



# PolyMet study: Water from mine site would need 500 years of treatment

By [John Myers](#) on Oct 5, 2013 at 12:00 a.m.

If the PolyMet copper-nickel mine is built and operates north of Hoyt Lakes, water that runs off the site will have to be treated for hundreds of years or more to remove sulfate and metals to meet water quality regulations.

That's not a doomsday prediction by environmental radicals. It was written in the Preliminary Supplemental Draft Environmental Impact Statement by EMR, the company PolyMet hired to develop a workable mine plan.

"For purposes of this SDEIS, the WWTF (wastewater treatment facility) is considered a permanent facility and would be discharging treated effluent for perpetuity," EMR concluded in the original document given to government agencies in May.

Since then, PolyMet and regulating agencies have moved to tweak the language, with a more recent version saying water treatment will be needed to meet water quality regulations for a "minimum of 500 years" but "not necessarily perpetual."



PolyMet plans to develop a precious metals facility at the former LTV Steel Mining Co. site near Hoyt Lakes. (File)

Either way, critics say, Minnesota is entering uncharted territory, possibly approving an industrial project that would require pollution treatment forever after about 20 years of economic impact. They wonder if PolyMet will still exist as a company hundreds of years after the mine is no longer producing copper and income, and even if they are still here, if enough money can be set aside to pay for long-term treatment.

Critics are most concerned about sulfate and heavy metals that the acidic runoff will leach from waste rock in levels that, without treatment, would fail Clean Water Act rules and threaten connected waterways like the St. Louis River and Lake Superior. Other proposed copper mining projects would be in the watershed of the Boundary Waters Canoe Area Wilderness.

Minnesota Rule 6132.3200 states that "the mining area shall be closed so that it is stable, free of hazards, minimizes hydrologic impacts, minimizes the release of substances that adversely impact other natural resources, and is maintenance free."

"If they need a water treatment system running for hundreds of years, which is what they have said in their own document, I can't possibly see how this would comply with the Minnesota laws that require the mine to be maintenance-free at the time of closure," said Betsy Daub, policy director for the Friends of the Boundary Waters Wilderness advocacy group.

"Imagine if a Walmart came in said, 'We'll give you 350 jobs for a few years but then you'll have to keep treating runoff from the store for 500 years.' Would anyone agree to that?"

PolyMet supporters say that state law allows the concept of perpetual treatment so long as enough money is set aside to pay for it and as long as the company can prove that it meets state and federal water standards.

Exactly how long and how much money "will be up to the Department of Natural Resources and the company and all of the interested parties. But there's no doubt it can be done, that it's allowed," said Frank Ongaro, executive director of the industry group Mining Minnesota. "The concept is sound; the details have to be worked out by the experts."

Bruce Richardson, a PolyMet spokesman, said that the concept long-term treatment isn't new, and that modern technology can avoid the water quality problems found at many older copper mines.

"The need for long-term resource monitoring and management is not unique to industry or modern society. Landfills, for example, often require long-term management of gases and water," Richardson said in written response to News Tribune questions. "...We have the benefit with today's technology and expertise of knowing what protections must be in place before mining commences and long after it ends to avoid the kinds of issues we may see from historic mining operations."

Richardson added that, by law, the company must have a plan for long-term treatment and the financial assurance in place before operations begin. The plan must be updated annually and approved by the DNR and the company must ensure money is always available for reclamation, closure and post-closure activities

In the most detailed account made public so far, Richardson said estimates for a so-called "reclamation and closure fund," which would include water treatment, "will be between \$50 million and \$90 million in the first year of operations and grow to between \$120 million to \$170 million in the 20th year of operations."

The final amount, he noted, will be determined by the DNR.

## Many jobs, many concerns

In the works for more than a decade, the \$600 million open-pit mine and processing center mine by Vancouver-based PolyMet would be Minnesota's first copper-nickel mine, employing 350 people for 20 years or more.

While the public won't officially see the Supplemental Draft Environmental Impact Statement until Nov. 22, environmental groups used the federal Freedom of Information Act to obtain the preliminary document months ago.

Official comments, some of which have spurred the DNR and Corps to make changes, include:

- The Minnesota Department of Natural Resources Division of Fish and Wildlife said that the project will definitely affect fish and wildlife, noting that "this increase in risk to water quality and fish habitat is a significant impact of the project."

The DNR division notes that, even if the risk of water treatment failure may be small in any given year, the chances of a major problems or an accident at some point over hundreds of years increases.

- The Environmental Protection Agency, which in 2010 said the original PolyMet plan "will result in unacceptable and long-term water quality impacts" still has concerns with the revised plan. The agency, which will plan a critical role in any project approval, said that even if water treatment is ongoing "it appears that the project as proposed and analyzed in the PSDEIS may still result in water quality impacts that exceed water quality standards."
- The Great Lakes Indian Fish and Wildlife Commission said that the state will need to assume responsibility for the perpetual treatment because it's unlikely to assume PolyMet or its successors will still

be around decades or centuries after the mine is closed.

- The Fond du Lac Band of Lake Superior Chippewa was just as blunt in its assessment of the run-off water treatment. "There is no supporting evidence of effective non-mechanical treatment for the volumes and concentrations of pollutants that will result... and persist for centuries," the band noted in its comments. Supporters battle back

Mining Minnesota's Ongaro said that environmental groups are misreading the state law on long-term treatment. While the law lists goals that treatment should be maintenance-free, that was never intended to be a requirement, he said.

PolyMet has successfully tested and plans to use a large reverse osmosis treatment system to clean water leaving the processing site's wastewater tailings basin before it flows into a creek. Eventually, the company and DNR suggest that so-called passive treatment, such as wetlands, might be enough to pull pollutants out of the water.

"These are proven and effective forms of water treatment that are consistent with treatment at other mine sites and, most importantly, comply with the law," PolyMet's Richardson said. "We're approaching our design and operation of the NorthMet project to be a benchmark for responsible stewardship."

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