

# Permit to Mine – Project Overview

Poly Met Mining, Inc. (PolyMet) is proposing to develop a mine and associated processing facilities for the extraction of copper, nickel, and platinum group elements (PGE) from the NorthMet Deposit in northeastern Minnesota. The NorthMet mine would be the first of its kind in the state.

## Where would the project be located?

The proposed NorthMet Mining Project would be located in the St. Louis River watershed on the eastern edge of the Mesabi Iron Range, about six miles south of Babbitt and about one mile south of the existing taconite Northshore Mine. Processing of the ore would take place at a former industrial site, the LTV steel plant in Hoyt Lakes. Neither the proposed mine nor the processing facility is in the Boundary Waters Canoe Area Wilderness watershed.

The project would include an open pit mine and waste rock stockpiles, a processing plant, tailings basin, and an existing seven-mile-long railroad and utilities corridor for the transportation of ore between the proposed mine and existing processing facility.

## How long would the project last?

The NorthMet project would have three major phases:

- Pre-mining construction would last approximately 2 years and would include land-clearing, building renovation and construction, construction of waste rock stockpile foundations, construction of waste rock stockpile and tailings basin containment systems, and upgrades to utilities, roads, and rail lines.
- Mining operations would last approximately 20 years and would include ore mining and processing, water treatment, waste rock management, and progressive reclamation.
- At the end of mining activities, the project would enter the closure and post-closure phases of reclamation. Closure would include demolition of buildings and other infrastructure, the treatment of waste rock and water, and the restoration of vegetation, wetlands, and land, among other activities. Post-closure would include ongoing maintenance, monitoring, and water treatment, lasting as long as required to meet reclamation requirements and water quality standards. All portions of the project would be financially assured under a permit to mine, and the permittee would not be released from its permit obligations until the site is maintenance-free and no longer requires water treatment.

## What would the project involve?

The NorthMet Deposit would be mined using conventional open-pit surface methods, such as blasting and excavation. During the mine's 20-year lifespan, approximately 533 million tons of ore and waste

rock would be removed from the deposit. An average of 32,000 tons of ore would be processed each day, yielding about 113,000 tons of copper concentrate, 18,000 tons of mixed (nickel/copper) hydroxide, and 500 tons of PGE precipitate each year.

In addition to activities directly related to mining, reclamation would occur during operations and after closure. Reclamation would include the closure and/or demolition of buildings and other infrastructure; treatment of waste rock and water; and restoration of vegetation, wetlands, and land. In addition, surrounding bodies of water, wetlands, vegetation, wildlife, and other features of the environment would be monitored to prevent or mitigate potential future effects from the project.

Throughout the duration of the project, measures would be taken to eliminate or reduce the effects of the project on the surrounding environment. PolyMet would be required to provide financial assurance to ensure that all reclamation, including closure and post-closure actions, are completed when the mine closes, either as planned or unexpectedly.

### **Is long-term water treatment required?**

PolyMet has proposed mechanical water treatment throughout the life of the mine and for as long as necessary after the end of mining. However, PolyMet's goal is to transition to non-mechanical treatment if the company is able to demonstrate, to the satisfaction of the DNR and MPCA, that a non-mechanical system could comply with all water quality standards. The draft permit to mine is based on mechanical water treatment, but includes conditions that would require PolyMet to evaluate non-mechanical treatment options during operations.