

## PolyMet Sulfide Mine Project - Evaluating Adverse Health Effects

Across Minnesota, doctors, nurses and citizens are requesting that Minnesota agencies analyze adverse health effects and consider public health before the PolyMet NorthMet open-pit copper-nickel mine project proceeds to any permitting or further planning process.

### Why is Evaluation of Health Effects Needed for the PolyMet Sulfide Mine Project?

#### 1. Mercury Contamination of Fish & Damage to the Developing Brains of Minnesota Infants and Children



The PolyMet sulfide mine plan (SDEIS) did not provide an adequate assessment of human health impacts resulting from increased contamination of fish with methylmercury. International mercury expert Dr. Brian Branfireun reviewed the PolyMet plan and concluded, "Discharges of sulfate and total mercury and hydrologic changes to peatlands at the project site have the potential to significantly increase methylmercury in downstream wetlands and surface waters."<sup>1</sup>

Dr. Branfireun's opinion and WaterLegacy's detailed comments on mercury were sent to the U.S. Environmental Protection Agency (EPA). The EPA concluded that mercury modeling for the PolyMet project was insufficient and "further consideration of mercury impacts is needed."<sup>2</sup>

Mercury contamination of fish damages the developing brain in fetuses, infants and children. The MDH recently found 1 in 10 infants in Minnesota's Lake Superior region are born with unsafe levels of mercury in their blood. People who rely on fish for subsistence are also particularly vulnerable to mercury contamination health hazards.

#### 2. Pollution of Municipal Drinking Water & Residential Wells

In comments on the PolyMet mine project, Minnesota's Health Department Commissioner raised concerns about pollution of both municipal drinking water and residential wells, stating, "Groundwater discharge from the Mine Site to the Partridge River could impact the Hoyt Lake[s] drinking water supply (via Colby Lake)" and "The SDEIS does not adequately address possible impacts of groundwater contamination on local domestic wells."<sup>3</sup>

Lead and manganese from PolyMet's tailings basin would seep into groundwater upstream of domestic wells.<sup>4</sup> Lead is toxic to the human brain and manganese can reduce IQ and increase ADHD in children.<sup>5</sup> The PolyMet project would increase arsenic in surface waters, including Colby Lake municipal drinking water for Hoyt Lakes. Arsenic is a Group A human carcinogen and predicted increases would exceed Minnesota's cancer risk threshold.<sup>6</sup>

#### 3. Cancer Risks to On-Site PolyMet Workers

The PolyMet SDEIS fails to consider any health impacts to workers who would actually work at the mine or plant. Any SDEIS references to worker health only apply to "off-site workers."<sup>7</sup>

Many pollutants that would be emitted at PolyMet's plant and mine, such as nickel dust and asbestos-like fibers, are carcinogens; even for an off-site person, PolyMet's emissions would reach Minnesota's cancer risk threshold.<sup>8</sup> Health risks to *on-site* workers must be assessed.

## What do Minnesota Health Professionals Recommend?



### Individual Doctors & Nurses Familiar with the PolyMet Sulfide Mine Project:

“We respectfully request that the PolyMet SDEIS be deemed inadequate due to unresolved concerns and insufficient assessment of health risks of the proposal. We would further request that, in revising the PolyMet SDEIS, a comprehensive Health Risk Assessment be prepared under the guidance of the Minnesota Department of Health.”<sup>9</sup>



### Minnesota Nurses Association:

“The PolyMet NorthMet Supplemental Draft Environmental Impact Statement (SDEIS) contains inadequate analysis of the impacts on public health from the proposal. The co-lead agencies should conduct and include a health impact assessment (HIA) in the Environmental Impact Statement to fully analyze the public health implications of PolyMet's proposed mine.”<sup>10</sup>



### Commissioner, Minnesota Department of Health:

“An HIA could provide recommendations to policy makers to support possible positive health outcomes and to mitigate or prevent possible negative health outcomes to improve the public's health.”<sup>11</sup>

## Scientific Assessment and Community Engagement to Protect Public Health from PolyMet Project Pollution, Including:

- Assessment of risks from increased mercury in fish on brain development to fetuses, infants and children, especially in downstream populations who eat local fish for subsistence.
- Assessment of risks from manganese, arsenic and lead seeping into drinking water on reduced IQ, brain impairment and cancer, particularly for infants, children and the elderly.
- Assessment of risks from air-borne metals and mineral fiber particulates on cancer and non-cancer disease in mine and plant site workers.
- Assessment of risks from air pollution from burning coal to meet mine and plant energy demands, on incidence of asthma, lung and heart symptoms in local communities.
- Engagement in a Health Impact Assessment to analyze and protect public health.

## What You Can Do to Protect the Health of Minnesotans from the PolyMet Sulfide Mine?

1. Ask Governor Mark Dayton to direct the Department of Natural Resources to obtain funds from PolyMet for a Health Risk Assessment managed by the Health Department.
2. Ask the Governor to direct the Health Department to initiate a Health Impact Assessment process to evaluate public health effects of the PolyMet project.
3. Get more information at **WaterLegacy.org/PolyMet-HealthEffects** or contact WaterLegacy at [HealthEffects@waterlegacy.org](mailto:HealthEffects@waterlegacy.org).

<sup>1</sup> Dr. Brian Branfireun Opinion on the PolyMet SDEIS <http://waterlegacy.org/go/BranfireunOpinion>

<sup>2</sup> EPA Comments on the PolyMet SDEIS, <http://waterlegacy.org/go/PolyMetSDEIS-EPA-Comment>

<sup>3</sup> MDH Comments on the PolyMet SDEIS, <http://waterlegacy.org/go/PolyMetSDEIS-MDH-Comment>

<sup>4</sup> PolyMet SDEIS, p. 5-169, <http://www.waterlegacy.org/PolyMet-SDEIS>

<sup>5</sup> MDH Manganese Guidance, <http://www.health.state.mn.us/divs/eh/risk/guidance/gw/manganese.pdf>

<sup>6</sup> *Id.*, pp. 5-129, 5-183, 5-185 to 5-187. See WaterLegacy Comments on the PolyMet SDEIS at pp. 129-131, <http://waterlegacy.org/go/PolyMetSDEIS-WaterLegacyComment>

<sup>7</sup> *Id.*, pp. 5-421 to 5-426, <http://www.waterlegacy.org/PolyMet-SDEIS>

<sup>8</sup> *Id.*

<sup>9</sup> Comments of 46 individual doctors and nurses, primarily from Northern Minnesota on the PolyMet SDEIS <http://waterlegacy.org/go/PolyMetSDEIS-Drs-Comment>

<sup>10</sup> Minnesota Nurses Association Comments on the PolyMet SDEIS <http://waterlegacy.org/go/PolyMetSDEIS-MnNA-Comment>

<sup>11</sup> MDH Comments on the PolyMet SDEIS, *supra*.