

POTENTIAL IMPACTS OF THE PROJECT ON THE ENVIRONMENT AND PROPOSED MITIGATION MEASURES
IMPACT-MITIGATION TABLE

Using the Impact-Mitigation Table below, identify all proposed activities, potential impacts, and possible mitigations that are relevant to the proposed project. [Applicants for type A licences must fill out the detailed Table below; other applicants may choose to use either the simplified Table in the Application Form, or the detailed Table below, unless the Board provides specific direction on which Table the applicant must use.](#) **Note** the Table is not exhaustive and not all impacts in the Table will apply to all projects. All information provided should reflect the size, scale, and nature of the proposed project. Cumulative impacts and climate change must be considered. _

For the identified potential impacts, describe proposed mitigations, including environmental management systems, treatment systems, and monitoring programs, and explain how the potential effects of climate change were considered. Indicate whether any of the mitigation measures have been developed as a result of input from affected parties and identify any best practices or guidance documents that will be used. In many cases, appropriate mitigations have been developed and approved by the Boards in the form of standard conditions (see Standard [Land Use Permit](#) and [Water Licence](#) Conditions Templates). Applicants are encouraged to consult these standard conditions and utilize them in proposed mitigations where appropriate.

Further information on potential impacts is also available in the Review Board’s [Environmental Impact Assessment Guidelines and Socio-Economic Impact Assessment Guidelines](#).

ABIOTIC COMPONENTS			
Land			
Extent of land area to be disturbed (m ² or ha)	Up to 1 hectare		
Are sensitive land features present? If so, indicate the type(s): karsts, eskers, ice patches, mineral licks, hot and warm springs, glacial refugia, other	Some eskers are present.		
Extent of sensitive land areas to be disturbed (m ² or ha)			
Potential Impacts	Activity <i>Use an “x” to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> • Soil contamination • Soil compaction • Destabilization/erosion 	Clearing of timber, brush, or vegetation mat	X	Clearing vegetation will affect vegetation and soils. Follow land use permit conditions regarding brush disposal.
	Stripping of overburden		
	Bulk soil sampling		

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IMPACT-MITIGATION TABLE

<ul style="list-style-type: none"> • Change in soil structure • Inability to support vegetation • Other 	Trenching, diamond drilling, geotechnical borehole drilling	X	Some vegetation clearing will be required at drill pads. Primarily undertake drilling in disturbed areas at the Colomac Mine. When leaving the mine, only disturb the minimum area required for the drill, typically 8 m by 8 m.
	Cut and fill		
	Oil and gas exploration well drilling		
	Directional drilling (underground)		
	On-site storage or disposal of wastes (domestic garbage, sewage, waste petroleum products, drilling waste and hydraulic flowback fluids, hazardous wastes, etc.)	X	Waste stored on-site may attract wildlife or be hazardous. Follow the approved Waste Management Plan for waste storage.
	Transfer, storage, and use of petroleum products and/or chemicals	X	Spills may occur during fuel transfer. Follow the approved Spill Contingency Plan
	Transfer, storage, and use of explosives	X	
	Use of fertilizers, pesticides, herbicides		
	Use of motorized and heavy equipment	X	Heavy equipment use may disturb vegetation and soils. Primarily use existing roads at Colomac. Follow land use permit conditions when leaving roads.
Other			
Water			
Groundwater			
Is groundwater present? If so, indicate the type(s): shallow, deep, fresh, saline			
Potential Impacts	Activity <i>Use an "x" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> • Water table alteration • Infiltration changes • Changes in water quality • Temperature changes • Other 	Withdrawal of groundwater		
	Trenching, diamond drilling, geotechnical borehole drilling	X	Drill waste may affect water quality. Non-toxic drilling waste will deposited in a sump as per the land use permit conditions.
	Installation of groundwater monitoring wells		
	Directional drilling (underground)		
	Oil and gas exploration well drilling		
	Clearing of timber, brush, or vegetation mat		
	Stripping of overburden		

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	Transfer, storage, and use of petroleum products and/or chemicals	X	Spills may affect groundwater. Follow the approved Spill Contingency Plan
	Other		
Permafrost			
Is permafrost present? If so, indicate the type(s): continuous or discontinuous			
Extent of permafrost area to be disturbed (m ² or ha)			
Potential Impacts	Activity <i>Use an "x" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> Loss or change in extent Changes in seasonal fluctuations Change in persistence 	Clearing of timber, brush, or vegetation mat		
	Stripping of overburden		
	Construction of structures (buildings, water or waste management facilities, etc.)		
	Construction (development or alteration: widening, straightening, detours), maintenance, and operation of lines, trails, or rights-of-way		
	Trenching, diamond drilling, geotechnical borehole drilling		
	Other		
Surface Water			
Is surface water present? If so, indicate the type(s): lake, river, stream, wetland (bog, marsh, swamp, fen), seasonal, year-round			
Potential Impacts	Activity <i>Use an "x" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> Water flow or level changes (permanent, temporary, seasonal) 	Withdrawal of water from a watercourse	X	Water use for camp, drilling and winter roads may affect water quantity. Water use will be limited to the volumes indicated in the Water Use Plan.
	Retaining, storing, or diverting water		
	Construction and use of a		

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<ul style="list-style-type: none"> • Drainage pattern changes • Temperature changes • Changes in water quality • Wetland impairment • Changes to aquatic habitat (see Biotic section below) • Other 	watercourse crossing (bridge, ford)		
	Watercourse alteration (ditch construction, channelling, training, installation of culvert)		
	Construction of dams and impoundments		
	Direct or indirect disposal of waste into water	X	Water use for camp and drilling may lead to deposit of waste in water. All drilling and camp waste will be deposited in sumps set back from waterbodies, as per the land use permit conditions.
	Clearing of timber, brush, or vegetation mat near a watercourse		
	Stripping of overburden adjacent to a watercourse		
	Excavation or stockpiling of earth or gravel adjacent to a watercourse		
	Use of motorized or heavy equipment adjacent to, within, or through a watercourse		
	Transfer, storage, and use of petroleum products and/or chemicals near a watercourse	X	Spills near a watercourse may affect water quality. All hazardous materials will be stored at a distance from watercourses, as per the land use permit conditions.
	Use of fertilizers, pesticides, or herbicides		
	Other		
Air			
If applicable, indicate the type(s) of air pollutants: aerosols, particulate matter, noxious gases, volatile organic carbons, hazardous air pollutants, dust, other			
Indicate the estimated maximum dispersal distance			
Potential Impacts	Activity <i>Use an "x" to indicate which apply</i>		Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> • Changes in air quality 	Burning of fossil fuels	X	Greenhouse gas emissions will result from the Project.
	Mobilization and operation of equipment for construction and		

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IMPACT-MITIGATION TABLE

<ul style="list-style-type: none"> • Harm to living things • Increased greenhouse gases • Other 	operational activities		
	Release of underground gases		
	Increased road traffic		
	Other		
BIOTIC COMPONENTS			
Vegetation			
If vegetation will be removed or compacted, indicate type(s): trees, shrubs, thickets, muskeg, Species at Risk plants, may-be-at-risk plant species, other			
Extent of vegetation to be removed or compacted (m ³ or ha)			
Potential Impacts	Activity <i>Use an "x" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> • Direct loss of vegetation • Loss of Species at Risk or may-be-at-risk plants • Change in species composition • Introduction of non-native (invasive) species • Effects on plant health (dust, metals, toxins) • Increased risk of fire • Compaction of vegetation • Other 	Clearing of timber, brush, or vegetation mat	X	Clearing vegetation will affect vegetation and soils. Follow land use permit conditions regarding brush disposal.
	Stripping of overburden		
	Construction (development or alteration: widening, straightening, detours), maintenance, and operation of lines, trail, or rights-of-way		
	Construction of structures (buildings, water or waste management facilities, etc.)	X	Buildings at the Colomac camp will be confined to the existing disturbed area.
	Reclamation activities (levelling, contouring, placement of fines or woody debris, re-vegetation, fertilization)		
	Use of motorized and heavy equipment	X	Heavy equipment use may disturb vegetation and soils. Primarily use existing roads at Colomac. Follow land use permit conditions when leaving roads.
	Burning of fossil fuels	X	Particulates from emissions will result from the Project.
	Increased road traffic		
	Transfer, storage, and use of petroleum products and/or chemicals	X	Spills may occur during fuel transfer. Follow the approved Spill Contingency Plan

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IMPACT-MITIGATION TABLE

	Excavation or stockpiling of earth and/or gravel		
	Other		
Terrestrial Wildlife Habitat			
If sensitive wildlife habitat is present, indicate type(s): Species at Risk (SAR), Canadian Important Bird Areas, migratory birds, keystone species, wildlife corridor	Please refer to the Wildlife Monitoring and Management Plan (WMMP), Version 3.2 provided with this application. Some species at risk are anticipated to be present, as described in the WMMP. Observations of wildlife at the Project have been few, and limited to nine observations of black bears, two observations of caribou, arctic fox, moose, ptarmigan, bald eagles and ravens.		
Extent of sensitive wildlife habitat to be removed or disturbed (m ³ or ha)	None.		
If wildlife habitat will be removed or disturbed, indicate type(s): ungulates, furbearers, carnivores, small mammals, birds, insects, sensitive wildlife habitat (as noted above)			
Extent of wildlife habitat to be removed or disturbed (m ³ or ha)			
Potential Impacts	Activity <i>Use an "x" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> • Direct loss or removal of habitat, dens, or nests • Loss or removal of keystone species and/or SAR habitat • Fragmentation of wildlife corridor • Direct injury or mortality • Disturbances to key lifecycle stages: breeding, feeding, nesting, staging • Effects on population abundance • Change in species diversity • Effects on wildlife health (toxins, metals, etc.) • Changes to migratory 	Clearing of timber, brush, or vegetation mat	X	Clearing vegetation will affect wildlife habitat. Follow land use permit conditions regarding brush disposal. Total disturbed area is anticipated to be less than 1 hectare.
	Stripping of overburden		
	Construction of structures (buildings, water or waste management facilities, etc.)	X	Buildings will be constructed within the existing disturbed footprint of the Colomac mine.
	Construction (development or alteration: widening, straightening, detours), maintenance and operation of lines, trails, or rights-of-way		
	Increased traffic risk to wildlife		
	Increased human presence	X	Presence of humans may lead to additional harvesting. No recreational use of the area has been observed in past years, and harvesting by Project staff is forbidden.
	Noise (use of heavy equipment, blasting, crushing, drilling)	X	The Project, particularly drilling, will lead to short-term and localized sensory disturbance if there are wildlife in the vicinity.
	Transfer, storage, and use of petroleum products and/or		

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<ul style="list-style-type: none"> • movement patterns • Changes to predator-prey relationships • Human-wildlife conflicts • Other 	chemicals		
	On-site storage or disposal of wastes (domestic garbage, sewage, waste petroleum products, drilling waste and hydraulic flowback fluids, hazardous wastes, etc.)	X	Human presence may lead to problem wildlife. Follow the Waste Management Plan for attractants such as food waste.
	On-site disposal of domestic wastes (burning, burying)	X	Domestic waste is a wildlife attractants. Such waste is incinerated regularly, as per the Waste Management Plan.
	Other		
Aquatic Habitat			
Indicate types of aquatic species: Species at Risk, fish, mammals (furbearers), amphibians, aquatic macroinvertebrates, insects, aquatic macrophytes	Fish (trout, pike, whitefish, stickleback) are likely present is surrounding lakes. Aquatic mammals (beaver, muskrat, mink) are likely present. Lakes also contain phytoplankton, zooplankton, benthic invertebrates and aquatic macrophytes. No aquatic species at risk are likely to be present, based on known ranges.		
Extent of aquatic habitat removed or disturbed for breeding, feeding, nesting, staging (m ³ or ha)	Water use for camps, drilling and winter roads, as per the Water Use Plan but limited to 800 m3 per day at peak seasons.		
Potential Impacts	Activity <i>Use an "x" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> • Breeding disturbances • Change in species diversity • Effects on health (toxins, metals, sediment, etc.) • Changes to migratory movement patterns • Changes to predator-prey relationships • Effects on population abundance • Change in species diversity • Other 	Clearing of timber, brush, or vegetation mat near a watercourse		
	Stripping of overburden adjacent to a watercourse		
	Blasting near a watercourse		
	Construction and use of a watercourse crossing (bridge, ford)		
	Watercourse alteration (ditch construction, channelling, training, installation of culvert)		
	Use of motorized or heavy equipment adjacent to, within, or through a watercourse	X	Spills from motorized equipment may affect water quality. The land use permit forbids storage of material on ice. Follow the Spill Contingency Plan.
	Withdrawal of water from a watercourse	X	Withdrawal of water from a waterbody may affect aquatic environments, particularly during a winter withdrawal. Follow the approved Water Use Plan.
	Retaining, storing, or diverting water		

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	Construction of dams and impoundments		
	Direct or indirect disposal of waste into water	X	Deposit of greywater and drill waste may affect aquatic environments. Wastes will be deposited in sumps as per the land use permit.
	Other		
CULTURAL COMPONENTS			
Wildlife Harvesting			
Are harvesting areas present? If so, indicate type(s): Community Harvesting Areas, Special Harvesting Areas, Group Trapping Areas, etc.	While it is likely that harvesting areas are present, no land use or harvesting activity has not been observed by Nighthawk staff.		
Extent of overlap of Project area with harvesting areas identified above (fish lakes, trapping or hunting areas) (m ³ or ha)			
Potential Impacts	Activity <i>Use an "x" to indicate which apply</i>	X	Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i>
<ul style="list-style-type: none"> • Loss or reduction in game species populations • Effects on traditional land use, subsistence, and harvesting rights • Other 	Clearing of timber, brush, or vegetation mat		
	Stripping of overburden		
	Noise (use of heavy equipment, blasting, crushing, drilling)	X	Noise from exploration may disturb wildlife harvesting.
	Oil and gas exploration well drilling		
	Construction (development or alteration: widening, straightening, detours), maintenance and operation of lines, trails, or rights-of-way		
	Increased traffic risk to wildlife		
	Withdrawal of water from a watercourse	X	Withdrawal of water from waterbodies may affect aquatic environments. Follow the Water Use Plan.
	Direct or indirect disposal of waste into water	X	Deposit of greywater and drill waste may affect aquatic environments. Wastes will be deposited in sumps as per the land use permit.
	Other		
Cultural Integrity and Heritage Resources			

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<p>If present, indicate types: places of significant cultural or spiritual value, heritage sites, important subsistence and harvesting areas (group trapping areas, camps and, log and timber harvesting areas, berry picking and medicine plant gathering areas) , traditional trails, burial sites, sacred sites, archaeological or historic sites, artifacts and other objects of historical, cultural, or religious significance, historical or cultural records</p>	<p>Nighthawk understands that archaeological and heritage resources may also be impacted by camp, exploration and/or remediation activities. Nighthawk has completed Archaeological Overview Assessments and Archaeological Impact Assessments in high risk areas. Nighthawk has been in ongoing communication with the Cultural Places Program (GNWT, Prince of Wales Northern Heritage Centre) and is aware of known archaeological or heritage sites within the entire lease area. These areas of archaeological importance will be avoided during land use activities to protect the integrity of the sites, as per the directives of the Cultural Places Program and the land use permit conditions. Any suspected archaeological sites (boulder features, lithic scatter, burial sites, etc.) encountered during field activities will be reported and avoided as per the land use permit.</p> <p>Nighthawk also has regular engagement with the Tlicho Government and North Slave Metis Alliance, and informs these groups about each seasonal exploration program and the areas of interest.</p>		
<p align="center">Potential Impacts</p>	<p align="center">Activity <i>Use an "x" to indicate which apply</i></p>	<p align="center">X</p>	<p align="center">Potential Project Impacts and Proposed Mitigations <i>Using the list at left, describe the potential impact(s) of each identified Project activity and the proposed measure(s) to reduce each of these impacts.</i></p>
<ul style="list-style-type: none"> • Change to or loss of cultural integrity • Change to or loss of traditional lifestyle • Change to or loss of heritage resources • Other 	<p>Clearing of timber, brush, or vegetation mat</p>	<p align="center">X</p>	<p>Clearing may disturb archaeological sites. Avoid areas identified in the AOA and AIA as high risk or having known archaeological sites.</p>
	<p>Noise (use of heavy equipment, blasting, crushing, drilling)</p>		
	<p>Construction of structures (buildings, water or waste management facilities, etc.)</p>		
	<p>Construction (development or alteration: widening, straightening, detours), maintenance and operation of lines, trails, or rights-of-way</p>		
	<p>Increased human presence</p>		
	<p>Withdrawal of water from a watercourse</p>		
	<p>Retaining, storing, or diverting water</p>		
	<p>Construction of dams and impoundments</p>		
	<p>Direct or indirect deposit of waste into water</p>	<p align="center">X</p>	<p>Deposit of waste may affect the perception of the area. Nighthawk has ongoing engagement with the Tlicho Government and the North Slave Metis Alliance to inform them of all exploration activities.</p>
	<p>Other</p>		
<p>Social and Economic Well-being</p>			

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<ul style="list-style-type: none"> • Increased human health hazard and risk • Economic opportunities or losses (employment, training) • Change in ecological, cultural, social, or economic values identified for protection in approved Land Use Plans • Impairment of the recreational or traditional uses of the land or water • Impairment of the aesthetic quality of the land or water • Changes to the use of the area by other non-Indigenous people (e.g. trappers, outfitters, residents, hunters, forest harvesters, other authorized projects) • Other 	Noise (use of heavy equipment, blasting, crushing, drilling)	X	Exploration may affect the perception of the area. Nighthawk has ongoing engagement with the Tlicho Government and the North Slave Metis Alliance to inform them of all exploration activities.
	Transfer, storage, and use of petroleum products and/or chemicals		
	On-site storage or disposal of wastes (domestic garbage, sewage, waste petroleum products, drilling waste and hydraulic flowback fluids, hazardous wastes, etc.)		
	Construction (development or alteration: widening, straightening, detours), maintenance and operation of lines, trails, or rights-of-way		
	Construction of structures (buildings, water or waste management facilities, etc.)		
	Increased human access and presence	X	Exploration may affect the perception of the area. Nighthawk has ongoing engagement with the Tlicho Government and the North Slave Metis Alliance to inform them of all exploration activities. The Project also leads to local employment and contracting opportunities.
	Operating in a remote location inaccessible or not easily accessible by emergency aid		
	Withdrawal of water from a watercourse		
	Retaining, storing, or diverting water		
	Construction of dams and impoundments		
	Direct or indirect deposit of waste into water	X	Exploration may affect the perception of the area. Nighthawk has ongoing engagement with the Tlicho Government and the North Slave Metis Alliance to inform them of all exploration activities.
	Other		