

# Frank Keim

Re: Acid toxicity of Manh Choh mine ore and transport of ore to Ft. Knox.

To Whom it May Concern:

As a 62-year resident of Fairbanks and someone who knows the swath of the state that will be affected by this mine and the transport of ore from its source ultimately to Ft. Knox mine near Fbx where the ore will be smelted, I am extremely concerned about the full implications of the mine for both the Tetlin Athapaskan people and the environment. These are my comments:

The most consequential environmental issue in the development of any hardrock mine is the potential for waste rock, pit walls and tailings to generate sulfuric acid when exposed to oxygen. According to the geochemical characterization report (SRK 2022), the ore and much of the waste rock of the Manh Choh mine is acid producing and metal leaching, which means it must be handled carefully at every step of the process and contained after the gold is removed or organized in such a way that the contaminated effluent can be captured and neutralized before it causes certain harm in downstream aquatic habitats.

Since this new mineral prospect will most certainly generate acid, the drainage from the mine site will become toxic to aquatic and other life in downstream habitats unless that water is contained and treated to neutralize the acid and precipitate dissolved metals. If not contained and treated, this acid mine drainage (AMD) will persist for hundreds or thousands of years after the mineral prospect has been exhausted and will require serious perpetual mitigation to preserve water quality downstream. Most hardrock mines and mine prospects in Alaska today are known or predicted to produce AMD. And according to recent postings on the DNR Large Mines website, the Manh Choh Mine will also generate AMD.

Transporting the ore from the mine site to the transfer station is another important concern, and is poorly described in the mine plan. It's not clear if the large dump trucks used for this segment of the ore transportation operation will be covered or not, although the ACOE wetland permit stipulates that those trucks should be covered. If there are no covers on the large dump trucks, the ore's fugitive dust will certainly contaminate the adjacent wild landscape and associated wetlands and rivers in the Tetlin National Wildlife Refuge downstream from the transport corridor to the transfer site and downstream from the Alcan Highway and of Ft. Knox itself where they plan to smelt the ore.

What happens then, to the Fort Knox reclamation and closure plans after four to five years of continuous deliveries of acid producing and metal leaching ore from the Manh Choh mine? In the Manh Choh geochemical characterization report, the proponents described blending Manh Choh ore with Fort Knox ore at 20:80 and 30:70 respectively, presumably to see whether tailings with a mix of ore types would neutralize acid production and metal leaching. They conclude that all ore samples produce acid and elevated levels of dissolved metals. Given these results, will Fort Knox then require perpetual mitigation of the tailings and the effluent issuing from them?

Another concern is that the Manh Choh documents state that Fort Knox will not require any additional permits or oversight to accept these deliveries of ore with such very different toxic properties than those from Ft. Knox itself.

Finally, it is worrisome, to say the least, that the Army Corps of Engineers wetland permit for the Manh Choh mine declined to consider wetland impacts beyond the actual mine site itself and the associated road to the Alaska Highway transfer site. This is irresponsible!

In fact, the entire proposal is irresponsible and, in my opinion, any permits for the mine already granted should be rescinded and the proposal for the mine should be shelved permanently. At the

very least, a full Environmental Impact Statement should be done on the prospect. The fact that State permits for the mine and the associated hauling of ore both to the transfer site and to Ft. Knox for smelting may already have been issued smacks of political decisions made with no consideration for either the health of the Tetlin Athapaskan people or the quality of the Alaskan environment writ large. Shame on the politicians involved in this decision.

Frank J. Keim  
2220 Penrose Lane  
Fairbanks, 99709