

## SUMMARY OF POTENTIAL IMPACTS

RESOURCE/TOPIC	POTENTIAL IMPACT	PROPOSED MITIGATION
Tundra / Permafrost	Overburden drilling will cause minor disturbance to immediate drilling areas. Contamination of terrain/permafrost and, surface and ground water due to fuel spills. Accidental fuel spills.	Drill rigs will be heli-portable and will not traverse tundra surface. Site will be left in a stable state. Proper storage of fuel containers and use of drip pans. See Attached Spill Contingency Plan.
Hydrology	Water removal required from local water bodies for geotechnical drilling.	Chilled brine will be kept in closed circulation by the drill, minimizing the amount of water used. Additional water will be required if downhole circulation is lost. Lost circulation is un-common and amounts are expected to be minimal.
Hydrology	Water quality changes to groundwater if artesian well is encountered during drilling.	If an artesian well is encountered, drilling will stop, the hole will be plugged, and the location will be recorded and reported .
Surface Water Quality	None – no direct discharge to water bodies, negligible sedimentation.	Minimum 30m distance from surface water bodies enforced for all activities.
Fish and Fish Habitat	Entrainment of fish and other aquatic life with extraction of water for drilling and domestic camp purposes.	Use of screens over pump intake pipe to prevent entrainment.
Vegetation	Spilled brine during drilling may result in minor damage in immediate vicinity of drill site Minor compaction of vegetation caused by drill.	Implementation of field protocols to ensure there is no brine spillage. Closed system on drill water return. Drill-rig will be heli-portable and will not traverse the ground surface.
Wildlife and Wildlife Habitat	Wildlife: short-term aircraft and drilling noise, human interaction. Habitat: Minor disturbance to vegetation in drilling areas by compaction.	Personnel training on wildlife-human interaction/encounters. Pre-drilling reconnaissance site visit prior to drilling activities will assist in identifying sensitive wildlife habitat. Site will be left in a stable state, promoting vegetation re-established.

		Operations will be modified or suspended if found to be affecting seasonal migration or nesting activities.
Wildlife and Wildlife Habitat	Disturbance of wildlife from low-level aircraft activities.	Low-level fixed wing aircraft activity will be restricted to take off and landing. Likewise helicopter flight will be restricted to the necessary slinging of drill equipment and take off and landing.
Socio-economics	Positive impacts. Local employment and training. Continued employment opportunities for field personnel from the local communities, with the possibility of expansion in the future.	Local employment provides jobs, employment benefits and income to individuals and families in isolated communities with few opportunities. Boosts local economy which in turn has beneficial effects.
Archaeology / Cultural Sites	Minor disturbance to immediate drilling areas.	Pre-drilling terrain mapping and reconnaissance site visit will assist in identifying potential archaeological sites. Personnel training on archaeological resource identification. Standard notification procedures will be followed in the event that archaeological artifacts are encountered, and operations modified or suspended.
Archaeology / Cultural Sites	Disturbance, removal and/or destruction of archaeological specimens or sites.	Project activities that encounter or disturb an archaeological site or specimen shall be stopped, and the proper regulatory authorities shall be immediately notified.  All persons working on site will be made aware of this mitigation procedure and any permit conditions.  Archaeological specimens or sites shall not knowingly be removed, disturbed or displaced.