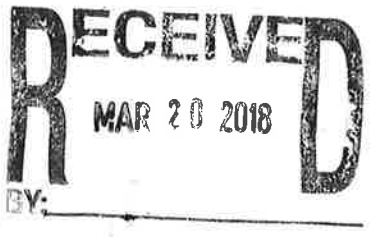
Subject: PolyMet MPCA Permits (Water, Air, and 401 Certification).

1. The One Hundred Mile Swamp was cut off before it crossed the Laurentian Divide on 10 Environmental Impact Statement (EIS) maps; these maps could have been corrected before the Final EIS was released to the public, but they were not. Minnesota's agencies have already allowed removal of bedrock pillars by taconite mining at the Peter Mitchell mine, essentially removing the Laurentian Divide. If permitted, PolyMet's toxic sulfide mining pollution could flow north, not only through the Peter Mitchell pit to Birch Lake, but also by way of the One Hundred Mile Swamp, following the directional flow of groundwater determined by geologic rock types and their associated structures beneath the Laurentian Divide. The contaminant migration pathways have had little to no scrutiny in PolyMet's EIS, and cannot be known with any certainty without detailed onsite hydro-geologic investigations.

2. "The BWCAW and Voyageurs National Park are located in different watersheds than the NorthMet Project area. Surface water flow and surficial groundwater flow from the NorthMet Project Proposed Action would not directly, indirectly, or cumulatively affect the water in these areas. Potential bedrock groundwater flow from the Mine Site north to the Northshore Mine, if determined possible through monitoring, would be prevented." (PolyMet) Prevented how? "Adaptive management strategy" is meaningless, unscientific, and makes all risk assessments invalid. All contamination management issues must have scientifically proven plans in place before permitting, not after. A mythical water mound will not stop contamination from seeping into the Peter Mitchell Pit to be released into Birch Lake—into the Kawishiwi River watershed—flowing to the Boundary Waters Canoe Area Wilderness. The entire PolyMet permit has been based on PolyMet not polluting two watersheds. Only polluting waters of the St. Louis River watershed, as if that was acceptable. Absolutely not the Kawishiwi River/Rainy River watershed! The people of Minnesota are being deceived with an unproven, improbable scenario and with altered maps of a significant wetland area at the NorthMet mining site.

3. PolyMet testwork showed that LTVSMC tailings leached arsenic; indicating the basin should not be disturbed, nor the tailings used for covers and dams, due to the high potential for toxic releases of arsenic to groundwater—releases above water quality standards. Documented elevated arsenic risks—discussed within the agencies at the beginning of the permitting process— were tied to the No Action Alternative. Yet the agencies went ahead with a plan to deliberately disturb the basin and use the tailings for other purposes. **Was the public ever informed in the EIS of this serious arsenic issue?** The No Action Alternative was the only valid choice from the beginning; it is still the only valid choice. (Or building a new tailings basin.) It is not scientifically valid to reuse the LTVSMC tailings basin for copper-nickel sulfide mining. Apparently, since the LTVSMC tailings basin is already leaking, the agency solution is to risk releasing high levels of arsenic—then add massive amounts of toxic sulfide mining waste to the already leaking basin—and then capture the basin's legacy pollution, including arsenic, at the same time that PolyMet collects and treats the entire overwhelming mess. Whenever that may be. It is delusional.



4. Adding massive amounts of toxic sulfide mining pollution to an already leaking, polluted basin while risking the release of arsenic—then collecting everything—is scientifically impossible on such a scale. Where is the scientific proof, where has it been done on such a scale in a like environment? To experiment with Minnesota's waters is not in the best interest of the people of Minnesota. Requiring Cliffs Erie to put in a collection system and to clean up the mess it assumed responsibility for would have been the best choice for Minnesota. It is fiscally irresponsible for the state of Minnesota to permit sulfide mining. The monetary losses would far outweigh the gains. Our waters are Minnesota's most valuable resource, environmentally, economically, and strategically.

5. It is false that virtually all of the pollution can be collected. And if by some miracle that could occur, it would only weaken a tailings basin that is designed to leak for stability. Once tailings are deposited in the LTVSMC basin there are two choices, let the basin leak or return all polluted waters to a basin that would then only become increasingly unstable, leaving Minnesota with an ever greater risk of catastrophic failure.

6. NorthMet would become a toxic pit; there is no feasible way to keep the exposed Virginia Formation from turning pit waters into a death trap for wildlife, particularly waterfowl.

7. The Duluth Complex is a sole-source aquifer. Exploration drilling has turned the area into a contamination network for proposed sulfide mining pollution. Destroying a region's water supply is criminal.

8. No cost/benefit analysis has been done for PolyMet.

9. The number of projected mining jobs would be highly questionable; the amount of mining waste generated annually by PolyMet's proposed NorthMet Project fluctuates significantly over the proposed 20 years of operations, which translates to fluctuating mining layoffs with significantly unstable economic benefits. This fact was not made clear in PolyMet's Environmental Impact Statement.

10. No adequate risk assessment (including for human health) has been done for PolyMet. PolyMet has not done a risk assessment, they have many disparate reports, and none are cumulatively put together as a human health or environmental risk assessment. A complete Human Health and Ecological Risk Assessment needs to be done to assess cumulative impacts to the human environment, as required under NEPA. The Air Emissions Risk Assessment (AERA) in the FEIS cannot be reviewed for accuracy or completeness by anyone because the full report has not been provided anywhere. The AERA does not qualify as a human health risk assessment such as the USEPA uses (USEPA Risk Assessment Guidance for Superfund, EPA/540/R95/132PB96-963203), and the LTVSMC plant site is a superfund site. The MPCA AERA process is not written in Rule but is an agency administrative policy. The AERA lacks outside scientific peer review by such agencies as USEPA. Thus the use of the AREA resulted in an inadequate human health evaluation for the air in PolyMet's Final EIS. No other risk assessments have been performed for soils, sediments, surface or groundwater, even though impacts are documented currently

in the FEIS references in both the surface and groundwater from the existing LTVSMC plant site. These impacts must be added to PolyMet's proposed use of tons of additional chemicals including the surfeit of waste minerals and elements that have been identified within in the rock from numerous reports from such sources as DNR minerals and the NRRI. These wastes will require perpetual treatment as stated in the FEIS. NEPA requires EIS's to protect the human environment (NEPA sec. 2). This requirement has not been met, and is a major omission invalidating PolyMet's FEIS. Since there was not a standard human health risk assessment performed on the air, soils, sediments, surface or groundwater, the DNR cannot certify that human health will be protected. The lack of protection of human health in air, soils, sediments and water means the DNR cannot issue PolyMet water appropriation permits under MN. Statute 103G.297 Subd. 3 (2) & (3). Nor can the MPCA issue an air quality permit, a water quality permit, or a 401 Water Quality Certification for PolyMet.

11. No comprehensive, independent Health Impact Assessment has been done for the PolyMet Project, despite repeated requests from Minnesota's health professionals; all requests were denied, denying the utmost protection to the public, particularly to Minnesota's children.

12. The addition of toxic sulfide mining waste—including dozens of chemicals that were unidentified in the EIS—to a basin already contaminated with high levels of arsenic, is putting the children of Minnesota at extreme risk for physical and neurological impairment. Also, chemicals associated with the PolyMet Project—identified and unidentified in the EIS—have not been studied synergistically. Total toxicity has been vastly under reported.

13. No cost/benefit analysis has been done for a sulfide mining industrial complex.

14. No cumulative impact/risk assessment, inclusive of human health, has been done for a sulfide mining industrial complex. The public needs to know what the probable impact of a sulfide mining industrial complex would be, before we begin to permit such a complex with PolyMet. A cumulative risk assessment—including for health—is critical for a massive sulfide mining industrial complex in such a rare water-rich environment as northeastern Minnesota. It is false to claim each mine is permitted on its own merits when the agencies are well aware that once the standards are set for PolyMet they are set for all sulfide mining companies seeking permits in Minnesota.

15. Minnesotans have not been given an accurate way to gauge the true cost of what the public is risking. The only acceptable financial assurance under such unknown risk —for a high-risk industry in a high-risk location—is total projected costs in cash—including reclamation costs—upfront. Or no permit. Must also include insurance for catastrophic failures or natural disasters, which it is highly doubtful PolyMet could obtain. Minnesota must not take on the industry's risk. All cash up front or no permit. The proposed financial assurance is far too low, and payment comes far too late in the mining process.

16. Who is lying? The taconite industry that says it cannot use reverse osmosis. Or PolyMet that claims it could use reverse osmosis for sulfide mining, but then uses taconite tailings leachate-contaminated water for its "Successful Water Treatment Plant." PolyMet cannot be permitted when its 'successful' use of reverse osmosis is suspect and unverifiable. And the concentrated contaminants that would remain after reverse osmosis have unknown levels of toxicity, and therefore unknown disposability. There are no other examples of sulfide mines of this scale in a comparable water-intensive environment and climate that have not polluted surrounding waters. The entire EIS is based on PolyMet's ability to use reverse osmosis successfully. No proof. No permit.

17. When I asked for an explanation as to why information from Barr Engineering contradicted the DNR classification for a 100-year event, the DNR refused to answer. I was questioning the assertion in the Duluth News Tribune that PolyMet was now designing its tailings dam to withstand a 1,000-year event, and asking how that determination had been made. Initially the DNR sent me a portion of an email from Barr, "the proposer," to explain why a Duluth News Tribune article suddenly referenced a PMP. Part of that email stated the following: "The Flotation Tailings Basin has been designed to hold the 72-hour Probable Maximum Precipitation (PMP) event, which is approximately 38 inches, without overtopping. The PMP does not have an assigned return period. 10 year – about 4" in 72 hours, 100 year – about 6" in 72 hours, 1000 year – about 9" in 72 hours, PMP – 38" in 72 hours." I then questioned the fact that the PolyMet EIS consistently referred to a 100-year event as being in 24 hours. As did the DNR website, "A 24-hour duration 100-year storm for most Minnesota communities is roughly six to seven inches." It was when I asked the following questions that the DNR became less than forthcoming. I asked, "Why then has Barr or proposer decided to state that a 100-year event is about 6 inches in *72 hours*, rather than 6 inches in 24 hours?" I added, "I am also wondering how it is possible to upgrade PolyMet's tailings basin to a so-called PMP, without also upgrading the entire interconnected EIS, which was based on a 100-year event?" The DNR response was as follows. "Thanks for your interest and questions. We will be addressing all comments during the permitting process." (I was responding to an email I received from the DNR, not a draft permit application.) So, why has Barr/proposer decided to state that a 100-year event is about 6 inches in *72 hours*, rather than in 24 hours? It appears such a change would skew the results of a PMP. Spreading six inches over 72 hours, instead of six inches of rainfall in 24 hours, certainly makes a difference in flooding potential. Again, I am wondering how it is possible to upgrade PolyMet's tailings basin to a so-called PMP, without also upgrading the entire interconnected EIS, which was based on a 100-year event not a 1000-year event?" I am also aware that a 100-year event or a 1000-year event can occur at any time, it is a matter of percentages. 500-year events are no longer rare, yet PolyMet's EIS is still based on a 100-year event.

18. Which raises the point that an EIS largely based on a 100-year event is wholly inadequate in a time of great climate change, when 500-year events are becoming more and more frequent, and 1000-year events are occurring as well.

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