Barbara Schuhmann

Please see my comments in letter 4 re. Reclamation Plan and Integrated Waste Management Plan

Department of Natural Resources
550 W. 7th Avenue, Suite 1430
Anchorage, AK 99501-3577
907/269-8732

Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709
907/451-2136

Re: Objection to Approval of Permit Applications
Reclamation Plan F20232626RPA
Integrated Waste Management Permit 2023DB0001 for Manh Choh Project

Dear Sirs:

I object to approval of both the above-listed permits, for reasons listed in this and other comments I am providing to DEC and DNR.

I. The highway transport and ore processing/disposal portions of the Applicant's Manh Choh mining operation needs to be included in an integrated waste management plan for the Manh Choh mining operation

It is clear that the Manh Choh mining operation includes three components: ore extraction, ore transportation and ore processing/disposal. Any plan must include all three components or it is incomplete and must be rejected. The transportation portion will generate wastes that will need to be managed and cleaned up. The waste management and reclamation plans need to include provisions for ore and hydrocarbon spills and releases, vehicle accident debris, and oils, greases, metals and tire debris from the ore haul and traffic going to and from the mine. The failure of these proposals to include all portions of the mining operation means they must be rejected.

II. The ultimate disposal sites for solid and hazardous wastes need to be outlined.

This "integrated" solid waste proposal is hardly integrated. There is no plan stated for exactly how waste generated at the extraction, transportation, and disposal portions of mine operation will be disposed of. Only "options" are mentioned for wastes generated at the extraction site. What coordination will there be with the actual disposal locations, other entities and ADEC? Do Tok, Delta Junction, Glenallen and Fairbanks even know they are targeted as solid waste and hazardous waste disposal sites for Manh Choh?

What oversight will ADEC provide? What if the wastes cause problems at the waste sites? What oversite will the permittee be required to provide?

What safeguards will be in place while transporting solid and hazardous waste, over hundreds of miles to these potential disposal sites? What RCRA requirements will apply to this transportation? What notices will be required to be given to the communities through which the solid and hazardous waste will travel or to which the solid and hazardous waste will be deposited? How will the permittee and the ADEC meet these requirements?

This proposal closes its eyes once solid and hazardous waste leaves the Manh Choh extraction site portion of the overall mining operation. Where exactly will it go? The number of "options" listed hardly answers the question. Where will it go and what safeguards will there be that will assure that all waste is handled and disposed of properly? Then, the same questions must be answered as to waste generated from the transportation and processing/disposal portions of the mining operation.

III. All vehicles leaving the Manh Choh extraction and disposal/processing sites should be cleaned of acid-generating dirt, soil, rock and dust

The review of the Manh Choh proposal generally, and this permit specifically, has failed to consider that every vehicle that leaves the Manh Choh extraction and the processing/disposal site will be carrying rock, mud, soil and dust that is acid-generating and mineral-leaching. There is no discussion of the need to clean vehicles before leaving either the extraction site or the processing/disposal site. But that should be a requirement – whether the vehicle is that of an employee, an ore haul truck, or a third-party garbage truck leaving a site – it should not be allowed to spread acid-generating, mineral-leaching dust, soil or rock to the public highways and other locations. Other mines use water or compressed air to clean vehicles before they leave a mine site. This cleaning must include all exposed truck or vehicle parts, tires, undercarriages, and beds of unloaded trucks. This should be required at the Manh Choh extraction and disposal (Fort Knox) sites as soon as they start dealing with acid-generating rock or ore.

Trucks also need to be cleaned of rock and soil before entering public highways, to protect the motoring public, bicyclists, and pedestrians from flying rock and dust falling from the trucks, tires, and undercarriage of teach ore-hauling 95-foot long, 16-axle, +50-tired vehicle.

IV. All ore hauling tractor-trailers must have hard covers to prevent fugitive dust.

The Red Dog mine road corridor showed proof of elevated levels of minerals from fugitive dust from trucks, even when covered with fabric. The same will occur with the ore hauls from the Manh Choh extraction site to the Manh Choh disposal site, along 248

miles of public highways and city streets, right in the middle of populated areas. The dust will be acid-producing and mineral-leaching.

Only hard covers for the trucks will provide much help in preventing fully loaded, partially loaded, and empty truck trailers from shedding fugitive dust.

V. Toxic Tires

Recent studies (see below) have found that common chemicals in tires and tire particles kill fish. How will the tires and tire particles left on the highway be handled to make sure these chemicals do not kill fish in neighboring waters?

A. Spent Tires.

The proposed waste management plan, p. 11, is to dump spent tires in waste rock storage at the Manh Choh extraction site. The integrated plan does not explain the planned waste rock treatment, much less how the tires will be handled. A number of questions arise concerning such a practice. Why not require recycling? How would tires be handled in a waste rock dump? How will the acid-generating ore from the waste rock react with the spent tires? Can all run-off be contained or will it run into the Tok River or Tetlin Lake? How will the fish in those two water bodies be protected? What else will be dumped into the waste rock site? Will it be toxic? How many tires will there be? This last question is important, since the applicant has estimated up to 70,000 ore haul truck transits per year between the extraction and the disposal site, using 16-axle trucks with 50+ tires each. Then, there is other equipment with tires and regular vehicles and employee vehicles. So, how many "spent tires" will there be?

B. Tire Particles on Public Highways and City Streets

The University of Washington study shows that just the wear and tear of tires on pavement causes particles to be dispersed on highways. Precipitation washes the chemicals from the tire particles into nearby streams and the chemicals kill coho salmon. This is one waste product that ore haul and other trucks associated with the mine will dispose of along the 248 miles of highway between Fort Knox and Tetlin. An integrated waste disposal plan needs to account for and mitigate against <u>all</u> the pollution and waste that will be disposed of along the highway corridor. But this proposed plan fails to do so.

This plan needs a lot more work. I suggest that ADEC address the deficiencies in this plan, figure out the real waste streams, include the transportation and disposal portions of the Manh Choh mining operation, and figure out where all of the mining operation's waste will be deposited, before it approves any waste disposal plan.

For the reasons contained in this and other comments made, I ask that the plan be rejected as incomplete and inadequate.

"Toxic Tires", College of Agricultural, Human and Natural Resource Sciences. https://extension.wsu.edu/water/article/toxictires/

"A Ubiquitous Tire Rubber-derived Chemical Induces Acute Mortality in Coho Salmon," by Zhenyu Tian et al. Science. 3 Dec 2020, Vol 371, Issue 6525. https://www.science.org/doi/10.1126/science.abd6951

Science. 18 Feb 2022, Vol 375, Issue 6582. DOI: 10.1126/science.abo5785. Z. Tian, M. Gonzalez, C. A. Rideout, H. N. Zhao, X. Hu, J. Wetzel, E. Mudrock, C. A. James, J. K. McIntyre, E. P. Kolodziej, 6PPD-quinone: Revised toxicity assessment and quantification with a commercial standard. *Environ. Sci. Technol. Lett.* **9**, 140–146 (2022).

"Tire Dust is Killing Salmon", Seattle Times, Dec. 3, 2020. https://www.seattletimes.com/seattle-news/environment/tire-dust-is-killing-salmon/

Sincerely,

Barbara L. Schuhmann

Obj MC waste mgt plan.DEC