

# Online Comment

**Permit Portal:** Air

3/16/2018

**Comment:**

PolyMet Air Quality Permits I am requesting that you deny PolyMet an air quality permit. In Butte Montana, at the Berkeley Pit a fog phenomena occurs emanating from the mine pit lake. It has been proposed that because of the relative weight of the heavy metals that they do not become air born although no definitive study, it is claimed, has been done. There actually has been a relevant study done in Spain at a mine site which emits the same type of fog. There the researchers found that toxic levels of heavy metals in fact are lifted in the fog. I have read about this study where the mist was actually condensed and analyzed although I have misplaced the citation. The agencies have inadequately accessed the air quality hazard that will occur with PolyMet mining. Heavy metals do in fact become air born from the effects of blasting. This is what explains the elevated levels of mercury in the blood of north shore children. Past taconite mining has blasted mineral formations including mercury which is directly inhaled by persons downwind. The downwind phenomena is the only plausible explanation for why, say, Lake Superior South shore children are not effected as severely from just eating Lake Superior fish. If mercury can be propelled from, say, China in a smoke stack it is just as likely that it would be propelled just 50 miles to the Lake Superior north shore from blasting. Included with the higher levels of mercury will be higher levels of arsenic and other heavy metals. It has been discovered that the modern era of copper mining in Chile is chronicled in ice cores from Antarctica. It is consistent that it should be expected that the blasting of arsenic containing sulfides at PolyMet and other prospective mine sites in the area would produce airborne arsenic as occurred in Chilean mining operations much further away. I have been having trouble lately locating arsenic references to the PolyMet deposit lately because of the volume of information. However, my friend, retired from the MPCA, has indicated to me glittering rock walls he observed in the 1970's at the AMAX bulk sampling and now Teck Cominco site to the east of PolyMet indicating a rich presence of pyrite containing arsenic (reference arsenopyrite). The Wetlegs deposit shown on the following map to the West of PolyMet is close to PolyMet as you can see from the link: [http://sosbluewater.org/Deposit\\_map.pdf](http://sosbluewater.org/Deposit_map.pdf) The following report indicates that Wetlegs is rich in Arsenic: <http://forum.amiminerals.it/viewtopic.php?t=12078> The Cities of Superior, Duluth, and Cloquet are I am told by a representative of PolyMet 170 river miles downstream. Anafogosta Chile has experienced serious and ongoing health issues resulting in large numbers of premature death from arsenic flowing 180 miles downstream:

[http://www.academia.edu/10724720/Arsenic\\_enrichment\\_in\\_waters\\_and\\_sediments\\_of\\_the\\_Rio\\_Loa\\_Second\\_Region\\_Chile](http://www.academia.edu/10724720/Arsenic_enrichment_in_waters_and_sediments_of_the_Rio_Loa_Second_Region_Chile) Research indicates that arsenic alone will kill a conservative 50 but more likely closer to 100 people per year in the Duluth, Superior, Cloquet area, i.e thousands of people in Superior WI over the next 300 years. Your help can save lives in exposing this (PolyMet) criminal venture. Arsenic has been linked to a variety of illnesses including diabetes and heart disease.

<http://www.bmj.com/content/342/bmj.d2431> There is no known safe amount of arsenic:

<http://www.reuters.com/article/us-chile-cancer-idUSTRE80N1YJ20120124> The PolyMet Supplemental Draft EIS indicated that Arsenic and Mercury would be removed with reverse osmosis. In the Final EIS it

was acknowledged the RO would not do the job and a reference to Greensand Filtering was made with a denial contrary to the 1960's Chilean experience that the Arsenic would not make the 170 river miles to the drinking water intakes of Duluth, Superior, and Cloquet. Even with greensand filtering which is simply promised and not guaranteed A 1999 study of methods highlighting greensand filtering indicates the complications in arsenic removal and one of the main conclusions of greensand filtering was "the technology discussed here is probably not cost effective."

<http://www.usbr.gov/research/AWT/reportpdfs/report041.pdf> Third world African countries are fighting the importation from Chile of arsenic laced copper concentrate.

<https://www.lusakatimes.com/2015/06/22/dont-demonise-kcms-motive-to-import-toxic-copper-concentrates-from-chile-sinkamba/> Speaking of third world journalism. Although the EPA regional director indicated guarded approval of the PolyMet project as a result of political pressure she has since resigned as a result of suppressing a report in the Flint, MI case which has gone unreported in Duluth/Superior and her PolyMet report continues to be cited by PolyMet supporters.

<http://www.clickondetroit.com/news/breaking-epa-regional-administrator-for-flint-resigns> In addition to the dangers of Arsenic questions linger regarding the synergistic effects of heavy metals. In one study it was determined that rats exposed to an amount of mercury that would kill 1% of rats combined with lead that would kill 1% of rats killed 100% of rats. <http://amalgam.org/education/scientific-evidenceresearch/synergistic-effects-of-mercury-other-toxic-exposures/> A big deal is being made about sulfides inhibiting the growth of wild rice, but if a strain of wild rice is found that will grow in these sulfate waters/arsenic waters they will be poison from an uptake of arsenic.

[http://www.huffingtonpost.com/2012/09/20/arsenic-rice-toxic-element-inside-grain\\_n\\_1900654.html](http://www.huffingtonpost.com/2012/09/20/arsenic-rice-toxic-element-inside-grain_n_1900654.html)

Arsenic and mercury will rain down in the blast residue to effect rivers other than the St. Louis on the north shore of Lake Superior. Breathing arsenic has an even more severely intensified effect on producing lung cancer in particular as well as negatively effecting the intellectual development of children. The blast produced arsenic will more severely impact the drinking water of the St. Louis river downstream consumers which will be impacted by the extremely and dishonestly stated toxic waste water outputs and consumption. Tailings basin seepage treatment train at the WWTS estimate of 4000 gpm during operations is underestimated at 5,760,000 gallons per day. This amount seems unrealistically optimistic given the treatment demands for a much smaller amount of process material at the Humboldt Mill in Michigan will take 2.8 million gallons a day and does not include treatment of water from a very large mine. The PolyMet mine is planning to process 32 thousand tons of ore per day while the Humboldt mill only processes 2 million tons. This indicates that PolyMet is claiming to be 7-8 time more efficient even though they have no experience in mineral processing. This much larger amount of water to be treated will inundate the system. These claims are consistently underestimated with the low estimates proven to be wrong at the Humboldt Mill and at the Resolution mine site as necessary. These dishonest estimates are a dangr to the public and it must not be acceptable for PolyMet simply to be expected to be allowed to simply dump tens of millions of gallons of tainted water into the St. Louis River water shed to poison downstream water consumers with heavy metals and arsenic from this high arsenic mineral formation and processing. The current 4000 gpm estimate is less than one-third of the Polymet processing capacity. The PolyMet projected water consumption and toxic waste water discharge should be expected and planned for at as much as 300 million gallons per day or 9.E10 per year from mine pumping and ore processing which the tailings basin needs to be expected to hold. 300 million gallons is the equivalent of 920 acre feet of water. This amount of water invalidates the Environmental impact findings and estimated engineering specifications, environmental impact notices,

due process, media discussions and is a fraudulent infraction on PolyMet's part for which it should pay a penalty to the public that it has deceived.

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**Attachments:**