Issues for commenting on PolyMet's proposed NorthMet Mine

1 **T**reatment of contaminated water will be required for more than 500 years. The modeling done by PolyMet stopped at year 200 (at the mine site) and year 500 (at the plant site) because that was the point at which it became clear that water quality would not get worse. However, the modeled water quality at 500 years does not come close to meeting water quality standards. In fact, PolyMet's data indicates that for some pollutants, treatment will be needed for millennia. Copper, lead, and sulfate are all pollutants that will impact the St. Louis River for centuries if treatment ends prematurely.

2 **P**olyMet's stated intention to switch to a more "passive" treatment system cannot fix the problem, because even passive treatment systems need maintenance and monitoring. Furthermore, there is no indication that a passive treatment system of the size that would be needed to treat PolyMet's amount and concentration of waste would be effective or would fit in the space available at the site.

3 **M**odeling of groundwater movement through the mine site is so questionable that the predictions presented in the Supplementary Draft EIS are virtually meaningless. This modeling was used to predict impacts to the water flow in the Partridge River and tributary streams and impacts to groundwater and surface water quality. It will apparently also be used to set financial assurance amounts based on the amount of water that will need to be collected, managed, and treated (although the SDEIS provides no information on this issue).

4 **T**he model creates a picture of the current hydrology at the site that does not come close to reflecting actual conditions. For instance, the modeled Partridge River baseflow level just east of the mine site is 0.42 cfs; the actual measured baseflow is 5.0 cfs. PolyMet and the DNR say that the discrepancy is due to discharges by Northshore Mining upstream, but a difference of an order of magnitude remains even after accounting for those discharges.

5 **T**he modeled rate of water movement at the site is completely unreasonable. The water infiltration rate: is lower than the design targets for engineered controls at landfills; has never been observed in any known wetland system; and accounts for only five percent of precipitation falling at the site. Yet many of the assumptions regarding the long-term ability of the company to protect the environment rest on this model.

6 **T**he DNR is allowing a three-mile stretch of the Partridge River to become polluted, without any analysis, monitoring, or discussion in the EIS. PolyMet's documents indicate that groundwater entering the stream from one of the reactive waste rock stockpiles and from the East Pit, which will be backfilled with reactive waste rock, may enter the Partridge River at levels above water quality standards for cobalt and aluminum. Neither PolyMet nor the DNR have assessed the impact of this water at the point where it enters the river, and do not plan to monitor this three-mile (or longer) stretch of the river at all. Instead, PolyMet proposes its

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first monitoring point at a location below the point where the influx of clean water from its treatment plant will mask any water quality violations that might occur upstream.

7 **P**olyMet's humidity cell testing indicates that its waste rock leaches mercury at more than four times the water quality standard. Despite (or perhaps because of) the fact that the release of mercury is the single most sensitive issue for any new facility located in the Lake Superior Basin, PolyMet proposes not to conduct an analysis of the amount of mercury that will enter the Partridge River from leakage from waste rock stockpiles and mine pits. Yet it has done this analysis for each of 28 other constituents, many of which have nowhere near the potential for impacts that mercury does. PolyMet attempts to excuse this discrepancy by stating that "insufficient data and a general lack of definitive understanding of mercury dynamics prevented modeling mercury like the other solutes." This appears to be a bald attempt to avoid federal and state regulations that do not allow any new source of mercury discharge within the Lake Superior Basin.

8 **P**olyMet's NorthMet Mine would completely destroy at least 1,741 acres of high quality ecosystems, which provide habitat for many wildlife species, including Canada lynx, wolves, and moose. Many more acres are likely to be degraded in the area surrounding the mine. Losses will include 1,741 acres of Minnesota Biological Survey sites of High Biodiversity Significance; 698 acres of Jack pine/black spruce forest, which are considered imperiled/vulnerable in Minnesota; 912 acres of high quality wetlands; and portions of one of only twelve known populations of floating marsh marigold in the state. All of these resources are currently located within the Superior National Forest. Why are we categorizing areas of high biodiversity, imperiled ecosystems, and endangered plants if we are not going to protect them, even when they occur on public land?

9 **M**ines and other development in the Mesabi Iron Range currently create a significant barrier to wildlife migration; studies have found only 18 narrow corridors within the Range that allow wildlife to move from north to south of the Range. Planned projects and expansions within the taconite industry will severely limit or destroy many of these corridors in the next few years. The NorthMet Mine would further degrade what is already a marginal, but important corridor, adding to a situation that is already a problem for an existing industry.

10 **P**olyMet would be responsible for 0.44% of all of Minnesota's greenhouse gas emissions, and would employ approximately 0.012% of Minnesota's workers.

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