



Jaqueline Ho, Regulatory Specialist
Mackenzie Valley Land and Water Board
PO BOX 2130
YELLOWKNIFE, NT, X1A 2P6

MAY 11 2018

Dear Ms. Ho:

Re: Response to Information Request – RECLAIM Security Estimate for Pine Point Mining Ltd.’s Type A Land Use Permit (MV2018C0005) and Type B Water Licence (MV2018L2-0003) Applications

Thank you for your Information Request dated May 10, 2018. Following up on the Government of the Northwest Territories (GNWT’s) April 25 and May 3 comments on the above-noted applications, GNWT has discussed the scope and scale of the proposed activities with representatives of Pine Point Mining Ltd. (PPML).

GNWT has reviewed PPML’s responses to GNWT’s comments, as posted to the Online Review System, and Environment and Natural Resources has revised its April 25, 2018 RECLAIM security estimate based on the information in those responses. Attached for the Board’s consideration are:

- Updated Scope of work based on May 9 2018 responses from PPML
- Updated RECLAIM spreadsheet

As detailed in the attachments, GNWT’s revised recommendation is that the MVLWB require Pine Point Mining Ltd. to post a total of \$324,283 in reclamation securities as follows before starting authorized project activities:

- \$56,432 to be held under the water licence
- \$267,851 to be held under the land use permit

Should the MVLWB have questions about this submission, please contact one of the undersigned.

Sincerely,

Lorraine Seale
Director
Securities and Project Assessment
Department of Lands

Nathen Richea
Director
Water Resources
Department of Environment and Natural Resources

Attachments

Updated Scope of work based on May 9 2018 responses from PPML

Tab and Task	PPML Position	GNWT Response	Action
Chemicals - Hazardous Waste Removal	PPML argues that the equipment, oils, fuels, drilling additives, etc. are all owned by the contractors, and they are responsible for safe removal, handling and disposal. PPML's drilling contractors each carry \$5M in insurance to cover costs associated with environmental damages. Therefore no costs should be associated with this task.	GNWT does not agree or support the elimination of this cost as this material. Note the fluid amounts are 10% of total of the amount specified in the Project Description.	Volumes of Hazardous Waste Removal remain at 10%. Transport costs and disposal fees also reduced.
Chemicals – Contaminated soils investigation (phase 1 and 2 costs)	PPML accepts GNWT estimate	No change required	None.
Chemicals - Contaminated soils removal	PPML requests on-site treatment as a remediation option. Also proposes lower unit costs.	GNWT accepts on-site treatment option for the estimated quantity of soil (100 m ³). The GNWT maintains unit costs in the model for this task. Note on-site treatment requires sampling and monitoring of soil and leachate water. This is captured below.	Unit cost and quantity updated from \$2,490 (total) to \$5,080 (total) based on updated info.
Summary for	PPML's estimate:	GNWT's original estimate: \$46,516	

Chemicals tab	\$30,970	GNWT's revised estimate: \$41,106	
Buildings and Equipment: Dispose of mobile equipment and remove buildings.	PPML states that they feel that disposal of and removal of equipment is not applicable as they do not own equipment and contractors will be responsible for all equipment. PPML does not provide any costs for these tasks.	GNWT does not agree. The decontamination and shipping costs have been reviewed. GNWT has broken down the light vehicles into loads.	Unit costs for demobilization of equipment and quantity of generators and light vehicles updated.
Buildings and Equipment – Vegetate planned pad areas	PPML disagrees with the need to vegetate disturbed areas, stating “there is no requirement for contouring, scarifying or revegetating them.” PPML proposes using natural vegetation to reclaim pads, but provides the estimate for the area previously total undisturbed that will require re-vegetation will be 8 ha. However, only 3.72 ha are expected to be reclaimed in the first year.	GNWT is open to reducing the amount of disturbed areas estimated and that the maximum amount. The maximum area where vegetation is expected is 8 ha. Based on the updated info from PPML 3.72 ha is to be disturbed in 2018. However the total area remains 8 ha meaning that the GNWT must secure the higher amount of 4.28 ha which is the difference from the maximum disturbance. Using 3.72 would leave the GNWT under secured for 2019. Note, inspection and reporting will be required to assess if PPML will exceed the amount of reclaimed areas in the first year	Area disturbed and unit costs revised by GNWT. Total cost for vegetation revised.

		(e.g. greater than 4.28 ha). Unit costs for revegetation were reduced based on expectation that drilling best practices will result for lower level of effort required to revegetate.	
Buildings and Equipment – Scarify laydown areas	PPML does not agree that scarifying will be required and does not support a cost for this task.	GNWT maintains that scarifying is applicable at the very least to those areas associated with all-season access, well collar areas, some pad areas where terrain conditions are sensitive, etc. Unit cost for “scarifying” reduced due to expected best practices resulting in lower level of effort required to achieve landscape suitable for revegetation.	Area disturbed and unit costs revised by GNWT.
Summary for Buildings and Equipment tab	PPML’s estimate: \$14,880	GNWT’s original estimate: \$709,910 GNWT’s revised estimate: \$145,720	
Mobilization/De mobilization – Mobilize workers	PPML suggests that only a fraction of the total disturbed land area will need to be reclaimed, the quantity of equipment and manpower to mobilize will subsequently be reduced.	Based on info supplied by PPML in the responses, GNWT has updated the costs associated with mob/demob, such as busing workers to site (no air travel required) and eliminated the travel time	GNWT modified unit cost, added food and salary costs.

	Further, fewer equipment hours, less fuel and fewer manhours will be necessary.	costs. However, GNWT has added food as a cost (no camp for work) and salaries for general labourers. The GNWT has also maintained the amount of fuel required to complete remediation for haul traffic and vehicles.	
Summary for Mobilization / Demobilization tab	PPML's estimate: \$10,320	GNWT's original estimate: \$43,313 GNWT's revised estimate: \$58,747	
Post Closure	PPML argues that potential for serious contamination to occur is so minimal that no monitoring will be required.	GNWT maintains that post closure monitoring is required for all reclamation projects. However, based on the info on progressive reclamation of pads by PPML, GNWT has revised costs for this activity. GNWT has updated monitoring to last for two seasons to ensure stability of ground and vegetation at reclaimed areas. Potential reduction in costs due to reduced level of effort regarding ground stability and revegetation partially offset by requirement to sample and monitors on-site remediation of impacted soils (on-site treatment of contaminated soil).	GNWT revised site inspection costs and number of years of post-closure monitoring.

<p>Summary for Post Closure tab</p>	<p>PPML's estimate: \$0.00</p>	<p>GNWT's original estimate: \$60,000 GNWT's revised estimate: \$20,000</p>	
<p>ICM (Interim Care and Maintenance)</p>	<p>PPML accepts GNWT estimate</p>	<p>GNWT revised quantity code to a lump sum for site inspections, reporting and any corrective actions required. This amount is covering the requirements such as visual inspections and reporting which is required to maintain licence compliance.</p>	<p>GNWT updated Interim Care and Maintenance cost</p>
<p>Summary for Interim Care and Maintenance tab</p>	<p>PPML's estimate: \$4,992</p>	<p>GNWT's original estimate: \$4,992 GNWT's revised estimate: \$5,000</p>	
<p>Overall Summary</p>	<p>PPML's estimate: \$75,398 (\$33,977 Land Liability, \$41,400 Water Liability)</p>	<p>GNWT's original estimate: \$1,077,927 (\$550,905 Land Liability, \$527,022 Water Liability) GNWT's revised estimate: \$324,283 (\$267,851 Land Liability, \$56,432 Water Liability)</p>	

Proj Pine Point Mining		Reclaim Model - Overview of Program	
int Mining Limited All users are urged to read the Reclaim Model User Manual - Scroll down for overview description of program.			
Important! Reclaim 7.0 works better with no other excel files open. If other excel files are open ignore run time error and proceed			
Reclaim Menu	The default Excel menu bar has an additional tab labelled "Add-Ins" that provides options specific to the Reclaim Model.		
Clear	This option deletes all input data, deletes any duplicated elements and blanks out the project name. It also allows for segregation into land costs vs water costs if required.		
Duplicate	This option Duplicates components of the project. E.g. if there is more than one Open Pit, use duplicate to add a second Open Pit. Quantities for the new Open Pit are erased, but the Activities and Cost Codes are carried over from the original Open Pit. The new Open Pit subtotal is added to the Summary page.		
Unit Costs	This option opens a window of unit costs to provide easy reference. NOTE: the unit cost table has a filter in the 'UNITS' column. You can select to only see a particular unit (eg km) or multiple units (km and m3) or all units.		
Print All	This option prints the Summary Worksheet, Unit Cost Worksheet, and the individual component worksheets having non-zero balances. Individual worksheets can be printed directly using standard printing methods, such as Ctrl - P.		
Quit	Select Quit to exit the program		
Help	Redirects user to Instructions worksheet.		
Worksheets	This worksheet contains a cumulative summary of costs for each component of the project. Associated costs such as engineering and project management are added as a percentage of the component costs.		
Summary	Costs are derived for individual closure and reclamation activities by multiplying a "quantity" of activity by a "unit cost".		
Components	An activity can be edited, added, or deleted from worksheet. However, care should be taken not to modify cells that are defined and used elsewhere in the program. Do not change the content or column width of the first column of each component worksheet.		
Unit Costs	This worksheet contains a look up table with costs for typical work associated with each closure and reclamation activity		
Limitations	The Reclaim Program will NOT work if the worksheets are changed such that the following requirements are not met. Please review the following prior to modifying worksheets.		
WorkSheet Names	The names of the worksheets must not be changed.		
Defined Names	Certain cells have defined names, which must not be changed. Where the cell is named, the name will appear in the "Name Box" to the left of the formula bar.		
First line of data	The first line of data for any component worksheet starts on line 4. Do not change the first line of a component worksheet, ie the component name.		
Cell A1	Cell A1 on the component sheet MUST always contain the count of that component for the duplicate function to operate. DO NOT CHANGE.		
Adding Lines	You can add lines to components and the unit cost table, as long as they are not the last lines. The last line might fall outside the named ranges. You can check the size of the named range by selecting the name from the drop down box at the top left of the sheet. Usually this box has a cell reference, or a name.		
Printing	A component will only be printed if its sub-total is greater than zero. In addition, a component and the summary sheet cannot be printed if there is an error. Printing has been set to print 1 page per component.		
Conditions of Use	The Reclamation Cost Estimating Model was prepared to serve as a guide for Government Agencies, mining companies, and others to estimate the cost of reclamation. This model is not intended to replace reclamation planning or to be used to determine the activities required to reclaim a site or to dictate how much should be spent on reclamation. Reclaim was prepared by Brodie Consulting Ltd. on behalf of AANDC. AANDC and Brodie Consulting Ltd. are not responsible for the completeness or accuracy of any reclamation estimate made using this model. The user agrees to check and take responsibility for all aspects of any cost estimate made using this model.		

The following table provides guidance as to whether water management and treatment is considered short term or long term. Short term closure activities may be costed within a component (eg 'Open Pit' or 'Rock Pile') or 'Water Management'. Long term or post-closure water treatment is costed in 'Water Treatment' and included in "Post-closure Monitoring and Maintenance".

		Short Term/ Capital Ex.	Long term
Open Pit	flood pit - install/operate pumping system	x	
	construct diversion ditches	x	
	treat 1st filling	x	
	install pump/decant system	x	
	passive/biological treatment	x	
	overflow treatment		x
Rock Pile/Heap Leach Facility	construct diversion ditches	x	
	install groundwater collection system	x	
	install toe seepage collection system	x	
	collect and treat groundwater		x
	collect and treat seepage (ARD/ML)		x
	install passive treatment system	x	
Tailings Facility	operate and maintain passive treatment system		x
	operate pump and detoxify heap leach pile (cyanide destruction)	x	
	construct diversion ditches	x	
	pump supernatant (to pit, U/G)	x	
	treat supernatant	x	
	install toe seepage collection system	x	
U/G Mine	collect and treat seepage (ARD/ML)		x
	install passive treatment system	x	
	operate and maintain passive treatment system		x
	accelerate flooding	x	
	install seepage collection system	x	
	install dewatering/pumping system	x	
Water Management	operate seepage/dewatering system (ARD/ML)		x
	refill lakes		
	redirect creeks/streams	x	
	stabilize water management ponds	x	
	stabilize/close sediment ponds	x	
	fresh water supply - breach embankment	x	
	fresh water supply - remove piping system	x	
	construct water treatment plant	x	
	construct sludge pond	x	
	water control in reclamation quarry	x	
operate/maintain water treatment plant		x	

SUMMARY OF COSTS

CAPITAL COSTS	COMPONENT NAME	COST	LAND LIABILITY	WATER LIABILITY
OPEN PIT		\$0	\$0	\$0
UNDERGROUND MINE		\$0	\$0	\$0
TAILINGS FACILITY		\$0	\$0	\$0
ROCK PILE		\$0	\$0	\$0
BUILDINGS AND EQUIPMENT	All surface Development Infrastructure	\$145,720	\$138,215	\$7,505
CHEMICALS AND CONTAMINATED SOIL MANAGEMENT	All Chemicals and Soils on site	\$41,106	\$20,229	\$20,877
SURFACE AND GROUNDWATER MANAGEMENT		\$0	-	\$0
INTERIM CARE AND MAINTENANCE		\$5,000	-	\$5,000
	SUBTOTAL: Capital Costs	\$191,826	\$158,444	\$33,382
	PERCENT OF SUBTOTAL		83%	17%

INDIRECT COSTS		COST	LAND LIABILITY	WATER LIABILITY
MOBILIZATION/DEMOBILIZATION		\$58,747	\$48,523	\$10,223
POST-CLOSURE MONITORING AND MAINTENANCE		\$20,000	\$16,520	\$3,480
ENGINEERING	3%	\$5,755	\$4,753	\$1,001
PROJECT MANAGEMENT	3%	\$5,755	\$4,753	\$1,001
HEALTH AND SAFETY PLANS/MONITORING & QA/QC	1%	\$1,918	\$1,584	\$334
BONDING/INSURANCE	1%	\$1,918	\$1,584	\$334
CONTINGENCY	20%	\$38,365	\$31,689	\$6,676
MARKET PRICE FACTOR ADJUSTMENT	0%	\$0	\$0	\$0
	SUBTOTAL: Indirect Costs	\$132,458	\$109,407	\$23,050

TOTAL COSTS		\$324,283	\$267,851	\$56,432
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1 Chemicals/Soil Area Name: All Chemicals and Soils on site

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.

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	% Cost Land	Land Cost	Water Cost		
HAZARDOUS MATERIALS AUDIT										
Hazardous materials audit		Manhours		#N/A	\$0.00	\$0	\$0	\$0	\$0	
BUILDING DECONTAMINATION & CONSOLIDATION OF HAZARDOUS MATERIALS										
Environmental technician/coordinator		mandays		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Decontaminate: oil, fuel		mandays		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Decontaminate maintenance shop		mandays		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Decontaminate power plant		mandays		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Decontaminate bulk fuel storage		mandays		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Decontaminate ANFO plant		mandays		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Decontaminate offices/warehouse/accom		mandays		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Removal of asbestos siding on buildings		m2		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Removal of friable asbestos on equipment		m2		#N/A	\$0.00	\$0	\$0	\$0	\$0	
Other				#N/A	\$0.00	\$0	\$0	\$0	\$0	
HAZARDOUS MATERIALS REMOVAL										
Waste oils	10% of total volume	litre	90	ORH	\$1.20	\$108	50%	\$54	\$54	
Waste fuel	10% of total volume	litre	1683	ORH	\$1.20	\$2,020	50%	\$1,010	\$1,010	
Waste batteries		kg		PCRH	\$2.50	\$0		\$0	\$0	
Assay & environmental lab reagents		kg		PCRH	\$2.50	\$0		\$0	\$0	
Machine shop paints, solvents etc		litre		ORH	\$1.20	\$0		\$0	\$0	
Glycol		litre		ORH	\$1.20	\$0		\$0	\$0	
Process reagents	10% of total volume	kg	500	PCRH	\$2.50	\$1,250	50%	\$625	\$625	
Drilling fluids and antifreeze	10% of total volume	litre	360	ORH	\$1.20	\$432		\$0	\$432	
Other hazardous materials	10% of total volume	allow	180	ORH	\$1.20	\$216		\$0	\$216	
HAZARDOUS MATERIALS										
Transportation to disposal facility		allow	1	#N/A	\$1,000.00	\$1,000	50%	\$500	\$500	REVISED
Disposal fees		allow	1	#N/A	\$1,000.00	\$1,000	50%	\$500	\$500	REVISED
Other				#N/A	\$0.00	\$0		\$0	\$0	
CONTAMINATED SOILS										
Contam. soil investigation - Phase 1	Phase 1 and Phase 2 costs	allow	1	#N/A	\$30,000.00	\$30,000	50%	\$15,000	\$15,000	NO CHANGE
Contam. soil investigation - Phase 2		each		#N/A	\$0.00	\$0		\$0	\$0	
CONTAMINATED SOIL REMOVAL										
Excavate and transport to onsite facility		m3	0	#N/A	\$0.00	\$0		\$0	\$0	
Manage hydrocarbon remediation at facility		m3		#N/A	\$0.00	\$0		\$0	\$0	
Reagents/stabilizing agent		m2		#N/A	\$0.00	\$0		\$0	\$0	
Excavate and transport to offsite facility	Estimate of quantity - onsite remediation	m3	100	CSRI	\$47.00	\$4,700	50%	\$2,350	\$2,350	On-site treatment as discussed
Contour decontaminated area	Estimate of quantity	m3	100	DSH	\$3.80	\$380	50%	\$190	\$190	REVISED
CONTAMINATED SOIL VERY LOW PERMEABILITY COVER										
Supply geomembrane, HDPE, ES3, GCL		m2		#N/A	\$0.00	\$0		\$0	\$0	
Upper and lower bedding layers		m3		#N/A	\$0.00	\$0		\$0	\$0	
Install geomembrane, HDPE, ES3, GCL		m2		#N/A	\$0.00	\$0		\$0	\$0	
Erosion protection layer		m3		#N/A	\$0.00	\$0		\$0	\$0	
Vegetate		m2		#N/A	\$0.00	\$0		\$0	\$0	
Install infiltration/seepage instrumentation		allow		#N/A	\$0.00	\$0		\$0	\$0	
Other				#N/A	\$0.00	\$0		\$0	\$0	
OTHER										
				#N/A	\$0.00	\$0		\$0	\$0	
					Total	\$41,106		\$20,229	\$20,877	
					% of Total			49%	51%	

1 Building / Equip Name:		All surface Development Infrastructure			Bldg / Equip #: 1					
ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	% Cost Land	Land Cost	Water Cost		
DISPOSE MOBILE EQUIPMENT										
Decontaminate and ship off-site	includes heavy equipment, drill units, and large vehicles	allow	46	#N/A	\$2,000.00	\$92,000	100%	\$92,000	\$0	REVISED
Decontaminate and dispose on-site		allow		#N/A	\$0.00	\$0		\$0	\$0	
Decontaminate and ship off-site	Light vehicles - trucks, quads, argos, skidoos, kabota's, etc,	allow	33	#N/A	\$800.00	\$26,400	100%	\$26,400	\$0	REVISED
REMOVE BUILDINGS - see note below										
Accomodation Complex	None	m2		#N/A	\$0.00	\$0		\$0	\$0	
Process Facilities	Equipment / pump shacks	each	18	BRS1L	\$45.00	\$810	100%	\$810	\$0	NO CHANGE
Offices, Repair, Lab, Warehouse		m2		#N/A	\$0.00	\$0		\$0	\$0	
Storage Facilites		m2		#N/A	\$0.00	\$0		\$0	\$0	
Water and Wastewater Treatment Facilities		m2		#N/A	\$0.00	\$0		\$0	\$0	
U/G Heating Plant		m2		#N/A	\$0.00	\$0		\$0	\$0	
Emulsion Plant		m2		#N/A	\$0.00	\$0		\$0	\$0	
AN Storage Facility		m2		#N/A	\$0.00	\$0		\$0	\$0	
Warehouse, Shops and Other		m2		#N/A	\$0.00	\$0		\$0	\$0	
Storage Facility at Laydown/Airstrip		m2		#N/A	\$0.00	\$0		\$0	\$0	
Fuel tanks	Multiple fuel tanks at varous pads	each	9	#N/A	\$1,000.00	\$9,000	100%	\$9,000	\$0	NO CHANGE
Fuel Tanks		m2		#N/A	\$0.00	\$0		\$0	\$0	
Freshwater intake		Manhours		#N/A	\$0.00	\$0		\$0	\$0	
Reclaim pumps		m2		#N/A	\$0.00	\$0		\$0	\$0	
Outfall & Diffuser		m2		#N/A	\$0.00	\$0		\$0	\$0	
Airstrip lighting, navigation, electrician		Manhours		#N/A	\$0.00	\$0		\$0	\$0	
Airstrip lighting, navigation, mechanical		Mandays		#N/A	\$0.00	\$0		\$0	\$0	
Break foundation slabs		m2		#N/A	\$0.00	\$0		\$0	\$0	
Consolidate & dump boneyard debris		m3		#N/A	\$0.00	\$0		\$0	\$0	
Other	removal generators and pumps - 1 haul truck picking up multiple locations	allocation	1	#N/A	\$2,500.00	\$2,500	100%	\$2,500	\$0	REVISED
LANDFILL FOR DEMOLITION WASTE										
Place rock cover		m3		#N/A	\$0.00	\$0		\$0	\$0	
Place soil cover		m3		#N/A	\$0.00	\$0		\$0	\$0	
Vegetate		ha		#N/A	\$0.00	\$0		\$0	\$0	
GRADE AND CONTOUR PADS										
Accomodation Complex		m3		#N/A	\$0.00	\$0		\$0	\$0	
Process Facilities		ha		#N/A	\$0.00	\$0		\$0	\$0	
Offices, Repair, Lab, Warehouse		ha		#N/A	\$0.00	\$0		\$0	\$0	
Storage Facilites		ha		#N/A	\$0.00	\$0		\$0	\$0	
Water and Wastewater Treatment Facilities		ha		#N/A	\$0.00	\$0		\$0	\$0	
U/G Heating Plant		ha		#N/A	\$0.00	\$0		\$0	\$0	
Emulsion Plant		ha		#N/A	\$0.00	\$0		\$0	\$0	
Warehouse, Shops and Other		ha		#N/A	\$0.00	\$0		\$0	\$0	
Place rock cover		m3		#N/A	\$0.00	\$0		\$0	\$0	
Vegetate	Vegitate planned pad areas - 8 ha max minus 3.72 leaves 4.28	ha	4.28	VHFs	\$2,000.00	\$8,560	50%	\$4,280	\$4,280	REVISED
Other				#N/A	\$0.00	\$0		\$0	\$0	
PUNCTURE LINED SUMPS										
Puncture liner and place soil cover		m3		#N/A	\$0.00	\$0		\$0	\$0	
RECLAIM ROADS										
Remove culverts		each		#N/A	\$0.00	\$0		\$0	\$0	
Remove bridges		each		#N/A	\$0.00	\$0		\$0	\$0	
Scarify and install water breaks		ha		#N/A	\$0.00	\$0		\$0	\$0	
Scarify airstrip		ha		#N/A	\$0.00	\$0		\$0	\$0	
Scarify laydown areas	Total disturbed area for stabilization	ha	3	SCFYs	\$2,150.00	\$6,450	50%	\$3,225	\$3,225	REVISED
Vegetate		ha		#N/A	\$0.00	\$0		\$0	\$0	
Other				#N/A	\$0.00	\$0		\$0	\$0	
SPECIALIZED ITEMS										
Dispose of misc. debris and laydown area refuse				#N/A	\$0.00	\$0		\$0	\$0	
					Total	\$145,720		\$138,215	\$7,505	
					% of Total			95%	5%	

Note: Unit costs are based on 3m high, single storey building. Scale larger building areas accordingly. E.g. 10m high building multiply area by 3.3 (10/3)

1 Mobilization/Demobilization:

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
MOBILIZE HEAVY EQUIPMENT						
Excavators	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Dump trucks	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Dozers	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Demolition shears		each		#N/A	0	\$0
Crane		kmtonne		#N/A	0	\$0
Loader	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Compactor		each		#N/A	0	\$0
Light duty vehicles	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
MOBILIZE MISC. EQUIPMENT						
Pump shipping		each		#N/A	0	\$0
Pipe shipping		m		#N/A	0	\$0
Minor tools and equipment		allow		#N/A	0	\$0
Truck tires		allow		#N/A	0	\$0
Other				#N/A	0	\$0
MOBILIZE CAMP						
Reclamation activities		allow		#N/A	0	\$0
Long term reclamation activities (eg pump flooding)		allow		#N/A	0	\$0
MOBILIZE WORKERS						
Reclamation activities - transport - BUS Travel to site	estimated number of rotations - 30 days in	each	30	specified	200	\$6,000
Reclamation activities - travel time		manhours		#N/A	0	\$0
Long term reclamation activities (eg pump flooding) - transport		each		#N/A	0	\$0
Long term reclamation activities (eg pump flooding) - travel time		each		#N/A	0	\$0
Monitoring Airfare		each		#N/A	0	\$0
WORKER ACCOMODATIONS						
Reclamation activities		manmonths		#N/A	0	\$0
Long term reclamation activities (eg pump flooding)		manmonths		#N/A	0	\$0
Food	No camp but food will be provided - 10 staff/30 days	allow	300	#N/A	30	\$9,000
labourer salaries	10 laborers for 30 days	allow	300	LAB-Ush	43.98	\$13,194
MOBILIZE FUEL						
Fuel freight - reclamation activities	16,000 liters/month burn	litre	16000	FCDL	0.99	\$15,840
Fuel freight - long term reclamation activities		litre		#N/A	0	\$0
Fuel freight accomodations		litre		#N/A	0	\$0
WINTER ROAD						
Construction and operation		km		#N/A	0	\$0
Limited winter use		WRU		#N/A	0	\$0
Winter road tarriff		km		#N/A	0	\$0
DEMOBILIZE HEAVY EQUIPMENT						
Excavators	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Dump trucks	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Dozers	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Demolition shears		km		#N/A	0	\$0
Crane		kmtonne		#N/A	0	\$0
Loader	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Compactor		each		#N/A	0	\$0
Light duty vehicles	Based on equipment list	kmtonne	85	MHERH	10.25	\$871
Other		km		#N/A	0	\$0
DEMOBILIZE CAMP						
		allow		#N/A	0	\$0
DEMOBILIZE WORKERS						
crew travel time		mandays		#N/A	0	\$0
crew transportation - BUS Travel to site	estimated number of rotations - 30 days out	each	30	specified	200	\$6,000
WINTER ROAD						
Construction and operation		km		#N/A	0	\$0
Limited winter use		km		#N/A	0	\$0
Winter road tarriff		km		#N/A	0	\$0
Total						\$58,747

REVISED
removed

NEW
NEW

NO CHANGE - fuel for vehicles and haul traffic.

removed
REVISED

1 Post-Closure Monitoring & Maintenance:

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost		Cost
				Code	Unit Cost	
MONITORING & INSPECTIONS						
Annual geotechnical inspection		each		#N/A	\$0.00	\$0
Survey inspection		each		#N/A	\$0.00	\$0
Regulatory costs*		each		#N/A	\$0.00	\$0
Site water monitoring (AEMP and SNP)		each		#N/A	\$0.00	\$0
- Active closure and flooding		each		#N/A	\$0.00	\$0
- Post pit flooding		each		#N/A	\$0.00	\$0
Air Quality Monitoring Program (AQMP)		each		#N/A	\$0.00	\$0
Wildlife Effects Monitoring Program (WEMP)		each		#N/A	\$0.00	\$0
Vegetation Monitoring		each		#N/A	\$0.00	\$0
Other	site inspection and monitoring of sensitive areas - sampling of soil and water landfarm	Years	1	#N/A	\$10,000.00	\$10,000
COVER MAINTENANCE						
Repair erosion - infill gullies		allow		#N/A	\$0.00	\$0
Repair erosion - upgrade diversion ditches		allow		#N/A	\$0.00	\$0
Remove problem vegetation		allow		#N/A	\$0.00	\$0
Repair animal damage		allow		#N/A	\$0.00	\$0
Repair/upgrade access controls		allow		#N/A	\$0.00	\$0
Other				#N/A	\$0.00	\$0
SPILLWAY MAINTENANCE						
Repair erosion		m3		#N/A	\$0.00	\$0
Clear spillway		each		#N/A	\$0.00	\$0
CWTS MAINTENANCE						
Maintain flow, restore vegetation		allow		#N/A	\$0.00	\$0
POST-CLOSURE WATER TREATMENT**						
Annual water treatment cost, from "Water Treatment"						\$0
Subtotal, Annual post-closure costs						\$10,000
Discount rate for calculation of net present value of post-closure cost, %				0.00%		
Number of years of post-closure activity	2 seasons to assume full stability of ground and veg				2 years	
Present Value of payment stream						\$20,000

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*Regulatory costs - annual reporting, management plans, progress reports etc.

Include water treatment cost from "Water Treatment" worksheet if treatment is considered long term, such as ARD/ML.

1 Interim Care and Maintenance

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
INTERIM CARE & MAINTENANCE						
on-site caretaker	Site visits to inspect, report and maintain licence compliance	allow	1 specified		5000	\$5,000
extra personnel		manmonths		#N/A	0	\$0
-electrician		manmonths		#N/A	0	\$0
-mechanic		manmonths		#N/A	0	\$0
annual fuel		litre		#N/A	0	\$0
misc. supplies		allow		#N/A	0	\$0
pick-up truck		each		#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
SNP/AEMP water sampling & reporting		each		#N/A	0	\$0
geotechnical assessment		each		#N/A	0	\$0
interim water treatment				#N/A		\$0
other		each		#N/A	0	\$0
				Annual Interim C&M Cost		\$5,000
Number of years of ICM		years	1	Total		\$5,000

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