

Project Description: Tribag Mine Rehabilitation Project

BACKGROUND

The Tribag Mine (AMIS #08068) is a former copper mine, situated in Nicolet Township, approximately 100 km north of Sault Ste Marie and 26 km north of Batchewana Bay, Ontario. The mine is accessed off Highway 17 via Carp Road, as illustrated below on Figure 1.

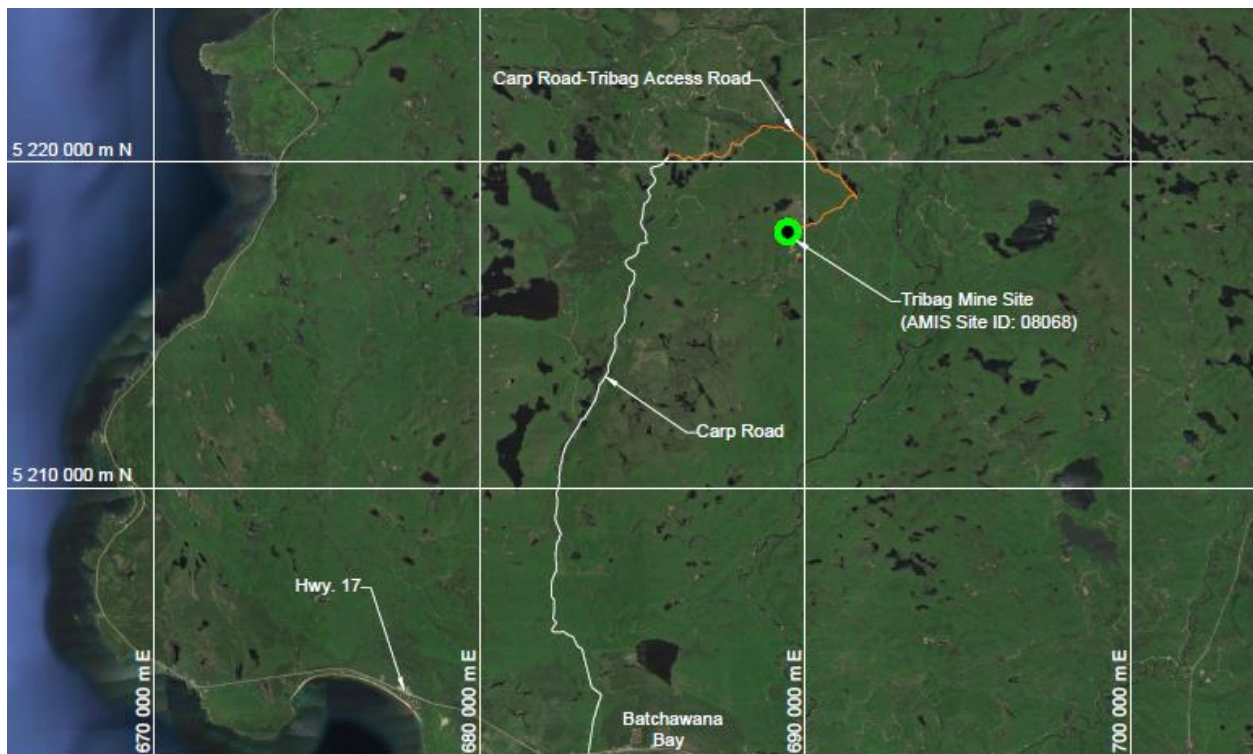


Figure 1 – Site Location Map (Image Source: WSP, 2023).

The Tribag Mine operated from 1962 to 1974 and features a mill site, tailings management area, waste rock, and extensive underground workings that span three mining zones:

1. The West Breccia zone is situated in the southwest portion of the mine, as illustrated below on Figure 2. The zone contains three stopes, two raises, an adit, and multiple crown pillars. The mine openings provide uncontrolled access to the underground workings. The workings below the adit are flooded, while those above the adit level remain unflooded.
2. The Breton zone is located east of the mill site and south of Mine Lake, as illustrated below on Figure 2. This zone features four mine openings to surface, including a shaft and three raises. All openings within the Breton zone are concrete capped preventing inadvertent access and use by bats.
3. The East Breccia zone is situated approximately 2.3 km from the former mill site, as illustrated on Figure 2. This mining zone features a single exploratory adit.

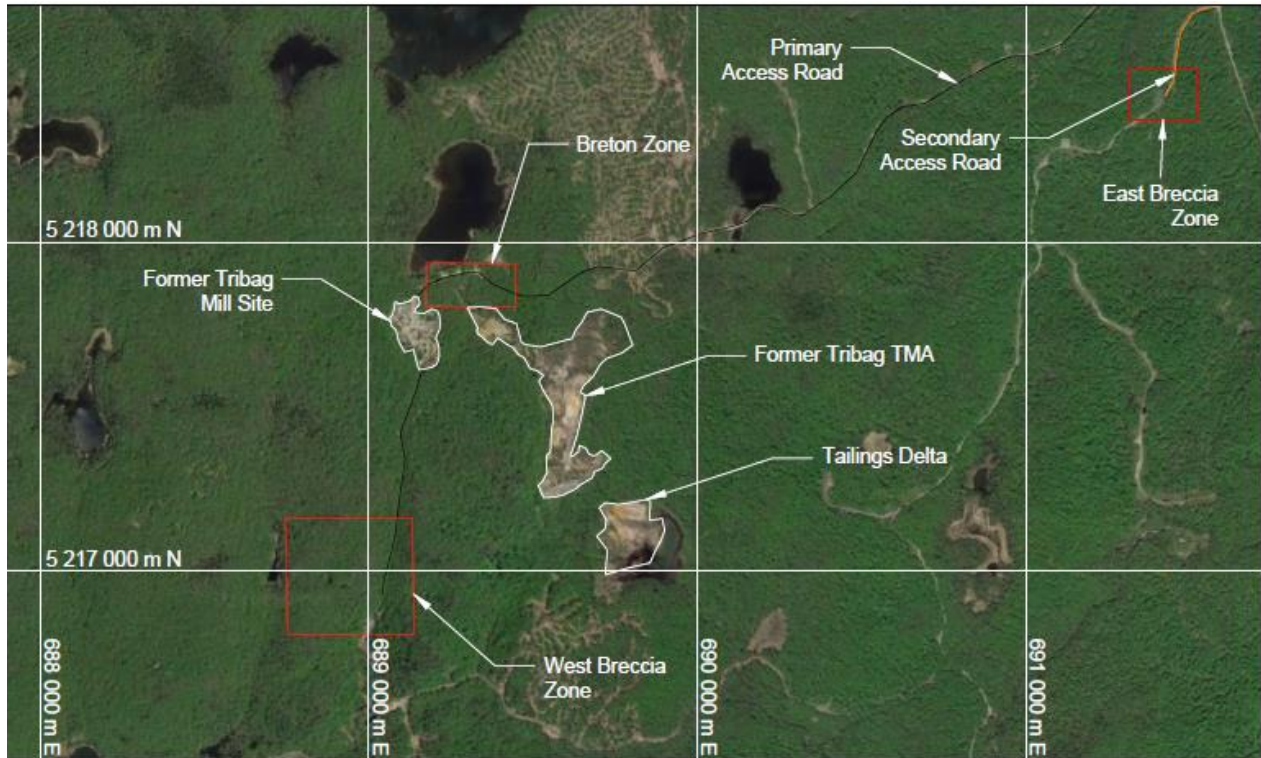


Figure 2 – Location of the West Breccia Zone, Breton Zone, and East Breccia Zone at the Tribag Mine (Image Source: WSP 2023)

A bat acoustic study was completed for the Tribag Mine by WSP in 2023. The objective of the study was to confirm the presence/ absence of bat species at risk and to determine if the underground workings were being used by bats as a hibernaculum. Visual and acoustic surveys completed at all mine openings to surface in the West Breccia and East Breccia zone confirmed the presence of bat species at risk. The study concluded that the underground workings may be utilized by bats as a potential hibernaculum.

REHABILITATION ACTIVITIES

The purpose of the project is to rehabilitate the mine hazards at the Tribag Mine to eliminate the risk to the public. The mine is known to be frequented by the public and is ranked high by the province as sites requiring rehabilitation due to the risk to public safety. The proposed rehabilitation activities will permanently prevent inadvertent access to all mine openings to surface. The area will be allowed to revegetate naturally and return to pre- disturbance conditions. It is anticipated that only minor vegetation clearing, and grading of existing roads will be needed to facilitate access by construction vehicles. Other features remaining at the site, including the tailings management area, mill site, building materials and waste rock piles will be addressed as part of a separate Class Environmental Assessment.

The boundary of the project area is defined by the areas surrounding the hazards within the three mining zones and mine access road. The proposed rehabilitation strategy for the hazards within each mining zone is provided below in the following subsections.

West Breccia Zone

Mine hazards proposed for rehabilitation within the West Breccia Zone include the following:

- An adit;
- Two raises;
- Three stopes to surface; and,
- Multiple crown pillars.

The adit within the West Breccia zone is currently blocked by a steel door, however the door does not eliminate access the underground workings. The proposed rehabilitation strategy for all hazards located within the West Breccia zone is fencing. Two fence perimeters would be needed, encompassing the following hazards:

- 1) The adit, adit crown pillar, stope to surface and raise situated in the southern portion of the West Breccia Zone. The total fencing perimeter is estimated to be approximately 250 m.; and,
- 2) The two remaining stopes to surface, raise and the crown pillars associated with the stopes to surface. The total fence perimeter is estimated to be approximately 350 m.

The location of the hazards and proposed fence perimeters is illustrated below on Figure 3.

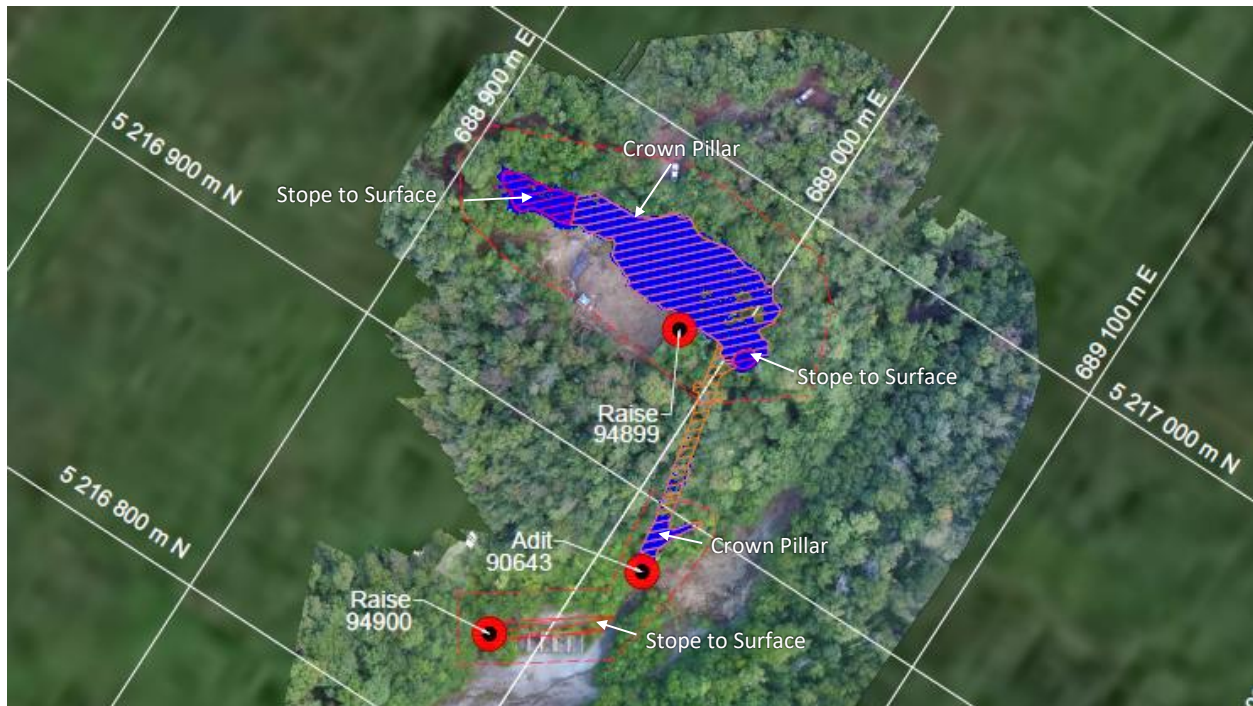


Figure 3 – Location of mine hazards and proposed fence perimeter (red dashed line) within the West Breccia Zone (Image Source: WSP 2023)

The fence design will meet the specifications provided in the Mine Rehabilitation Code of Ontario (O.Reg 240/00). It is recognized that fencing is not considered an acceptable measure for final close-out of the adit and two raises as per O.Reg 240/00. However, fencing can be utilized as a long-term rehabilitation solution permitted if it meets the specifications of the Code, which will

require monitoring and maintenance for perpetuity. The use of the fencing will minimize inadvertent access to the mine, while protecting the potential bat overwintering habitat. The fencing installation will require some vegetation removal extending approximately three meters on either side of the fence perimeter. The work is expected to occur in the summer/early fall of 2024.

Breton Zone

Mine hazards proposed for rehabilitation within the Breton Zone include:

- three raises
- shaft
- one crown pillar.

The location of the above hazards is illustrated below on Figure 4.

The three raises and shaft within the Breton Zone are currently capped, however the caps do not meet the minimum requirements specified in O.Reg 240/00. The proposed rehabilitation strategy for the mine openings to surface is concrete caps that meets the minimum requirements specified in O.Reg 240/00. The raise caps would be constructed over the existing caps, allowing the existing caps to act as framework. One crown pillar within the Breton Zone has been identified as not long-term stable. The proposed rehabilitation strategy for the crown pillar is fencing, as illustrated below on Figure 4. The total fence perimeter is estimated to be approximately 185 m. The fencing installation will require some vegetation removal extending approximately three meters on either side of the fence perimeter. The work is expected to occur in the summer/ early fall of 2024.



Figure 4 – Location of mine hazards and proposed fence perimeter (red dashed line) within the Breton Zone (Image Source: WSP 2023).

East Breccia Zone

The proposed rehabilitation strategy for the adit located within the East Breccia Zone 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 will occur in the summer months when bats are not expected to be actively hibernating within the mine.

CLASS EA SCREENING

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

ENVIRONMENTAL EFFECTS AND PROPOSED MITIGATION MEASURES

The Ministry of Mines is seeking input on the undertaking 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 are provided below in Table 1.

Environmental Effect	Description	Proposed Mitigation Measure
Terrestrial Species or Habitat	<p>The mine property is situated in a remote area, surrounded by deciduous and coniferous tree species. The removal of trees/vegetation will be required to facilitate the fencing installation and access of construction vehicles and equipment.</p> <p>The forested areas surrounding the mine is expected to provide habitat to several terrestrial species. Wildlife may be temporarily displaced due to increased noise levels, vibrations and vehicular traffic associated with 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>All tree removal will be completed outside of the migratory bird active period, which is from approximately mid-April to late- August.</p> <p>Any disturbances to wildlife will be temporary and limited to the footprint of the mine. Disturbed areas will be rehabilitated to match surrounding landscapes to facilitate the recolonization of terrestrial wildlife.</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 of in accordance O.Reg 347.</p>

<p>Species at risk and species at risk habitat</p>	<p>Bat acoustic surveys and a species at risk assessment was completed by WSP in 2023. It is confirmed that the underground workings of the mine are utilized by bats as a potential hibernaculum. The rehabilitation activities as they are currently planned will not destroy or inhibit the future use of the bat overwintering habitat.</p> <p>The species at risk survey concluded that the site may provide suitable substrate to support turtle nesting.</p>	<p>The Ministry of Environment, Conservation and Parks will be consulted to confirm permitting requirements under the <i>Endangered Species Act</i> (ESA 2007). If required, all permits will be obtained prior to mobilizing equipment and personnel to the mine. The installation of the bat gate will be completed in accordance with the regulatory exemption detailed in Section 23.18 (<i>Threats to health and safety, not imminent</i>).</p> <p>Exclusionary fencing will be utilized to deter turtles and other wildlife from entering the work area. The fencing installation and types will be in accordance with the Ministry of Natural Resources and Forestry (MNR) Best Management Practises for Reptile and Amphibian Exclusion Fencing (2021).</p> <p>If any SAR are encountered, work will 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>
<p>Migratory bird species and migratory bird habitat</p>	<p>The mine is surrounded by a mix of deciduous and coniferous tree species that is likely to provide habitat to migratory birds. Removal of trees/vegetation will be required to facilitate the access of vehicles and equipment.</p>	<p>Disruptive activities (e.g., vegetation clearing) will be completed outside of the migratory bird period, which is from approximately mid-April to late-August. If work is completed during the breeding bird season, vegetation proposed for removal will be surveyed to confirm the presence/absence of migratory birds or nests. If avian nests are identified, work around the nest will cease and a setback buffer established. All work inside the buffer avoided until the young have fledged and left the area.</p>
<p>Surface water quality/quantity and Soils - contaminants, sedimentation, erosion.</p>	<p>The nearest surface water feature is Mine Lake located in the north portion of the site. Mine Lake drains into a polishing pond south of the tailings management area. The proposed rehabilitation activities are not expected to impact surface water quantity or quality.</p>	<p>An emergency spill kit will be readily available during rehabilitation 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>

	There is the potential to negatively impact surrounding water features and soil quality through spills and sedimentation.	
Air Quality	<p>Standard construction equipment will be utilized, and the emissions associated with this equipment is expected to be minimal.</p> <p>There is the potential for increased fugitive dust to occur along the mine access road due to the movement of equipment and vehicles. The dust will be minimal and limited to the footprint of the road and rehabilitation work area.</p>	Speed limits will be enforced along the mine access roads to minimize dust emissions. If required, water or an approved dust suppressant will be utilized as needed.
Designated Substances, Hazardous Materials and Waste	The shaft within the Breton Zone is currently inaccessible due to the presence of building material associated with a headframe. Workers and/or the environment may be exposed to designated substances and/or hazardous materials due to the building debris.	A designated substance survey will be completed to confirm the presence of eleven designated substances as defined by O.Reg 490/09.

NEXT STEPS

The Ministry of Mines will consult with the Ministry of Environment, Conservation and Parks (MECP) Species at Risk Branch to confirm permitting requirements under the ESA (2007). All permits and/or approvals will be obtained prior to initiating the rehabilitation work.

It is anticipated that the rehabilitation work will be initiated in the summer of 2024 with the installation of the stainless-steel bat gate at the East Breccia zone and concrete caps on the mine openings in the Breton Zone. The fencing installation will be completed in the early fall of 2024, outside of the migratory bird nesting period.