

MINNESOTA'S FIRST SULFIDE MINING PROPOSAL RAISES NEW ENVIRONMENTAL ISSUES

By Jennifer Tahtinen

The Environmental Impact Statement for a proposed metallic mine in northeastern Minnesota is expected to be released later this year. The proposed mine would be the first of its kind in Minnesota; the mine would extract metals from the rock but leave behind sulfide-bearing waste rock that could result in acid mine drainage. Widespread concern over the environmental effects of the mine has led to opposition from some environmental groups and citizens. Many groups are calling for Minnesota to follow Wisconsin's lead, and pass a law putting a moratorium on this type of mining until it can be shown that it is safe.

PolyMet, a Canadian company, has proposed to mine the NorthMet deposit in northern Minnesota. The NorthMet deposit is located six miles south of the town of Babbitt and encompasses 1,200 acres and a projected 579 million tons of mineralized rock. The NorthMet deposit has not been mined extensively in the past because of its relatively low percentage of metals (0.28% copper and 0.08% nickel)¹ and the large amount of waste material produced. However, the booming metals industry has once again brought interest to this area of the Duluth Complex.

PolyMet is proposing to extract copper, nickel, cobalt and other precious metals in an open pit mine. Open pit mining is the most common form of mining because it allows the easiest access to the rock and is safer for the mine workers than having to go underground. After being mined, the metallic-bearing rock will be transported to an already-existing but inoperative taconite processing facility. Stockpiles of waste rock and ore are proposed near the mine site, with reactive stockpiles being placed on impermeable liners that will direct any water runoff to wastewater treatment plants. In order to extract the minerals from the rock, PolyMet is proposing to use a technique called hydrometallurgy, which will produce flotation tailings, waste rock, spent ore, and waste water.² These by-products will be placed on engineered liner systems to prevent runoff and send any runoff to a wastewater treatment facility. The wastewater may be recycled and reused in the hydrometallurgical process.

PolyMet must obtain multiple permits ensuring that the project complies with environmental regulations before it can go forward. The proposal is currently in the Environmental Impact Statement (EIS) phase. The Environmental Impact Statement, required by state and federal law, will assess the environmental impacts of the proposed mine, and will examine any alternatives that

may have a lesser impact on the region. The EIS is being jointly prepared by the Minnesota Department of Natural Resources (DNR) and the United States Army Corps of Engineers along with a private consultant in compliance with the National Environmental Policy Act (NEPA) and the Minnesota Environmental Policy Act (MEPA).³ The process aims to allow full public participation in the process. After a public meeting and comment period, the DNR released a Scoping Decision, in which they outlined the content of the EIS. The release of the EIS was originally scheduled for February 2007, but has been postponed until later this year. Once it is released, it will take a few months for the adequacy of the EIS to be determined, before the permitting process can continue.

Possible Impacts

The proposed mine has spurred concern from environmental groups around the state because sulfide mines have, in the past, caused significant environmental impacts. The potential environmental impacts of the mine include habitat and wetland destruction, degradation of water quality and the decrease in aquatic life that may result, the possibility of acid mine drainage (AMD), and the project area's proximity to the Boundary Waters Canoe Area Wilderness. The soon-to-be-released EIS will look at these impacts and examine ways of mitigating or avoiding them.

According to the EIS Scoping Decision, the combination of habitat destruction and possible water degradation could have a significant impact on the wildlife in the area, including the protected Canada Lynx, Gray Wolf, and Wood Turtle.⁴ The EIS will address the possible impacts the mining project will have on these and other species. If the project goes forward, hundreds of acres of wetlands will be destroyed. The EIS will examine the impacts the project will have and will look at methods of mitigating its impact.

Acid mine drainage is the potential environmental impact of sulfide mines that has sparked the most concern from citizens who are worried that allowing the operation of this mine will impact ecologically-sensitive areas of Minnesota, potentially for the foreseeable future. AMD occurs when the waste products from the mining process come into contact with oxygen and water, and the sulfide-containing waste produces sulfuric acid, which can leach into the soil and groundwater, or spread because of

Mining continued at page 10.

rainfall, and seriously impact the water quality.

AMD is difficult to predict and can occur while the mine is in operation, or several years after the mine has closed. When AMD occurs, it has the potential to dramatically affect entire rivers, and can be dangerous if it reaches supplies of drinking water. In order to try and prevent AMD from occurring, the PolyMet proposal includes the disposal of reactive waste products into impermeable liners, so that if sulfuric acid is produced, it will not percolate into the groundwater. The EIS will consider extra monitoring of the sites in order to ensure that if AMD is occurring, the necessary steps to mitigate it will be undertaken. The monitoring would include checking the water quality surrounding the mine, checking the performance of the barriers, and monitoring the reactivity of the waste going into the barriers.

Cleaning up mining sites can be an extremely expensive pursuit, one that is often left to the taxpayers. Mining companies are required to post a bond, setting money aside so there is a source of funding to clean up environmental damage that occurs. However, it is difficult to predict the timing, the length, and the damage done by AMD. At this point, the company is predicting that the bond will run into the tens of millions.⁵

Experiences in Other States

Other states around the Great Lakes are dealing with sulfide mine proposals. Michigan has several sites that are in the permitting process, while Wisconsin's approach has been to effectively ban sulfide mining until it can be shown that it is safe. In 1997, Wisconsin passed Statute 293.50, the "Mining Moratorium Law." Due to concern about the effects of sulfide mining on the environment, a coalition of tribal, environmental, and sport fishing groups lobbied to pass this bill, stating that no permits will be issued for sulfide mines unless the mining company can provide an example of a mine in the U.S. or Canada that has not harmed the environment. Specifically, the statute requires that the applicant for the mine permit show an example of a mine that has been closed for at least ten years and has not resulted in acid drainage, and an example of a mine that has been operational for ten years and has not had acid drainage.⁶ Since the law was passed in 1997, no metallic mining permits have been able to pass the standard, and no permits have been issued and a controversial mine proposal, the Crandon mine, was taken off the table after the land was bought by a coalition of Native American tribes.

In early 2007, the mining company Kennecott Eagle Minerals Corporation, was preliminarily granted a permit to build a sulfide mine on the Yellow Dog Plains in Michigan. However, two months later, the permission was revoked when it was made public that Michigan's

Department of Environmental Quality had excluded damaging expert testimony from the public documents. The permit has since been re-granted, and there is currently a hearing being held challenging the permit.⁷

Jennifer Tahtinen is a second year student at the Hamline University School of Law.

¹ PolyMet Project Overview Webpage: <http://www.poly-metmining.com/s/Projects.asp>.

¹ Minnesota DNR's PolyMet Mining Inc./NorthMet Project Final Scoping Decision page 1, accessed at http://files.dnr.state.mn.us/input/environmentalreview/polymet/final_scoping_decision.pdf.

¹ Minnesota DNR's PolyMet Mining Inc./NorthMet Project Final Scoping Decision page 2, accessed at http://files.dnr.state.mn.us/input/environmentalreview/polymet/final_scoping_decision.pdf.

¹ Minnesota DNR's PolyMet Mining Inc./NorthMet Project Final Scoping Decision page 12, accessed at http://files.dnr.state.mn.us/input/environmentalreview/polymet/final_scoping_decision.pdf.

¹ Minnesota Public Radio story, *The Debate Over Sulfide Mining*, by Bob Kelleher, May 25, 2006. Accessed at: <http://minnesotapublicradio.org/display/web/2006/05/15/rangesulfi-demining/>.

⁶ Wisconsin Statutes S 293.50.

⁷ Michigan Department of Environmental Quality Kennecott Eagle Project Update, accessed at http://www.michigan.gov/deq/0,1607,7-135-3311_4111_18442-130551--,00.html.

ENRE LAW NEWS - POLICY AND DISTRIBUTION

ENRE Law News is produced periodically and is distributed electronically to approximately 250 members of the Environmental, Natural Resources, and Energy Law Section of the Minnesota State Bar Association. The publication is provided as a service to section members and is devoted to updating the membership on developments in environmental, natural resources, and energy law. The section does not advocate any particular point of view with respect to environmental, natural resources, or energy policy. The section welcomes submissions from the bar, governmental agencies, and the general public. All contributors to the newsletter are expected to disclose any personal or professional involvement in connection with the subject of his or her submission and the Section reserves the right to edit or reject any submission. Submissions may be sent to David Zoll at djzoll@locklaw.com or Aleava Sayre at aleava.sayre@leonard.com.