Appendix D

Summary of Proposed Remediation Activities

Summary of Proposed Remediation Activities at the Great Bear Lake Sites Silver Bear, Contact Lake, and El Bonanza

	Site Issue	Preferred Remediation Method
Access to the Underground		
Mine openings	Vertical shafts and vent raises	Deep vertical shaft and vent raises openings will be sealed with a concrete cap. Shallow vertical shafts and vents surface openings will be backfilled and plugged with a rock seal
	Adits and Open Stopes	Horizontal openings (adits) will be backfilled and rock sealed. Where such is not possible the area will be fenced.
Site Infrastructure and Potential Physical Hazards	Concrete Foundations, Walls and Slabs (all sites)	Vertical structures will be demolished. Slabs on grade will be broken up and placed in the landfill if contamination is suspected beneath the slab or covered if not contamination is not suspected beneath the slab.
	Dock Areas (all sites)	Docking areas will be removed and a more natural slope will be created ensuring that slopes are stabilized. Potential sediment impacts to the water will be minimized during cleanup.
	Roads (all sites)	Roads will be left to naturally re-vegetate. All culverts will be removed and if required the streambeds will be restored.
	Airstrip (Silver Bear and El Bonanza)	The airstrip will remain closed to Transport Canada's standards.
	Miscellaneous Equipment (all sites)	Drain engine fuels and dispose of equipment on site unless equipment is valuable and can be easily removed from site in a safe manner.
	Miscellaneous Scrap (all sites)	Pick up and dispose of in an on site enhanced non-hazardous waste landfill.
	Wood Frame Structures (all sites)	All structures will be demolished.
	Underground Mill (Silver Bear – Northrim)	The underground mill will be decontaminated (e.g. removal of oil) and left in place. The adit will be closed off with backfill material.
Contaminated Areas, Chemical and Radiological Concerns		
Waste Rock	Site Drainage through waste rock (Silver Bear – Terra and Norex)	Create drainage pathways through the waste rock at the Terra and Norex sites to minimize the amount of contact the drainage water has with the waste rock.
	Site Drainage through waste rock (Contact Lake)	Protect small terrestrial animals from ingesting metals by improving site draining and minimizing the amount of standing water in the waste rock.
	Waste rock at Silver Bear – Smallwood	Remove potentially acid generating rock from adjacent to Smallwood Lake and place in Graham Vein.
	Waste rock at Silver Bear – Northrim	Consolidate waste rock to large pad of waste rock (i.e. remove waste rock from adjacent to Camsell River).
Elevated Gamma	Elevated Gamma Radiation (Contact Lake site and Small area at the Terra site)	Cover accessible areas with approximately 0.5m of native cover material where gamma radiation levels exceed 250μR/h. The cover will reduce these areas to below 100μR/h. Therefore, the maximum gamma level in accessible areas will be less than 250μR/h.
Tailings	Exposed Tailings (Silver Bear - Terra)	Exposed tailings will be covered in place. Ho Hum tailings lake will be monitored as part of the long term monitoring program.

	Exposed Tailings (Silver Bear – Northrim)	Small amount of exposed tailings at the Northrim site will be consolidated and disposed in on-site landfill. Hermandy Lake at Northrim will be monitored as part of the long term monitoring program
	Exposed Tailings (Contact Lake)	Exposed tailings will be consolidated and covered. The Contact Lake tailings pond will be monitored as part of long term monitoring program.
	Submerged Tailings (Silver Bear and Contact Lake)	There are submerged tailings at Silver Bear in the Ho Hum tailings lake and the Camsell River at Northrim. There are also submerged tailings in the Contact Lake tailings pond. These submerged tailings will be left undisturbed and water quality monitoring will be done.
	Submerged Tailings (Silver Bear – Northrim)	The submerged tailings at Northrim adjacent to Hermandy Lake will be covered in place. Original drainage route from Hermandy Lake to the Camsell River will be restored.
Water	Contaminated Surface Water (Silver Bear – Ho-Hum Tailings Lake)	A new dyke/spill way will be constructed to control the water flow from Ho-Hum tailings lake to Moose Bay. The wetland that exists between these two bodies of water will be enhanced.
Contaminated Soil	Hydrocarbon Contaminated Soil (all Sites)	Non-mobile hydrocarbon contaminated soil (e.g. heavier oils and lubes) above criteria will be left in place and covered or will be excavated and used in the landfill as intermediate cover. More mobile hydrocarbon contaminated soil (e.g. gasoline and diesel) above criteria will be excavated and treated on-site.
Hazardous Material	Hazardous Materials (all Sites)	If encountered, remove off-site for disposal.
Landfills		
Existing landfills (waste disposal sites)	Waste Disposal Sites	Partially buried debris will be excavated along with the soil. The debris will be disposed of appropriately (e.g. hazardous material shipped off-site and non-hazardous material place in the on-site landfill). Soil will be stockpiled and tested for contamination and will be disposed of accordingly.
New landfill	On-Site Enhanced Non-Hazardous Waste Landfill – Silver Bear (Terra Site)	An enhanced non-hazardous waste landfill will be constructed on the Terra site in an impacted area. The landfill will be enhanced because it will have a top liner that will virtually eliminate the infiltration of water through the landfill. In accordance with other abandoned contaminated sites in the NWT, lead amended painted material will be placed in the landfill. Material with leachable lead levels above criteria will be shipped off-site and disposed of as hazardous material.