

**Table 14: Summary of Measures for Final Closure (REVISED March 19, 2019)**

Component	Description	Preparatory Work	Closure Phase		Post-Closure Phase				
		2019	2020	2021	2022	2023	2024	2025	2026
			Active Stage		Passive Stage				
Underground Mine	Backfilling of shafts to prevent animal or human entrance			X					
	Blasting down crown pillars where required for stability or disposal – to be carried out under approved care and maintenance plan		X						
	Disposing of contaminated soil, waste rock and demolition rubble into open crown pillars – to be carried out under approved care and maintenance plan			X					
	Backfilling of crown pillars with rock fill (to 1.5 m above surface to allow for settlement) – to be carried out under approved care and maintenance plan			X					
	Capping rock fill in crown pillars with 1.0 m of esker material			X					
Waste Rock	Excavate waste rock from perimeter areas and dispose in the open crown pillars, landfill(s) or central waste rock area <sup>(a)</sup> – to be carried out under approved care and maintenance plan			X					
	Excavate waste rock containing high levels <sup>(b)</sup> of As, CN or P <sub>2</sub> O <sub>5</sub> and dispose in shafts or crown pillars to be carried out under approved care and maintenance plan			X					
	Contouring remaining waste rock and capping with 1.0 m of esker material			X					
	Place a 10 m long plug of rock fill in the adit and portal area			X					
Tailings Containment Area	Removal of tailings pipeline; bury in landfill		X						
	Remove any tailings from emergency dump and dispose in crown pillar		X						
	Complete covering of remaining tailings area with 1.0 m of esker material – to be carried out under approved Final TCA Closure Plan		X						
	Demolish treatment plant; dispose in landfill(s)			X					
	Installation of permanent monitoring instrumentation – to be carried out under approved Final TCA Closure Plan	X							
	Regrading granular slopes on M Dam		X						
Buildings and Equipment	Removal of asbestos containing materials, disposal in landfill(s)		X						
	Remove salvageable materials; consolidate for shipment off-site		X		X				
	Removal of above-ground mechanical and electrical equipment		X						
	Demolition of ancillary buildings (shops, storage, camp); disposal of rubble in open crown pillars or landfill(s)		X						
	Demolition of mine and mill buildings; disposal of rubble in open crown pillars or landfill(s)		X						
	Hoe ram concrete foundation slabs; leave in place and cover		X						
	Removal of freshwater supply system pumphouse; remove pipeline and dispose in the landfill(s)		X						
	Placement of 0.3 m granular fill over slabs			X					
	Dismantling and removal of sewage pipeline, lagoon shack and pumping facilities			X					
	Disposal of unsalvageable / un-recyclable non-hazardous waste in landfill(s) – to be carried out under existing approved management plan		X	X					
	Burn combustible material – to be carried out under existing approved licence/permit		X	X					
Borrow and Quarry Areas	Contouring esker area and placement of erosion protection in drainage paths			X					
	Decontaminate: oil, fuel and glycol systems			X					
Chemicals	Drum paints, solvents, chemicals, glycols, and hazardous materials for shipment to off-site disposal			X					
	Remove ashes from burn pit and bury in landfill(s) > 2m below final grade – to be carried out under existing approved licence/permit		X	X					
	Burn waste oil – to be carried out under existing approved licence/permit		X	X					
	Consume most of diesel fuel for closure operations		X	X					
	Burn excess fuel at end of closure activities – to be carried out under existing approved licence/permit			X					
	Empty and purge fuel tanks and dispose in accordance with the Canadian Environmental Protection Act Regulation			X					
	Excavation of hydrocarbon contaminated soils, consolidate into containers and bury in open crown pillars			X					
	Bioremediate soil currently in landfarm; use remediated soil for reclamation – to be carried out under existing approved management plan licence/permit	X	X	X					
Machinery and Mobile Equipment	Drain fluid from equipment to be left on-site and dispose equipment in landfill(s)			X					
	Drain fluid from equipment used for long-term maintenance (e.g., excavators) <sup>(c)</sup> and dispose equipment in landfill(s) or off-site								X
Landfill	Place wastes into existing landfill(s) – to be carried out under existing approved management plan		X	X					
	Use waste rock to infill voids and create a stable contoured surface which drains freely			X					
	Cover contoured landfill(s) with 1 m of esker material			X					
Site Roads	Scarify all-weather roads; remove culverts			X					
	Treat water inventory with lime and release to lower water level – to be carried out under existing approved licence/permit			X					
Water Management Facilities	Construction of spillways in Dam 1A and J Dam; place geotextile and rip rap to 2 m depth						X		
	Excavation of spillways on Upper and Lower Sewage Lakes			X					
Mob/Demob	Mobilize Winter Ice Road maintenance equipment	X							
	Operate Winter Ice Road for salvage removal		X		X				

a) The waste rock from the perimeter of the Mill Site Area (shown in Figure 10) will be removed and disposed into the open crown pillars, shafts, landfill(s) or the central waste rock area. Waste rock which will stay on place will be contoured to drain freely and then capped with 1.0 m of esker material.

b) Refer to text for levels of As, CN, or P<sub>2</sub>O<sub>5</sub> requiring disposal in shafts or crown pillars, rather than covering in place.

c) Assumed 5 years after closure; however Closure schedule depends on monitoring results. Activities will occur until contact water quality satisfies water licence criteria for direct discharge to the environment.