

PolyMet's Open-Pit Sulfide Mine & Wastes Plan ("SDEIS") Threatens Minnesota Clean Water and Public Health¹

PolyMet's initial plan for an open-pit sulfide mine in Minnesota's Lake Superior Basin got a failing grade from the U. S. Environmental Protection Agency (EPA). The EPA concluded in 2010 that PolyMet's analysis of environmental harm was "*inadequate*" and the PolyMet NorthMet project was "*environmentally unsatisfactory*."² A *new* plan for PolyMet's open-pit sulfide mine (the "SDEIS") was released in December 2013.

PolyMet's new sulfide mining plan is still "environmentally unsatisfactory."

PolyMet's open-pit sulfide mine, waste rock, and tailings piles would destroy irreplaceable wetlands, pollute streams and drinking water, and threaten public health in Minnesota.



PolyMet's proposed location increases risks of pollution and harm to public health.

Every time sulfide mining has been tried in a water-rich environment, it has resulted in contamination of surface and/or ground water with sulfates and toxic metals.³

The PolyMet NorthMet deposit is a low-grade ore deposit. It has more sulfur than copper and nickel combined – over 99% of what is dug out of the ground will be waste.⁴

PolyMet's proposal would destroy 913 acres of irreplaceable high-value wetlands in the St. Louis River watershed — and indirectly affect up to another 7,351 acres.⁵ There is no plan to compensate for thousands of acres of wetlands that would be "indirectly" harmed.⁶

PolyMet would pile its tailings on top of the old LTV tailings site. This unlined tailings dump from the 1950s was built on top of streams to allow drainage of water through the tailings. Surface and groundwater seepage at the LTV tailings site already violate water quality standards.⁷

In addition, sulfates and mercury released from the proposed mine would increase mercury contamination of fish. Mercury contamination of fish in the St. Louis River is already higher than in other Northeastern Minnesota regional waters,⁸ One out of 10 infants in Minnesota's Lake Superior Region are born with mercury in their blood above safe levels.⁹

Pollution from PolyMet's mine pits, waste rock piles, and tailings dump would seep and leak into wetlands, streams, and groundwater.

PolyMet is proposing a permanent 526-acre, 25-story, unlined Category 1 waste rock pile. PolyMet's old proposal would have provided lined stockpiles for long-term waste storage.¹⁰

PolyMet's 2-mile-wide tailings piles would also be unlined. Its claims that more than 99% of seepage will be captured are unsubstantiated and not supported by field experience.¹¹

Fractures known to exist at the PolyMet mine and plant sites would transport pollution. Mine site blasting would occur every 2-3 days, breaking 200,000 to 300,000 tons of rock per blast and causing more fractures.¹²

But hasn't PolyMet promised to treat its contaminated discharge with reverse osmosis?

Reverse osmosis would only apply to PolyMet's intentional surface discharge. Uncaptured seepage from mine pits, waste rock, and tailings piles would not be treated.

In addition, PolyMet doesn't plan to build a reverse osmosis plant at the mine site for approximately 40 years.¹³

Contaminants in PolyMet permanent waste rock and tailings would not diminish and would require treatment for hundreds of years. Mine pit pollution "would continue in perpetuity."¹⁴

Hasn't PolyMet promised to meet standards that protect health and the environment?

PolyMet claims that pollution will meet "evaluation criteria," but its criteria won't protect human health. For example, PolyMet has set a criterion of 1506 micrograms per liter for manganese at the tailings pile. This is 15 times higher than the health risk limit set by the Minnesota Department of Health to prevent brain damage in infants, children, and adults.¹⁵

Even with all of its optimistic predictions, the PolyMet project would increase arsenic near the tailings pile by up to 417% - and increase arsenic in Colby Lake drinking water by 38.5%. This would increase the risk of cancer for Hoyt Lake residents above the level of concern in Minnesota's cancer risk rule,¹⁶

The PolyMet project would degrade Minnesota surface water quality, violating Minnesota water quality standards for toxic pollution in the wetlands near both the mine and the tailings pile.¹⁷

What have state and federal agencies recently said about PolyMet's project and analysis?

Minnesota DNR Fish and Wildlife: "[T]here is a difference in risk to water quality and fish habitat between the No Action Alternative (status quo) versus the NorthMet Project (an engineered system that is dependent on water treatment in perpetuity). This increase in risk to water quality and fish habitat is a significant impact of the project."¹⁸

United States EPA: "[I]t appears that the project as proposed and analyzed in the PSDEIS may still result in water quality impacts that exceed water quality standards. We also note several areas where the lack of detailed analyses and detailed information on mitigation prevent the document from ruling out other water quality and quantity issues."¹⁹

PolyMet's proposed sulfide mine threatens Minnesota clean water and public health.

More information is available at WaterLegacy.org or by emailing info@waterlegacy.org.

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² U.S. EPA, PolyMet NorthMet Comment Letter, Feb. 18, 2010.

³ J. R. Kuipers et al., *Comparison of Predicted and Actual Water Quality at Hardrock Mines* (2006).

⁴ PolyMet NorthMet Supplemental Draft Environmental Impact Statement, released Dec. 6, 2013 ("SDEIS") p. 1-5, PolyMet NorthMet Project Description, Oct. 2012, p. 9.

⁵ SDEIS, p. 5-224.

⁶ Compensatory mitigation only required for 939 acres of wetlands. SDEIS, p. 5-321.

⁷ See SDEIS, p. 4-107 to 4-109 for groundwater exceedances, pp. 4-127, 4-129 to 4-130 for surface seepage; PolyMet NorthMet Draft Environmental Impact Statement, Oct. 2009 ("DEIS"), Fig. 4.1-9 streams beneath tailings.

⁸ B. Monson, MPCA, *St. Louis River Fish Mercury*, Feb. 10, 2012.

⁹ MDH, *Mercury Levels in Blood from Newborns in the Lake Superior Basin*, Nov. 30, 2011.

¹⁰ SDEIS, pp. 3-43, 5-101; DEIS, p. 3-52.

¹¹ Collection rate claims, SDEIS, p. 5-159; lack of documentation, MDNR Response to Data Practices Request, Nov. 12, 2013.

¹² See SDEIS, pp. 3-41, 4-45, 5-243, PolyMet Water Modeling Data Package Mine Site (March 2013), p. 548 et seq.

¹³ SDEIS, p. 5-6, 5-123; Adaptive Water Management Plan, Mar. 2013, p.14, Fig. 2-6.

¹⁴ SDEIS, p. 5-122; PolyMet Adaptive Water Management Plan, Mar. 2013, p. 61.

¹⁵ Criterion of 1506 ug/L in SDEIS p. 5-169, MDH health risk limit of 100 ug/L at Minn. R. 4717.7500, subp. 61.

¹⁶ Regarding increases, see SDEIS, p. 5-183 (near tailings pile) 5-145 (Colby Lake) Consequence for cancer risk: EPA's Priority Toxic Pollutants rule, 40 CFR 131.36. Minnesota cancer risk rule: Minn. R. 4717.7840, subp. 2B.

¹⁷ SDEIS, pp. 5-109, 5-169, 5-183.

¹⁸ MDNR, Comments on the Preliminary SDEIS released in May 2013, Spreadsheet Part 2, p. 27.

¹⁹ EPA, Draft Comments on the Preliminary SDEIS, July 2013, p. 2.