



Water treatment a central question in PolyMet's environmental study

Elizabeth Dunbar, Dan Kraker · ST. PAUL, Minn. · Dec 5, 2013

Environment

The PolyMet concentrator building stretches for almost half a mile Thursday, Oct. 10, 2013 near Aurora, Minn. PolyMet Mining wants to mine copper, nickel and precious metals at a site just north of Hoyt Lakes. *Derek Montgomery / For MPR News*

LISTEN Water treatment central question in PolyMet's environmental study

Dec 7, 2013

4min 57sec (http://www.mprnews.org/listen?name=/minnesota/news/features/2013/12/07/polymeteis_20131207_64.mp3)

A proposed copper-nickel mining operation in northeast Minnesota would need long-term water treatment to ensure potentially toxic rock won't pollute area waterways, according to an environmental review released Friday.

The environmental impact statement on PolyMet Mining's plans assumes water would be treated for 200 years at the mine site and 500 years at the plant site. But Minnesota Department of Natural Resources officials, who prepared the document along with several federal agencies and tribal groups, said it isn't known how long treatment could be needed.

That uncertainty — and concerns about how much long-term pollution prevention would cost — are the main points of contention as the agencies prepare to gather the public's input on whether PolyMet should be the first to mine copper, nickel and precious metals in an area of the state known for its water and wilderness.

MORE ON POLYMET:

- **[DNR's PolyMet site that includes link to document](http://www.dnr.state.mn.us/input/environmentalreview/polymet/index.html)**
- **[Economic opportunity or environmentally risky?](/display/web/2013/12/02/environment/copper-mining-polymet-environmental-impact-statement)**
- **[FAQ: Copper-nickel mining in NE Minn.](/display/web/2013/12/02/environment/copper-mining-faq)**
- **[History of copper-nickel mining in Minn.](/display/web/2013/12/05/environment/polymet-copper-nickel-mining-history)**
- **[A look at PolyMet's biggest investors](/display/web/2013/12/04/polymet-investors)**
- **[Map: Sites of proposed copper-nickel mines](http://minnesota.publicradio.org/features/2013/12/mining/metalsmining.shtml)**
- **[Photos: Ramping up to mine copper](/display/web/2013/11/27/polymet1213)**
- **[Timeline: PolyMet's history in Minn.](/display/web/2013/12/02/polymet-timeline)**

Steve Colvin, who has been overseeing the environmental review for the DNR, said if measurements show the water is safe, centuries of water treatment might not be needed. But he said PolyMet wouldn't be off the hook until the measurements say water moving through the site is clean.

"You're going to have to operate that wastewater treatment plant for as long as it takes for untreated water to meet water quality standards," he said.

Copper-nickel mining presents new environmental concerns for the state because the metals being extracted are embedded in rock containing sulfides. Exposing them to air and water can create sulfuric acid, which has led to pollution often referred to as acid mine drainage. It's been a problem at mines in other states.

But Colvin said the study makes clear that based on PolyMet's plans to contain possible pollution, no acid mine drainage would occur. Colvin added that most of the waste rock created from mining activities wouldn't be toxic enough to release sulfuric acid into local waterways because the sulfur content of the rock is relatively low.

"We're in a lower sulfur-bearing body than many, many of the current copper-nickel mines," he said.

Still, water treatment would be needed not only to prevent metals from leaching into area water supplies, but also to meet the state's strict sulfate standard designed to protect wild rice. PolyMet proposes two water treatment plants that use reverse osmosis — a process that forces water under high pressure through a semipermeable membrane that traps minerals, salts, chemicals and other impurities in the water.

Reclaiming the site is estimated to cost \$200 million, with an additional \$3.5 million to \$6 million a year being spent to maintain and monitor the site after mining ends, according to the study.



Jon Cherry *Dan Kraker / MPR News*

State law requires the company to offer financial assurance — basically a damage deposit — upfront to ensure the state won't be on the hook for any cleanup costs.

The environmental study does not offer specifics on how much financial assurance would be offered or what form it would take. Jess Richards, director of the DNR's Lands and Minerals Division, said PolyMet would submit an in-depth plan in the project's permitting phase.

"We'll take that document, take a hard look at it with our own experts and outside expertise and see if the types of things that need to be covered for financial assurance — the mechanical systems, building demolition, reclaiming the site are all there," he said. "We'll also have experts look at how money works over time, and I think that's one of the most important factors here."

But first the environmental review must pass muster. A [90-day public comment period](http://www.dnr.state.mn.us/input/environmentalreview/polymet/comments.html) (<http://www.dnr.state.mn.us/input/environmentalreview/polymet/comments.html>) officially begins next week, and three public meetings are planned in January in Aurora, Duluth and St. Paul.

An earlier environmental review for PolyMet, which the U.S. Environmental Protection Agency deemed inadequate, generated some 10,000 public comments, and DNR officials said they expect to see that many this time, too.

The massive environmental report is the latest chapter in efforts to mine the Duluth Complex — a huge cache of copper, nickel and precious metals in northeast Minnesota. PolyMet's plan and the decisions surrounding it are significant because several other companies are interested in mining.

DNR Commissioner Tom Landwehr said no decisions have been made about PolyMet's proposal, and he encouraged people to weigh in.

"We're really asking Minnesotans to collectively and through their organizations, take a look at this document, give us your insights, tell us what's missing, tell us what analyses we need to have in there and help us make this a very robust document," he said.

MILESTONE FOR POLYMET

About 75 people, including state lawmakers, gathered at PolyMet's offices at the mine processing site outside Hoyt Lakes to celebrate the release of the environmental impact statement.

"It's not the end of the path, but it is a very significant milestone," PolyMet CEO Jon Cherry said.

Cherry defended the company's plans, which he said are designed to protect the environment. "The debate really shouldn't be about whether we should mine or not. The debate should be about how we mine, and doing it appropriately, doing it the right way," he said.

PolyMet has said it has spend nearly \$65 million on the environmental review process so far, and in a regulatory filing this week the company said it has spent \$1.7 million on investor and public relations this year, compared to \$431,000 last year.

The mine is expected to create 360 full-time jobs during the mine's 20-year life, plus hundreds of more construction and spin-off jobs. That prospect has led many local officials to support the proposal.

"We are pro mining, we are pro environment, and we are pro putting our citizens to work with good paying jobs that will sustain them for many, many years to come," Hoyt Lakes Mayor Mark Skelton said.

The town's population was 4,000 during boom times for iron mining. Only 2,000 people live there today, he said.

"This is huge for Hoyt Lakes," he said.

CRITICS LINE UP

Environmentalists have been raising questions about PolyMet's plans for years.

Even as the latest environmental review shows PolyMet's plans could contain 90 percent or more of the pollution, environmental groups say the proposal is plagued by the long-term commitment to water treatment, as well as questions surrounding whether the engineering controls are fail-proof.

"Something always goes wrong. That's just the nature of these large projects," said Kathryn Hoffman, an attorney with the Minnesota Center for Environmental Advocacy.

Hoffman said wastewater treatment plants can break down and pipelines can break — scenarios that are missing from the environmental impact statement. "Those things also need to be part of the environmental review process," she said.

Hoffman said the group has hired a mining engineer and hydrologist to help analyze PolyMet's plans. She said her group and others will pressure the DNR to extend the public comment period (<http://www.dnr.state.mn.us/input/environmentalreview/polymet/comments.html>).

"The agencies have been working on this project for over three years now, and asking us to digest it and respond to it in 90 days is a tough challenge," she said.

The three Indian tribes in northeast Minnesota who cooperated with the DNR and federal agencies on the study had fundamental disagreements with the lead agencies over 18 separate issues, including potential impacts on wild rice and mercury pollution.

Margaret Watkins, a water quality specialist for the Grand Portage Band, said the tribe wasn't allowed to weigh in while the main document was being written.

"Our ability to cooperatively review and work on documents leading up to the supplemental draft was limited," she said.

DNR officials said they did their best to work through the disagreements but ultimately decided to describe those differences of opinion in a separate chapter within the environmental impact statement.

MPR News' Dan Kraker reported from Hoyt Lakes, Minn.

GALLERY

A rod mill inside the concentrator building Thursday, Oct. 10, 2013 at Polymet near Aurora, Minn. The rod mills are machines filled with rods of various size that are used to further crush rock during the extraction process. *Derek Montgomery / For MPR News*

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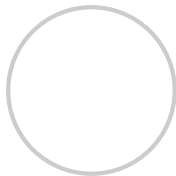
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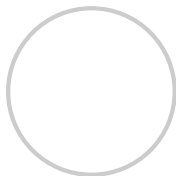
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