April 5, 2018

Julian Morse
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor, 4922 48th St.
PO Box 2130
Yellowknife, NT
X1A 2P6

Dear Mr. Morse:

Re: Extension of Mine Operations Type A Water Licence MV2008L2-0002
Prairie Creek Mine

Canadian Zinc Corporation (CZN) applied for an extension to mine operations Water Licence MV2008L2-0002 which is due to expire on September 23, 2020.

We refer to the Board's letter dated January 2, 2018 requesting further information. This is provided below.

1. CZN has reviewed the *Waters Act* and does not see any reason to change the Amendment Application. Sections 26. (2) (a) and 36. (1) (a) provide for issue or renewal of a licence for a term not exceeding 25 years, and Section 36. (1) (b) allows the Board to amend a licence "for a specified term".

2. Licences are currently usually issued for five or seven years. Before the term of such licences is extended, a review of conditions occurs to ensure they are appropriate for the operation. Granting a licence term of 25 years would potentially mean the absence of conditions review for an extended period. Understanding that this could raise concerns with regulators and/or other parties, CZN has proposed to include a formal review of conditions at appropriate intervals. In this way, conditions remain suitable, but the licence does not expire, which is the object of the Amendment Application. Regarding a new condition to enable this to occur, it would be appropriate to include some flexibility in terms of the frequency of review. However, reviews too frequently would impose a greater regulatory burden, while reviews too infrequently might raise concerns. There also needs to be recognition that the Board may elect to review and alter conditions at any time, on its own motion. Therefore, to balance these considerations, if the Board agrees to extend the licence term to 25 years, CZN proposes that the following condition also be added: "A formal review of licence conditions will occur after a period of not less than four years, and not more than seven years, unless compelling evidence is provided to the Board to alter this period, or unless the Board decides to undertake a review conditions based on its own motion".

3. As instructed, CZN contacted the Government of the Northwest Territories (GNWT) regarding an updated security estimate for the Prairie Creek mine site. GNWT advised CZN to acquire the latest version of the Reclaim Model (v. 7.0), and to provide an updated draft estimate in accordance with the Guidelines for Closure and Reclamation Cost Estimates for Mines (Nov. 2017). CZN provided an updated draft estimate to the GNWT (copy attached). After review, the GNWT provided some initial comments, but suggested that formal review and comment should be made as part of the Board's application analysis process.

4. Documents confirming CZN's current status regarding Corporate Registration in the NWT are attached.

5. CZN has conducted follow-up engagement with groups in Fort Simpson. Updated engagement logs are attached. Comments are made specific to each group:
   LKFN: Subsequent to the Board's information request, CZN contacted LKFN five times asking for a meeting, and a brief meeting was subsequently held on February 19, 2018. We followed this up with an email on February 23, 2018 to confirm that the engagement was satisfactory. We received a reply two days later. The email reply refers to "outstanding obligations, financial or otherwise". The specifics of the proposed 2008 Water Licence term amendment are not mentioned. Copies of these emails are attached. LKFN subsequently wrote a letter to the Board dated March 1, 2018 (copy attached) stating that CZN "has not complied with the Board's Engagement Guidelines". The letter asks CZN to provide "adequate resources" for engagement to occur. We submit that CZN has tried to meaningfully engage with LKFN on this application, consistent with the Board's Engagement Guidelines.
   DFN: CZN made similar attempts to engage with the DFN. We were able to talk to the executive assistant, who said he would speak to the Grand Chief about a meeting. The executive assistant called CZN on March 14, 2018 to explain that the DFN relies on the Bands to take a position on regulatory matters, after which the DFN supports them. CZN's response was that the Company respected that, and asked if DFN could put that in an email as evidence for the Board. We have not received said email.
   Fort Simpson Metis: CZN completed engagement with the FSM, and received a letter of support dated March 14, 2018 (copy attached).

We trust the above information addresses your current requirements. Should you have any questions related to this letter, please contact us.

Sincerely,

David P. Harpley
VP Environment and Permitting Affairs

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SUMMARY OF COSTS

CAPITAL COSTS	COMPONENT NAME	COST	LAND LIABILITY	WATER LIABILITY
OPEN PIT		$0	$0	$0
UNDERGROUND MINE		$4,261,025	$0	$4,261,025
TAILINGS FACILITY	wsp	$200,000	$0	$200,000
ROCK PILE	wrp	$650,120	$6,980	$643,140
BUILDINGS AND EQUIPMENT	Infrastructure	$2,106,040	$2,106,040	$0
CHEMICALS AND CONTAMINATED SOIL MANAGEME		$127,615	$75,000	$52,615
SURFACE AND GROUNDWATER MANAGEMENT		$0	-	$0
INTERIM CARE AND MAINTENANCE		$169,800	-	$169,800
SUBTOTAL: Capital Costs		**$7,514,600**	**$2,188,020**	**$5,326,580**
PERCENT OF SUBTOTAL			**29%**	**71%**

INDIRECT COSTS		COST	LAND LIABILITY	WATER LIABILITY
MOBILIZATION/DEMOBILIZATION	equipment is on site	$1,569,860	$457,095	$1,112,765
POST-CLOSURE MONITORING AND MAINTENANCE		$1,462,714	$425,897	$1,036,817
POST-CLOSURE PUMP & TREAT CONTINGENCY		$3,430,140	$998,751	$3,430,140
ENGINEERING	5%	$375,730	$109,401	$266,329
PROJECT MANAGEMENT	5%	$375,730	$109,401	$266,329
HEALTH AND SAFETY PLANS/MONITORING & QA/QC	1%	$75,146	$21,880	$53,266
BONDING/INSURANCE	1%	$75,146	$21,880	$53,266
CONTINGENCY	20%	$1,502,920	$437,604	$1,065,316
MARKET PRICE FACTOR ADJUSTMENT	0%	$0	$0	$0
SUBTOTAL: Indirect Costs		**$8,867,386**	**$2,581,910**	**$7,284,227**

TOTAL COSTS	**$16,381,986**	**$4,769,930**	**$12,610,807**

1 **Underground Mine Name** **UG Mine # *1***

ACTIVITY/MATERIAL	Notes	Unit	Qty	Code	Unit Cost	Cost Land	Cost	Water Cost
CONTROL ACCESS								
Fence		m		#N/A	$0.00	$0	$0	$0
Signs		each		#N/A	$0.00	$0	$0	$0
Block roads		m3		#N/A	$0.00	$0	$0	$0
Berm		m3		#N/A	$0.00	$0	$0	$0
Concrete wall in portals		m3		#N/A	$0.00	$0	$0	$0
Backfill portal #1		m3		#N/A	$0.00	$0	$0	$0
Backfill portal #2		m3		#N/A	$0.00	$0	$0	$0
Cap raise # 1		m3		#N/A	$0.00	$0	$0	$0
Cap raise #2		m3		#N/A	$0.00	$0	$0	$0
Cap shaft #1		m3		#N/A	$0.00	$0	$0	$0
Cap shaft #2		m3		#N/A	$0.00	$0	$0	$0
Backfill adits		m3	25000	#N/A	$18.54	$463,500	$0	$463,500
Backfill open stope		m3	133,700	#N/A	$24.93	$3,333,141	$0	$3,333,141
Concrete cap over open stope		m3		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
REMOVE HAZARDOUS MATERIALS								
Remove hazardous materials, U/G labor		mandays		#N/A	$0.00	$0	$0	$0
Remove/decontam. stationary & elect. equip		mandays		#N/A	$0.00	$0	$0	$0
Remove/decontam. mobile equipment		each		#N/A	$0.00	$0	$0	$0
Remove misc. haz. mat & explosives		kg		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
INSTALL BULKHEADS								
Bulkheads to control water flow		each	4	#N/A	#########	$464,384	$0	$464,384
Grout bulkhead		m3		#N/A	$0.00	$0	$0	$0
FLOOD MINE								
Supply/install pump		each		#N/A	$0.00	$0	$0	$0
Supply/install piping system		each		#N/A	$0.00	$0	$0	$0
Operate pumps to flood workings		m3		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
INSTALL GROUNDWATER COLLECTION SYSTEM								
Excavate/install sumps		m2		#N/A	$0.00	$0	$0	$0
Install pumping wells		m3		#N/A	$0.00	$0	$0	$0
Install pumps/pipelines/power supply		LS		#N/A	$0.00	$0	$0	$0
SPECIALIZED ITEMS								
Install water quality monitoring pipes		each		#N/A	$0.00	$0	$0	$0
Install permanent pumping system		each		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
					Total	$4,261,025	$0	$4,261,025
					% of Total		0%	100%

1 **Tailings Impoundment Name:** **wsp** **Pond # 1**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	% Cost Land	Land Cost	Water Cost
CONTROL ACCESS								
Fence		m		#N/A	$0.00	$0	$0	$0
Signs		each		#N/A	$0.00	$0	$0	$0
Berm		m3		#N/A	$0.00	$0	$0	$0
Block roads		m3		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
STABILIZE EMBANKMENT(S)								
Toe buttress, drainage layer		m3		#N/A	$0.00	$0	$0	$0
Toe buttress, bulk fill		m3		#N/A	$0.00	$0	$0	$0
Rip rap		m3		#N/A	$0.00	$0	$0	$0
Vegetate		ha		#N/A	$0.00	$0	$0	$0
Raise crest		m3		#N/A	$0.00	$0	$0	$0
Flatten slopes		m3		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
COVER TAILINGS								
Grade/shape tailings surface		m3		#N/A	$0.00	$0	$0	$0
Liner bedding		m3	80000	#N/A	$2.00	$160,000	$0	$160,000
Subgrade preparation - compact		m2	20000	#N/A	$2.00	$40,000	$0	$40,000
Supply geotextile/geosynthetic		m2		#N/A	$0.00	$0	$0	$0
Install geotextile/geosynthetic		m2		#N/A	$0.00	$0	$0	$0
Soil cover		m3		#N/A	$0.00	$0	$0	$0
Rock cover		m3		#N/A	$0.00	$0	$0	$0
Vegetate		m2		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
BURY PAG ROCK								
Relocate PAG rock		m3		#N/A	$0.00	$0	$0	$0
Place cover over PAG rock		m3		#N/A	$0.00	$0	$0	$0
Raise crest of dam		m3		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
STABILIZE DECANT SYSTEM								
Excavate and replace		m3		#N/A	$0.00	$0	$0	$0
Plug/backfill with concrete or clay		m3		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
REMOVE TAILINGS DISCHARGE								
Cyclones		m3		#N/A	$0.00	$0	$0	$0
Pipe		m3		#N/A	$0.00	$0	$0	$0
Remove reclaim barge		allow		#N/A	$0.00	$0	$0	$0
CONSTRUCT DIVERSION DITCHES								
Excavate ditches -soil		m3		#N/A	$0.00	$0	$0	$0
Excavate ditches -rock		m3		#N/A	$0.00	$0	$0	$0
Rip rap in channel base		m3		#N/A	$0.00	$0	$0	$0
FLOOD TAILINGS								
Doze tailings to final contour		m3		#N/A	$0.00	$0	$0	$0
Raise crest of dam		m3		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
UPGRADE SPILLWAY								
Excavate channel, rock		m3		#N/A	$0.00	$0	$0	$0
Excavate channel, soil		m3		#N/A	$0.00	$0	$0	$0
Concrete		m3		#N/A	$0.00	$0	$0	$0
Rip rap		m3		#N/A	$0.00	$0	$0	$0
Other				#N/A	$0.00	$0	$0	$0
CONSTRUCT SEEPAGE COLLECTION POND								
Excavate seepage collection pond		m3		#N/A	$0.00	$0	$0	$0
Doze & spread excavated material		m3		#N/A	$0.00	$0	$0	$0
Vegetate spread material		ha		#N/A	$0.00	$0	$0	$0
Bedding layer		m3		#N/A	$0.00	$0	$0	$0
Supply geomembrane		m2		#N/A	$0.00	$0	$0	$0
Install geomembrane		m2		#N/A	$0.00	$0	$0	$0
Erosion protection layer		m3		#N/A	$0.00	$0	$0	$0
INSTALL GROUNDWATER COLLECTION SYSTEM								
Excavate/install sumps		m3		#N/A	$0.00	$0	$0	$0
Install pumping wells		m3		#N/A	$0.00	$0	$0	$0
Install pumps/pipelines/power supply		LS		#N/A	$0.00	$0	$0	$0
SPECIALIZED ITEMS								
Install permanent instrumentation, supply & technican		each		#N/A	$0.00	$0	$0	$0
Install permanent instrumentation, drilling		each		#N/A	$0.00	$0		$0
TREAT SEEPAGE - see "Water Management" and "Water Treatment"								
TREAT SUPERNATANT								
Pump water (to pit, U/G)		m3		#N/A	$0.00	$0	$0	$0
Equipment maintenance and parts		allow		#N/A	$0.00	$0	$0	$0
Supply reagents		tonne		#N/A	$0.00	$0	$0	$0
				Annual treatment costs		$0		
Number of years of treatment		years						
				Total treatment costs		$0		$0
					Total	$200,000	$0	$200,000
					% of Total		0%	100%

* for construction of passive treatment system refer to "Water Management"

1 **Rock Pile Name:** **wrp**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost	% Land	Land Cost	Water Cost
STABILIZE SLOPES									
Excate landfill area		m3	2000	#N/A	$3.49	$6,980	100%	$6,980	$0
Flatten "bubble dump" areas		m3	10000	#N/A	$3.49	$34,900		$0	$34,900
Divert runon, ditch mat'l A		m3	1200	#N/A	$17.20	$20,640		$0	$20,640
Divert runon, ditch mat'l B		m3		#N/A	$0.00	$0		$0	$0
Toe buttress, drain mat'l		m3		#N/A	$0.00	$0		$0	$0
Toe buttress, fill mat'l A		m3		#N/A	$0.00	$0		$0	$0
Toe buttress, fill mat'l B		m3		#N/A	$0.00	$0		$0	$0
Other				#N/A	$0.00	$0		$0	$0
COVER ROCK PILE									
Material A - clay 0.5 m thick		m3	10000	#N/A	$10.83	$108,300		$0	$108,300
Marerial B - clean fill, 1.5 m thick		m3	30000	#N/A	$7.81	$234,300		$0	$234,300
Cover upgrade		allow	1	#N/A	$245,000	$245,000		$0	$245,000
Excavate downslope drainage channel & chute		m3		#N/A	$0.00	$0		$0	$0
Rip rap drainage channel and chute		m3		#N/A	$0.00	$0		$0	$0
Vegetate		ha		#N/A	$0.00	$0		$0	$0
Other				#N/A	$0.00	$0		$0	$0
VERY LOW PERMEABILITY COVER (in addition to above)									
Liner subgrade preparation - compact		m2		#N/A	$0.00	$0		$0	$0
Supply geomembrame		m2		#N/A	$0.00	$0		$0	$0
Install geomembrane		m2		#N/A	$0.00	$0		$0	$0
Protective cover - excavate,haul,spread&compact		m3		#N/A	$0.00	$0		$0	$0
Vegetate		ha		#N/A	$0.00	$0		$0	$0
Install infiltration/seepage instrumentation		allow		#N/A	$0.00	$0		$0	$0
CONSTRUCT DIVERSION DITCHES									
Excavate ditches -soil		m3		#N/A	$0.00	$0		$0	$0
Excavate ditches -rock		m3		#N/A	$0.00	$0		$0	$0
Rip rap in channel base		m3		#N/A	$0.00	$0		$0	$0
CONSTRUCT SEEPAGE COLLECTION POND									
Excavate seepage collection pond		m3		#N/A	$0.00	$0		$0	$0
Doze & spread excavated material		m3		#N/A	$0.00	$0		$0	$0
Vegetate spread material		ha		#N/A	$0.00	$0		$0	$0
Bedding layer		m3		#N/A	$0.00	$0		$0	$0
Supply geomembrane		m2		#N/A	$0.00	$0		$0	$0
Install geomembrane		m2		#N/A	$0.00	$0		$0	$0
Erosion protection layer		m3		#N/A	$0.00	$0		$0	$0
INSTALL GROUNDWATER COLLECTION SYSTEM									
Excavate/install sumps		m3		#N/A	$0.00	$0		$0	$0
Install pumping wells		m3		#N/A	$0.00	$0		$0	$0
Install pumps/pipelines/power supply		allow		#N/A	$0.00	$0		$0	$0
RELOCATE DUMPS									
Load, haul, dump or doze		m3		#N/A	$0.00	$0		$0	$0
Add lime		tonne		#N/A	$0.00	$0		$0	$0
Contour reclaimed area		ha		#N/A	$0.00	$0		$0	$0
Other				#N/A	$0.00	$0		$0	$0
SPECIALIZED ITEMS									
Install permanent instrumentation		each		#N/A	$0.00	$0		$0	$0
Install permanent instrumentation, drilling		each		#N/A	$0.00	$0		$0	$0
TREAT ROCK PILE SEEPAGE - see "Water Treatment"									
HEAP LEACH SEEPAGE TREATMENT - Cyanide Detox									
Cyanide destruction water treatment pumping		m3		#N/A	$0	$0		$0	$0
Reagents		tonnes		#N/A	$0	$0		$0	$0
Electrician/mechanic to maintain treatment plant		allow		#N/A	$0	$0		$0	$0
Equipment maintenance and parts		allow		#N/A	$0	$0		$0	$0
				Annual treatment costs		$0			
Number of years of treatment		years							
				Total treatment costs		$0			$0
HEAP LEACH SEEPAGE TREATMENT - ARD/ML**									
Upgrade/modify pumping system - report to WTP		allow		#N/A	$0	$0			$0
					Total	$650,120		$6,980	$643,140
					% of Total			1%	99%

* For construction of passive treatment system refer to "Water Management". ARD/ML seepage treatment becomes post-closure water treatment cost

**Heap leach ARD/ML seepage treatment becomes post-closure water treatment cost

1 **Building / Equip Name:** **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		allow		#N/A	$0.00	$0		$0	$0
Decontaminate and dispose on-site		allow		#N/A	$0.00	$0		$0	$0
Other				#N/A	$0.00	$0		$0	$0
REMOVE BUILDINGS - see note below									
Accomodation Complex		m2		#N/A	$0.00	$0		$0	$0
Process Facilities		m2		#N/A	$0.00	$0		$0	$0
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		No.	3	#N/A	$4,000	$12,000	100%	$12,000	$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		m2		#N/A	$0.00	$0		$0	$0
Fuel Tanks		m2		#N/A	$0.00	$0		$0	$0
Freshwater intake		m2		#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		mandays		#N/A	$0.00	$0		$0	$0
Airstrip lighting, navigation, mechanical		mandays		#N/A	$0.00	$0		$0	$0
Break foundation slabs	total of all buildings	m2		#N/A	$0.00	$0		$0	$0
Consolidate & dump boneyard debris		m3		#N/A	$0.00	$0		$0	$0
Other				#N/A	$0.00	$0		$0	$0
LANDFILL FOR DEMOLITION WASTE									
Place rock cover	Blast rock fill	m3		#N/A	$0.00	$0		$0	$0
Place soil cover	Soil Cap - Landfill and Septic Field	m3		#N/A	$0.00	$0		$0	$0
Vegetate		ha		#N/A	$0.00	$0		$0	$0
GRADE AND CONTOUR MILL & PLANT SITE									
Equipment Removal		tonne	225	#N/A	675	$151,875	100%	$151,875	$0
Concentrater Building Demolition		tonne	450	#N/A	945	$425,250	100%	$425,250	$0
Paste Plant Demolition		tonne	121	#N/A	945	$114,345	100%	$114,345	$0
DMS Plant Demolition		tonne	167	#N/A	945	$157,815	100%	$157,815	$0
Other Demolition		tonne	100	#N/A	945	$94,500	100%	$94,500	$0
Dismantle Cold Storage Shed		tonne	100	#N/A	540	$54,000	100%	$54,000	$0
Water Treatment Plant		tonne	200	#N/A	945	$189,000	100%	$189,000	$0
bulk fuel storage		tonne	160	#N/A	945	$151,200	100%	$151,200	$0
Tailings storage building		tonne	150	#N/A	945	$141,750	100%	$141,750	$0
offices/warehouse/accom		tonne	160	#N/A	675	$108,000	100%	$108,000	$0
Camp costs during onsite decomm.		Lump$	399805	#N/A	1	$399,805	100%	$399,805	$0
ANFO Plant		No.	3	#N/A	4,000	$12,000	100%	$12,000	$0
Pb Oxide Building		tonne	100	#N/A	945	$94,500	100%	$94,500	$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 airstriip		ha		#N/A	$0.00	$0		$0	$0
Scarify laydown areas		ha		#N/A	$0.00	$0		$0	$0
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	$2,106,040		#########	$0
					% of Total			100%	0%

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 **Chemicals/Soil Area Name:**

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									
Phase 1		each	1	#N/A	######	$25,000	100%	######	$0
Phase 2		each	1	#N/A	######	$50,000	100%	######	$0
BUILDING DECONTAMINATION & CONSOLIDATION OF HAZARDOUS MATERIALS									
Environmental technician/coordinator		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate: oil, fuel		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate maintenance shop		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate power plant		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate bulk fuel storage		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate ANFO plant		mandays		#N/A	$0.00	$0		$0	$0
Decontaminate offices/warehouse/accom		mandays		#N/A	$0.00	$0		$0	$0
Removal of asbestos siding on buildings		m2		#N/A	$0.00	$0		$0	$0
Removal of friable asbestos on equipment		m2		#N/A	$0.00	$0		$0	$0
Other				#N/A	$0.00	$0		$0	$0
HAZARDOUS MATERIALS REMOVAL									
Waste oils		litre		#N/A	$0.00	$0		$0	$0
Waste fuel		litre		#N/A	$0.00	$0		$0	$0
Waste batteries		kg		#N/A	$0.00	$0		$0	$0
Assay & environmental lab reagents		kg		#N/A	$0.00	$0		$0	$0
Machine shop paints, solvents etc		litre		#N/A	$0.00	$0		$0	$0
Glycol		litre		#N/A	$0.00	$0		$0	$0
Process reagents		kg		#N/A	$0.00	$0		$0	$0
Nuclear sources		allow		#N/A	$0.00	$0		$0	$0
Other hazardous materials		allow		#N/A	$0.00	$0		$0	$0
HAZARDOUS MATERIALS									
Transportation to disposal facility		allow	1	#N/A	######	$10,000		$0	$10,000
Disposal fees		allow	1	#N/A	######	$20,000		$0	$20,000
Other				#N/A	$0.00	$0		$0	$0
CONTAMINATED SOILS									
Contam. soil investigation - Phase 1		each		#N/A	$0.00	$0		$0	$0
Contam. soil investigation - Phase 2		each		#N/A	$0.00	$0		$0	$0
CONTAMINATED SOIL REMOVAL									
Hydrocarbons		m3	500	#N/A	$10.83	$5,415		$0	$5,415
Metals		m3	2000	#N/A	$8.60	$17,200		$0	$17,200
Reagents/stabilizing agent		m2		#N/A	$0.00	$0		$0	$0
Excavate and transport to offsite facility		m3		#N/A	$0.00	$0		$0	$0
Contour decontaminated area		m3		#N/A	$0.00	$0		$0	$0
CONTAMINATED SOIL VERY LOW PERMEABILITY COVER									
Supply geomembrame, 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	$127,615		######	$52,615
					% of Total			59%	41%

1 Post-Closure Monitoring & Maintenance:

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
WATER TREATMENT PLANT OPERATIONS						
Lime		tonne	176	#N/A	$400	$70,400
Lime Treatment Plant - Power		m3	1100000	#N/A	$0.19	$209,000
Pumping - Power		kWh	630720	#N/A	$0.31	$197,100
Operating labour		m-h	59072.8	#N/A	$50	$2,953,640
Camp ops - power		kWh		#N/A	$0.00	$0
Camp ops - Phase 2		m-d		#N/A	$0.00	$0
Transport on site		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				#N/A	$0.00	$0
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						$3,430,140
Discount rate for calculation of net present value of post-closure cost, %				3.00%		
Number of years of post-closure activity				100	years	
Present Value of payment stream						$3,430,140

*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 Post-Closure Monitoring & Maintenance:

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
MONITORING & INSPECTIONS						
Annual geotechnical inspection		each		#N/A	$0.00	$0
Survey inspection		each		#N/A	$0.00	$0
Regulatory costs*		each	1	#N/A	$128,000	$128,000
Ground water sampling		day	41	#N/A	$3,960	$162,360
Camp ops - power		kWh	788400	#N/A	$0.31	$244,404
Camp ops - Phase 2		m-d	6570	#N/A	$135.00	$886,950
Transport on site		each	41	#N/A	#######	$41,000
Wildlife Effects Monitoring Program (WEMP)		each		#N/A	$0.00	$0
Vegetation Monitoring		each		#N/A	$0.00	$0
Other				#N/A	$0.00	$0
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			$1,462,714
Discount rate for calculation of net present value of post-closure cost, %	3.00%		
Number of years of post-closure activity	9	years	
Present Value of payment stream			$1,462,714

*Regulatory costs - annual reporting, management plans, progress reports et

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		manmonths		#N/A	0	$0
extra personnel		manmonths		#N/A	0	$0
-electrician		days	1	#N/A	3300	$3,300
-mechanic		days	1	#N/A	3300	$3,300
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	1	#N/A	25000	$25,000
SNP/AEMP water sampling & reporting		each		#N/A	0	$0
geotechnical assessment		each		#N/A	0	$0
interim water treatment			1	#N/A	25000	$25,000
other		each		#N/A	0	$0
			Annual	Interim C&M Cost		$56,600
Number of years of ICM		years	$3		**Total**	$169,800

1 **Mobilization/Demobilization:** **All equipment is on site**

ACTIVITY/MATERIAL	Notes	Units	Quantity	Cost Code	Unit Cost	Cost
MOBILIZE HEAVY EQUIPMENT						
Excavators		each		#N/A	0	$0
Dump trucks		each		#N/A	0	$0
Dozers		each		#N/A	0	$0
Demolition shears		each		#N/A	0	$0
Crane		each		#N/A	0	$0
Loader		each		#N/A	0	$0
Compactor		each		#N/A	0	$0
Light duty vehicles		each		#N/A	0	$0
MOBILIZE MISC. SUPPLIES						
Fuel		litre	150000	#N/A	2.3	$345,000
Cement		tonnes	40	#N/A	500	$20,000
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		flights	48	#N/A	2500	$120,000
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
MOBILIZE FUEL						
Fuel freight - reclamation activities		litre		#N/A	0	$0
Fuel freight - long term reclamation activities		litre		#N/A	0	$0
Fuel freight accomodations		litre		#N/A	0	$0
WINTER ROAD						
Construction and operation 2 year		km	340	#N/A	1483.2	$504,288
Board increment		allow	1	#N/A	580572	$580,572
Winter road tarriff		km		#N/A	0	$0
DEMOBILIZE HEAVY EQUIPMENT						
Excavators		km		#N/A	0	$0
Dump trucks		km		#N/A	0	$0
Dozers		km		#N/A	0	$0
Demolition shears		km		#N/A	0	$0
Crane		km		#N/A	0	$0
Loader		km		#N/A	0	$0
Compactor		each		#N/A	0	$0
Light duty vehicles		km		#N/A	0	$0
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		each		#N/A	0	$0
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	**$1,569,860**