order to ensure that a permittee compiles with the terms and conditions of his permit with these Regulations, the engineer may include in the permit a condition that the permittee deposit with the Minister a security deposit not exceeding $100,000."	s. 36	To be included in *Interim* Closure Plan for submission

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Table C-4: Nunavut Impact Review Board

Guidelines for the Preparation of an Environmental Impact Statement for Baffinland Iron Mines Corporation's Mary River Project (2009)	
Key Mine Closure and Reclamation Plan Guidelines	*Preliminary* MC&RP Report Section
"To ensure that issues associated with the effective closure and reclamation of all Project Components is considered at the earliest possible stage in the mine development process, thereby influencing mine design to take into account environmental issues related to mine closure and reclamation."	All
"To establish major targets for reclamation of lands potentially affected by the Project."	11
"Description of reclamation methods, time frames and schedules, including proposed notice periods to employees and public."	8
"Description of temporary closure measures and a discussion of at what point a temporary closure should be considered permanent for the purposes of requiring implementation."	6
"Discussion of research programs to address challenges to reclamation, given the local conditions."	2.2
"Considerations for the Projection of public health and safety."	6.1, 7.1 and 8.1
"Description of closure and post - closure monitoring of environmental components."	9
"Discussion of the need for long - term monitoring and maintenance by establishing physical and chemical stability."	9.1, 9.2
"Discussion on reduction or elimination of environmental effects once the mine ceases operation."	8, 10, and 11
"Discussion regarding re-establish conditions that permit the land to return to similar pre-mining land use."	5.1 and 8
"Consideration for ARD/ML potential of rocks, in association with related waste rock management strategies."	8.11
"Any considerations for the restoration of the natural aesthetics of the Project."	11

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Table C-5: AANDC (INAC) Guidelines

Mine Site Reclamation Guidelines for the Northwest Territories (2007)	
Key Mine Closure and Reclamation Plan Guidelines	*Preliminary* MC&RP Report Section
Develop and implement preventive and control strategies to effectively minimize the potential for ARD and ML to occur.	8.11
Where ARD and ML are occurring as a result of mine activities, mitigate and minimize impacts to the environment.	8.11
Re-establish the pre-mining ground cover, which may involve encouraging self-sustainable indigenous vegetation growth.	5.1
Remediate any sources of contamination that may have been created during the development and operation of the mine site in order to protect humans, wildlife, and environmental health.	8.10
Ensure physical stability of residual earth structures for environmental, human, and wildlife safety.	9.1
Open Pit: • Minimize access to protect human and wildlife safety; • Implement water management strategies to minimize and control migration and discharge of contaminated drainage, and if required, collect and treat contaminated water; and • Stabilize slopes to minimize erosion and slumping.	8.2
Waste Rock: • Minimize erosion, thaw settlement, slope failure, collapse or the release of contaminants or sediments.	8.11 and 8.13
Buildings and infrastructure, equipment: Return area to its original state or to a condition compatible with the end land-use targets.	8.3 and 8.4
Restore natural drainage patterns where surface infrastructure has been removed.	8.12 and 8.13
Landfills: • • Control erosion and effects to the ground thermal regime.	8.9
Water Management Systems: • Dismantle and remove/dispose of as much of the system as possible and restore natural or established new drainage patterns. • Stabilize and protect from erosion and failure for the long term.	8.3, 8.4, 8.12 and 8.13

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Table C-6: AANDC (INAC) Policies

Mine Site Reclamation Policy for Nunavut (2002) and Mine Site Reclamation Policy for the Northwest Territories (2002)	
Key Mine Closure and Reclamation Plan Guidelines	*Preliminary* MC&RP Report Section
Areas should be returned to viable and self sustaining areas where practical.	5.1 and 8
Use best management principles such as progressive reclamation and reduce the environmental risk.	5.1
Communication and consultation shall be undertaken with all applicable parties.	2.2
Closure impacts for all mine components.	8
Closure costs estimates should be undertaken by a third party using a recognized methodology such as RECLAIM. Closure cost estimates should include contingency factors.	12 and Appendix B
Inclusion of a progressive reclamation plan.	5.1
Removal/stabilization of all structures.	8.3
Reclaim and stabilize waste rock stockpiles remaining on site.	8.11
Reclaim the disturbed surface areas to acceptable standards.	8
Water quality at closure shall meet or exceed the accepted standards.	9.2
Temporary Closure measures shall be included in the Preliminary Closure Plan and cost estimate.	6, 7 and cost estimate to be provided in Interim Closure Plan
Inclusion of a post - closure monitoring program.	9
Detailed closure and decommissioning of the following: • Buildings and other structures; • Roads; • Airstrips; • Waste rock stockpiles; • Ore stockpiles • Quarries; • Open pit; • Petroleum and chemical storage areas and facilities; • Pipelines; • Power corridors; • Sewage and waste disposal areas; and • Mine drainage.	8
Revegetation of the site where practical.	8.13
Meet or exceed applicable water standards.	9.2
Recycle materials where practical.	8
Closure cost estimate to be calculated for the total financial security for final closure.	12 and Appendix B
Utilization of a recognized methodology for calculating the closure costs (i.e. RECLAIM model).	12 and Appendix B
Establish financial security to be provided to the Minister of Aboriginal Affairs and Northern Development Canada (previously Indian Affairs and Northern Development).	To be included in Interim Closure Plan for submission

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Table C-7: AANDC (INAC) Guideline

Mine Reclamation in the Northwest Territories and Yukon (1992)	
Key Mine Closure and Reclamation Plan Guidelines	*Preliminary* MC&RP Report Section
Preliminary Closure Plan objectives are to: • Protect the public health and safety; • Prevent and/or reduce the environmental deterioration; and • Return all disturbed areas to the original state or an accepted level of reclamation.	11
Ensure post-closure physical and chemical stability.	9.1 & 9.2
Development of a monitoring program to assess the effectiveness of the restoration to be undertaken between the Proponent and Indian and Northern Affairs Canada.	9
Reclaimed areas should be returned to previous land use and aesthetics, to the extent possible.	5.1, 8
Include temporary closure and indefinite (long term) Preliminary Closure Plans.	6 & 7
Mine features should be closed in accordance with the guidelines provided in Tables 5.2 through Table 5.8 (Robertson and Kirsten 1992).	8
Inclusion of a fully developed closure cost estimate.	12 and Appendix B
Revegetation where practical. Local arctic species and distributions should be considered.	8.13

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Table C-8: Northwest Territories Water Board Guidelines

Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories (1990)	
Key Mine Closure and Reclamation Plan Guidelines	*Preliminary* MC&RP Report Section
Evaluation of ARD/ML potential for open pit, waste rock stockpiles and disturbed areas.	8.11 (on-going process) and to be included in Interim Closure Plan for submission
Cover design for waste rock stockpiles, if required. Stockpiles should be designed and contoured to ensure stability.	8.11 and 9.1
Revegetation of disturbed areas, where practical.	8.13
Open pit closure preferably backfilling or flooding.	8.2
Stability of open pit should be investigated.	8.2
Quarries should be backfilled and contoured to match the surrounding topography.	8.11
Removal of fuel and chemical storage tanks and associated piping and plumbing if applicable.	8.3, 8.4 and 8.8
Fuel contaminated soils should be remediated.	8.10
Chemical storage facilities should be removed from site.	8.8
Soils surrounding chemical facilities should be tested for contamination and where present be removed from site.	8.10
Culverts should be removed from site.	8.12
Airstrips should be left intact, unless deemed unsafe.	8.6
Natural drainage should be restored to the site. Roads that do not impede the natural drainage may remain intact.	8.12
Solid wastes should be dealt with in responsible manner.	8.9
Hazardous wastes are to be disposed at an approved facility.	8.8 and 8.9
Buildings and structures should be removed from the site.	8.3
Concrete foundations may be left in a safe condition.	8.7
The Preliminary Closure Plan should include a planned shutdown/temporary closure scenario.	6
The Preliminary Closure Plan should include a long term shutdown/Long-Term Closure scenario.	7
The Preliminary Closure Plan should include a final abandonment/final closure scenario.	8
It is encouraged that site closure include phased plan development (progressive closure).	5
A monitoring program should be devised to measure the effectiveness of the site closure.	9
Financial security is required for the closure phase.	To be included in Interim Closure Plan for submission

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