

Project Description: Kirk Mine Rehabilitation Project

BACKGROUND

The Kirk Mine Site (AMIS # 07769) is a former copper and gold mine, located in Aberdeen Township, approximately 40 km east of Sault Ste. Marie, Ontario. The mine is situated adjacent to a fishing camp along the southwestern shore of Bass Lake and operated from 1919 to 1922. It features a waste rock pile and three adits developed along a large vertical rock face. The property is accessed by a private driveway off Bass Lake Road. The location of the site is provided below on Figure 1.

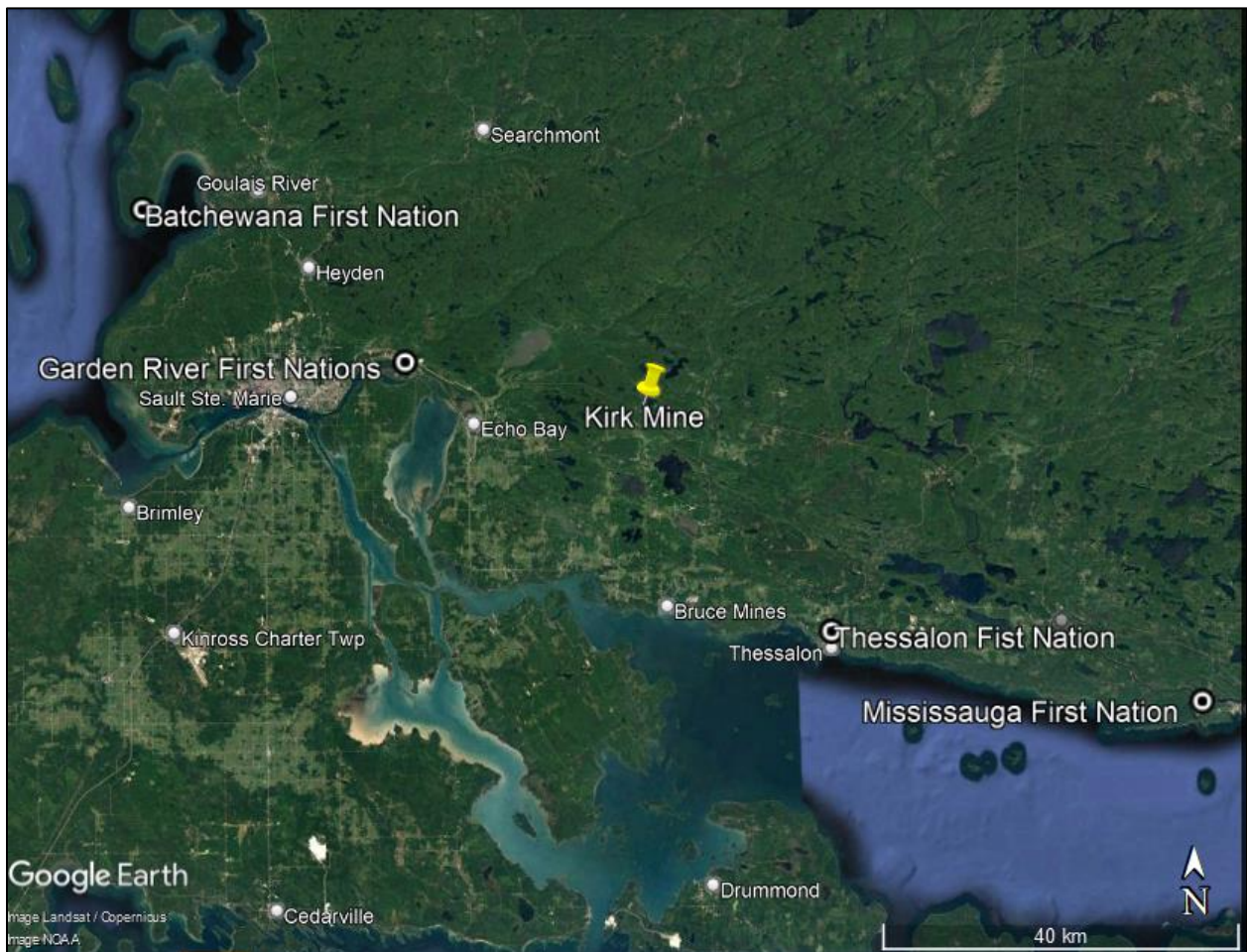


Figure 1 – Site Location Plan.

REHABILITATION ACTIVITIES

The objective of the project is to rehabilitate the mine hazards at the Kirk Mine property to eliminate the risk to the public and the environment. Although the mine features three vertical adits, only the lower adit is easily accessible and presents a safety concern to the public. The middle and upper adit have limited to no access and have been identified as low risk. Waste rock was cast downhill from the lower adit creating a waste rock pile that covers naturally eroded rock along the eastern face. The waste rock pile is currently stable, with no evidence of impacts to the surrounding environment. The location of all mine hazards on the property is provided below on Figure 2.

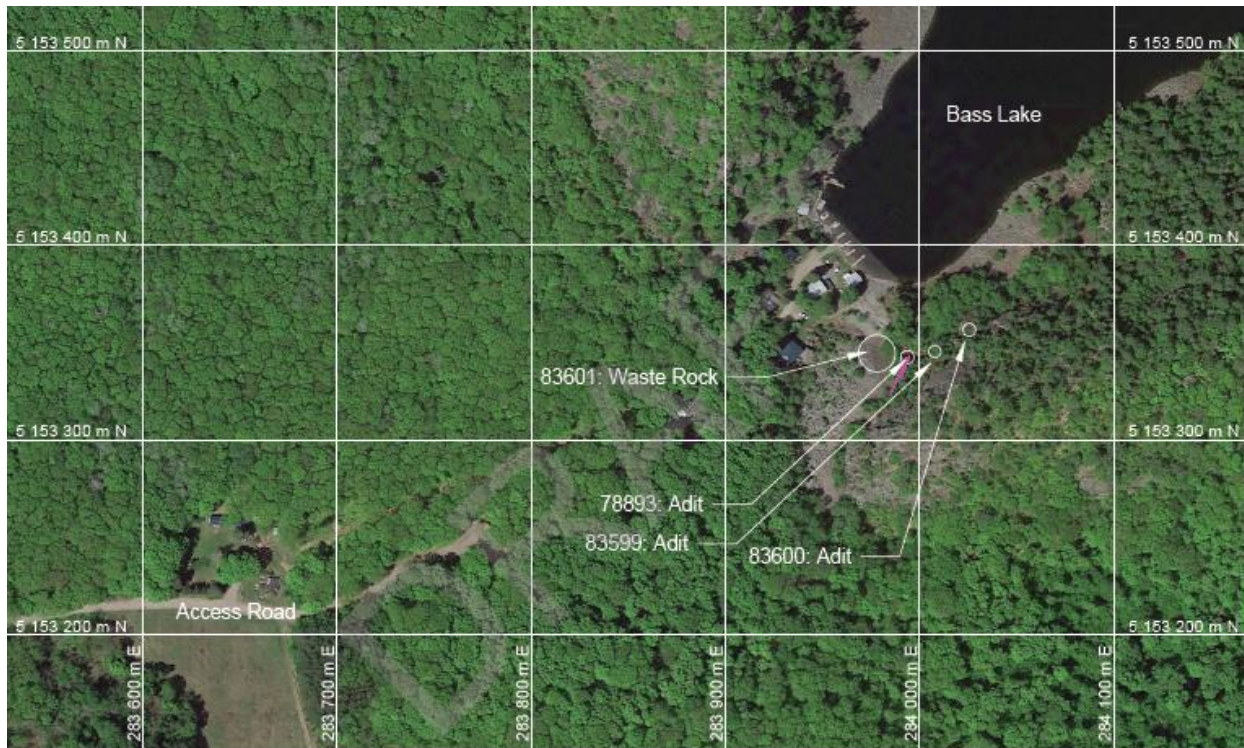


Figure 2 – Location of mine hazards at the Kirk Mine property. The boundary of the project area is defined by the site access road and area west of the lower adit (feature ID 78893).

The proposed rehabilitation activities will address the lower adit that allows access to the underground workings and is easily accessible by the public. The adit is easily accessible via a private driveway off Bass Lake Road. No site access improvements will be needed to facilitate the rehabilitation work. It is assumed that the underground workings provide habitat to bat species at risk and, as such the preferred rehabilitation strategy is the installation of a stainless-steel gate. The gate will eliminate safety concerns related to access by the public, while still allowing bats to easily enter/exit the underground workings. The work is expected to occur over five days, during the summer months (i.e., between May 1st and October 31st) when bats are not expected

to be actively hibernating within the mine. The boundary of the project area is defined by the site access road and area west of the lower adit.

CLASS EA SCREENING

The proposed rehabilitation activities are subject to The Ministry of Mines Class Environmental Assessment (EA) Process. The undertaking has been screened as a Category B project with low potential for environmental effects, in accordance with the requirements of the *Class Environmental Assessment for Activities of the Ministry of Northern Development and Mines under the Mining Act* (amended 2018).

ENVIRONMENTAL EFFECTS AND PROPOSED MITIGATION MEASURES

Several environmental effects associated with the undertaking have been identified during the Class EA screening process. A summary of negative environmental effects and proposed mitigation measures that would negate or reduce the significance of the environmental effects are provided below in Table 1.

Table 1 – Environmental Effects

Environmental Effect	Description	Proposed Mitigation Measure
Noise and Vibration	Short term noise and vibration impacts associated with vehicles and use of drilling equipment may occur.	All rehabilitation work and mobilization of equipment will be limited to the daytime hours and will comply with applicable noise guidelines.
Terrestrial Species or Habitat	<p>Wildlife may be temporarily displaced due to increased noise levels, vibrations and vehicular traffic associated with the rehabilitation work.</p> <p>The site is situated adjacent to Bass Lake, which may provide overwintering habitat to turtles. It is possible that turtles and other wildlife may be encountered during the rehabilitation work.</p> <p>Wildlife-vehicle collisions may cause injury/mortality to individual animals. Domestic waste generated may unintentionally attract wildlife to the work area.</p>	<p>Any disturbances to wildlife will be short-term and limited to the footprint of the adit. Disturbed wildlife is expected to recolonize the area quickly upon project completion.</p> <p>If required, exclusionary fencing will be established around the work area to deter turtles and other wildlife from entering. The fencing will be installed in accordance with the MNRF Best Management Practices for <i>Reptile and Amphibian Exclusion Fencing</i>.</p> <p>The risk of mortality and injury to wildlife will be reduced by enforcing speed limits on access roads. The work area will remain free of litter and all waste disposed</p>

		of in accordance O.Reg 347.
Endangered Species / Species at risk or habitat	<p>It is assumed that the underground workings provide overwintering habitat to bat species at risk. The rehabilitation strategy result in modifications to the adit but will not affect the ability for bats to utilize the habitat in the long-term.</p> <p>The NHIC Map and Ontario Reptile and Amphibian Atlas do not identify any previous occurrences of other SAR on or adjacent to the mine.</p>	<p>The work will occur over five days, during the summer months when bats are not expected to be actively hibernating within the mine. The activity will be completed in accordance with the requirements outlined in Section 23.18 of the Endangered Species Act (ESA 2007).</p> <p>If any additional SAR are encountered during the rehabilitation activities, work must immediately stop and the MECP consulted as to how to proceed. Applicable regulatory requirements will be adhered to, and mitigation measured implemented to avoid impacting SAR.</p>
Surface water quality/quantity and Soils - contaminants, sedimentation, erosion.	<p>There is the potential to negatively impact surrounding surface water features and soil quality through spills and sedimentation.</p>	<p>A buffer will be maintained between the mine property and Bass Lake during the rehabilitation work. All vehicle and equipment refueling, if required, will be completed on an impermeable surface at a minimum of 30 meters away from the waterbody.</p> <p>An emergency spill kit will be readily available at all times during construction activities and all workers trained on proper use. Should a spill occur, regardless of its severity, the Ministry of Environment, Conservation and Parks will be immediately notified through the Ontario Spill Action Centre (1-800-268-6060).</p>
Air Quality	<p>Standard trucks/vehicles will be utilized to mobilize equipment to the mine. No heavy equipment is required. The emissions associated with the vehicles is expected to be minimal.</p> <p>There is the potential for increased fugitive dust to occur associated with the use of drills to install the gates. The dust will be minimal and limited to the</p>	<p>If required, water or a dust suppression system will be utilized to reduce dust emissions as needed.</p>

	adit location.	
Seasonal or Permanent Residence, Recreational and Tourism Uses.	<p>Project activities occur adjacent to a private fishing camp (Bass Lake Resort) and several seasonal residences are present on Bass Lake. Temporary disturbances associated with noise, vibrations and dust may occur over the 5-day duration of the work.</p> <p>There is the potential for the public and users of the private fishing camp to access the work area.</p>	<p>Mitigation measures for noise, vibration and dust have been detailed above for <i>Noise and Vibrations</i>.</p> <p>Communication with the property owner will be maintained and work will preferentially be scheduled when the camp is expected to be less busy. Signage will be utilized to notify camp users of the rehabilitation work and, if required, fencing to secure the work area from the public.</p>

NEXT STEPS

The Ministry of Mines is currently seeking input on the undertaking and proposed mitigation measures as part of the Class EA process. The procurement to complete the rehabilitation activities is expected to be awarded in the early summer 2023. The rehabilitation activities will be completed by October 2023.