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September 3, 2022

ATTN: Casey Sixkiller, Region 10 Administrator ,US Environmental Protection Agency

 Michael S. Reagan, Administrator, US Environmental Protection Agency

RE: Docket ID No. EPA-R10-OW-2022-0418

 Proposed Mine at the Pebble Mine Deposit

Thank you for the opportunity to comment on the proposed determination (2022) to prohibit and restrict the use of certain waters in the Bristol Bay watershed as a deposal site for the discharge of dredged or fill material associated with mining at the Pebble deposit, under Section 404(c) of the Clean Water Act (CWA).

I am impressed with the thoroughness and detail of the findings and the conclusion that was inevitable once the facts, figures and scientific analyses were laid out. It is hard to provide any better comments than those that are in the Executive Summary of the determination, and I applaud the Agency’s clear thinking and well thought out analysis. I absolutely agree with the Agency’s conclusion as stated in their determination, and am glad that this Proposed Decision goes further to propose restriction of “any future plan to mine the Pebble deposit that would either individually or collectively result in adverse effects similar or great in nature and magnitude to those described”. [*sec. 5.2*]

As the Executive Summary says “Alaska’s Bristol Bay watershed…is an area of unparalleled ecological value, boasting salmon diversity and productivity unrivaled anywhere in North America. As a result, the region is a globally significant resource.” [*ES-1*] The Proposed Decision recognizes that “The direct and secondary effects of the discharge of dredged or fill material for the construction and routine operation of the 2020 Mine Plan would result in both the permanent loss of certain aquatic resources and the degradation of additional aquatic resources. The loss and additional degradation of aquatic resources would adversely affect anadromous fishery areas.”[*sec 4.1 1.*] “[The] Mine Plane would also result in the permanent loss of approximately 2,113 acres (8.6 km) of wetlands and other waters at the mine site”. [*sec 4.2.3*] “There are no examples of other projects resulting in this level of permanent loss of anadromous fish streams in the CWA Section 404 regulatory program in Alaska.” [*sec 4.3.1.2.4*]

Any attempt to claim that these losses would be reversed in subsequent mine reclamation attempts would be ridiculous. In its analysis of the proposed Chuitna Coal Project, Alaska Dept. of Fish and Game (ADF&G) stated that “If these streams and the genetically unique salmon demes that use them are destroyed or blocked by strip-mining . . . it is unlikely that these local salmon stocks could be restored to their former level of productivity even if a new stream

channel could be successfully constructed. . . It is probably not possible to reconstruct a new stream with the same level of productivity . . .  [The mining company] has not provided any examples of where a strip-mined salmon spawning and rearing drainage the size of [the stream at issue, 17.4 km] has been restored to premining productivity. An extensive search

of the scientific literature and discussions with stream restoration experts in

Alaska and elsewhere have not produced any examples. . . “ [*Trasky, Lance, Report on Chuitna Coal Project Aquatic Studies and Fish and Wildlife Protection Plan pg 55–56 (2009)*]

 Another scientist was even more blunt. Dr. Margaret Palmer has noted that: “Wetlands and headwaters cannot be restored to ecological function if the very material that they rely on — deep sediment structure and long-entrained flow paths — are mined through, ground up, and replaced in the mining pit as a relatively homogenous pile of rubble and dirt. . . .  While stream reconstruction has been done successfully by re-grading and re-vegetating banks, or adding or

removing debris to create habitat, no one has simply created a new stream where none exists.  A new ditch can be dug where the old stream used to be, and can have the same curves and shape.  But it will not have the exchange of surface and groundwater at the streambed, upwelling areas for fish to lay their eggs in, biodiversity of insects that headwater streams provide as food for fish, the purity of water and nutrients wetlands provided.” [*Palmer, Margaret A., Report on Chuitna Coal Project of PacRim Coal, Executive Summary (2009)*]

To even consider such a massive, permanent loss of anadromous habitat in Bristol Bay is unacceptable. Bristol Bay salmon have a rich local, national and global significance. On the local level alone, “salmon resources have nutritional, cultural, economic and recreational values” [*ES-3*] Salmon are a mainstay of Bristol Bay subsistence resources, utilized by virtually every household in the area. Additionally, “for Alaska Natives, subsistence is much more than the harvesting, processing, sharing and trading of foods. Subsistence holistically subsumes the cultural, social, and spiritual values that are the essence of Alaska Native cultures.” The importance of this cannot be overstated.

From an economic viewpoint, in a study by the McKinley Research Group, the Bristol Bay commercial salmon fishery was estimated to be valued at over $2 million in 2019 and to provide over 15,000 jobs. There are also dozens of commercial sport fishing lodges in the area that are all dependent on the salmon fishery, and that provide significant economic benefit to the region.

It is noted in the Proposed Decision that in addition to loosing anadromous stream beds, there would be a great loss of wetlands. The flooding from the mine activities themselves would cause an additional loss of habitat in the mine footprint. This habitat destruction would affect much more than the salmon and other fish in the waters, it could affect the many species of birds and wildlife that also live in the region. “Unlike most terrestrial ecosystems, the Bristol Bay watershed has undergone little development and remains largely intact. Thus, it still supports its historical complement of species, including large carnivores, such as brown bears, bald eagles, and gray wolves; ungulates such as moose and caribou; and numerous bird species. For example, more than 40 mammal species are thought to regularly occur in the Nushagak and Kvichak River watersheds .” [*sec 6.1.1*] The region supports a large number of commercial hunting guides and their operations. The numbers of brown bear in the area could be directly affected by the lack of salmon, as this is their primary source of protein. A loss of these magnificent animals would also be injurious to the large bear viewing tourism economy. Herbivores such as caribou and moose could also feel the effects of mining operations in the degradation of the tundra and waterways from which they feed. Birds of prey such as bald eagles, peregrine falcon, and various hawks, as well as the geese and ducks, would be effected by the loss of the salmon and other stream occupants on which they feed. This in turn would affect the bird hunting for both subsistence and commercial recreation.

It is important to note that all of the effects of the mine, as described in the Proposed Determination, are based on the amended small mine size described by the Pebble Partnership. It is recognized that the mining to the limited extent they initially propose is not even thought to be commercially feasible. The real intent is to amend the mining application, once approved, to a much larger project, perhaps in stages. This was made blatantly obvious in the now infamous “Pebble Tapes”. The true damage to the area, it’s habitat, it’s resources, and thus to the people who inhabit it and who work and recreate there, is probably greatly understated.

Additionally, catastrophic effects of an earthen dam breach or failure has barely been considered. Such a dam in an earthquake prone zone would mean when a dam breach occurs, not if. On a local basis, the impact of light pollution, additional humans, equipment, vehicles, and noise on the wilderness as well as in the surrounding villages would have a great impact on quality of life and physical and mental health. The highly valued solitude and wilderness aspects would be lost.

 Not covered in this Proposed Determination is the subject of reuse and recycling of minerals such as copper. Before defining any national needs for minerals, especially when considering the ‘valuable minerals’ needed for new technology and renewable resource technology, the Government should invest serious time and money into studying, forming a plan for and implementing recycling of these minerals. A cyclical system of use should be initiated and have priority over and be factored into any needs for development of proposed new mining sources.

I spend many months a year in a tiny, predominantly Aleut village on the Alaska Peninsula and I was speaking with a friend about the proposed Pebble Mine.  She had grown up in the village and lived there for most of her life. She told me that it was a difficult subject: it would provide good jobs for local people, but the real issue was that it would cause irreparable harm to the Bristol Bay fisheries, a major source of both income and subsistence harvest for this village and most other villages in Southwest Alaska. She brought up the fact that the Pebble people had claimed that the proposed earthen mine was not a risky endeavor as there were few earthquakes, and recently the area was hit with a pretty good quake!

A few days later I was in Illiamna, another small southwest village where the Pebble Partnership mining conglomerate is locally headquartered, and I thought of the local people who would soon be out of jobs as I watched their trucks running back and forth through the village.  But I also thought of the beautiful wilderness around me, the mountains, the grasslands, the tundra, the huge passage of migrating birds, the local swans and cranes and ducks and geese, the king and silver salmon and the arctic char and other fish we so love to catch and eat, the huge brown bear who rely on the spawning salmon, the caribou and lynx and wolverine and wolves who rely on the pristine environment for their food supplies, the seals and whales and sea otters that feed just yards offshore in the Bay.  I thought of the potential damage to this wonderful land of blue waters and green tundra and yellow grasses and snow covered peaks, and there was just no balance in the judgement.  The mining jobs would be for a limited few for a limited time; the wildlife and environment could be damaged forever, and cause long term fishing, hunting and recreational job loss, as well as revenue and food supply loss to the local peoples.

For all of these reasons, I heartily agree with this Proposed Determination, and plead with you to make a final decision that affirms this Proposed Determination. I am hopeful that this would mean a lasting, permanent protection for the Bristol Bay watershed. I sincerely appreciate the hard work and long effort that has gone into these Proposed Determinations, am exceedingly grateful that the rescinding of the Determination was revoked, and look forward to seeing this Proposed Determination made into a final prohibition and restriction on the use of the Bristol Bay watershed as a mining disposal site.

Sincerely,

Loren J Karro