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Environmental

Proposed Pebble Project
Preliminary Draft Environmental Impact Statement
Review Comments

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Comments

Section 4.1 Introduction refers to Section 4.2 through Section 4.26. Of these 26 sections, only 17 sections are not currently available; therefore, Chapter 4.0 is incomplete.

Without figures and maps it is not possible to do an in-depth and specific review of this section.

4.1.2 Time Periods (Phases)

The time periods proposed for the three phases are insufficient considering the long-term impacts from each phase of the proposed project. It is misleading to say this is a 20-year project when the buildout and expansion will occur over 78 years across multiple phases. And multiple other mining projects would probably use the Pebble infrastructure. Based on the projects that intend to use the Pebble infrastructure, this project could effectively be there forever. Other mining, gas and oil, and energy and utility projects using the Pebble infrastructure will further impact and damage the area and would require construction of additional roads and other infrastructure. Without the proposed Pebble Project construction, the area would remain much as it is today.

All aspects of construction, including disturbance caused by infrastructure construction, mine plant construction, mine pit development, and mine facilities construction, must be considered. Considering potential impacts from construction of the infrastructure, facilities, and structures that would be needed to operate the proposed project, a time period greater than 20 years is appropriate to evaluate potential both short-term and long-term impacts from construction.

As further discussed in Section 4.1.3 comments on cumulative effects and in Section 2 Alternatives, if the proposed project is permitted, constructed, and operated, the operations phase would extend far beyond the 20 years proposed. Based on such factors as the size of the ore body, value of the mineral resources, and the magnitude of the investment that would be required to capitalize the proposed project, the operations phase would extend over 50 years

and would involve both open pit mining and underground mining. A much longer timeline must be evaluated for the operations phase of the proposed project.

It is unclear why the operations phase is limited to 20 years when in later sections the USACE states it is considering the "expansion of the Pebble Project to develop 55 percent of its reserves over a 78-year period." Consideration of impacts during the operations phase should be extended to cover the entire period of operations, which will be far more than 20 years.

The "closure or post-closure phase" should be separated into at least two separate phases: (1) mine reclamation and closure and (2) post-closure maintenance and monitoring. Rather than defining the time period of these post-mine-operations phases as "any activity occurring after mine operations cease", the time period should be based on the time expected for water treatment, water quality monitoring, inspections and monitoring of mine waste rock and mill tailings storage areas, maintenance of stormwater and sedimentation control measures, and other post-closure activities that would be required to mitigate the intense, adverse, and long-term impacts that the proposed project poses. An appropriate time frame for post-closure maintenance and monitoring should be at least 100 years to be consistent with the policies of most state agencies, and the time frame of post-closure maintenance and monitoring should be over 500 years after cessation of mine operations. This is the standard employed the Bureau of Land Management's (BLM) policy for major mine sites containing features such as tailings storage facilities.

The Impact Characterizations (i.e., Magnitude, Duration, Geographic Extant, and Potential) in Section 4.1.1 differ in definition and are less detailed than USACE's recent SEIS for the Alaska Stand Alone Pipeline Project and EIS for the Donlin Gold Project. USACE must provide rationale for this decision. USACE should cite the regulatory definitions directly in section 4.1.3 for types of effects to eliminate the potential for discrepancies between regulatory and summarized definitions. USACE's addition of the sentence "*Indirect effects are caused by the project, but do not occur at the same time or place as the direct effects*" to the definition of Indirect Effects is incorrect and beyond the scope of the regulatory definition.

One example demonstrating falsity of this added sentence is if an archaeological site that is culturally important to a community (e.g., Amakdedori Village Site) is destroyed there are direct and indirect effects in the same time and place. The direct effects are the archaeological site is destroyed. Indirect effects would be the community can no longer use this site for teaching and passing on traditional knowledge. (i.e., a change in land use). In the description of Cumulative Effects in section 4.1.3, USACE states "Proximity is based on natural geographic boundaries of potentially affected resources." This does not seem to apply to cultural resources. USACE must

include population changes into section 4.1.3.2 "Reasonably Foreseeable Future Actions Considered" because the population of the Bristol Bay region may increase because of the Pebble Project.

Under heading Subsistence Activities of Table 4.1-1: Potential RFFAs Evaluated for Cumulative Effects, USACE should include the communities of Ekwok and South Naknek in the Bristol Bay subsistence analysis. Stephen R. Braund & Associates (SRB&A), on behalf of Pebble Limited Partnership (PLP), conducted subsistence research in South Naknek. While Ekwok didn't participate in Pebble subsistence research, there are subsistence data for the community. Such data must be incorporated. Unfortunately, PLP didn't complete their subsistence research on communities that rely on Cook Inlet drainages. This must be done. Research by the Alaska Department of Fish and Game (ADF&G) in its 2016 Technical Paper #420 "*The Harvest and Use of Wild Resources in Nikiski, Seldovia, Nanwalek, and Port Graham, Alaska 2014*" demonstrates Nikiski, Seldovia, Port Graham, and Nanwalek use areas of Cook Inlet that are bisected by proposed barge traffic for the Pebble Project. USACE must include subsistence and TEK data from these communities in this EIS analysis.

4.1.3 Cumulative Effects

This section states, "Assessing the cumulative impacts from multiple projects/activities requires considering the impacts of their combined potential area of effects and associated actions." It should also require considering the impacts of cumulative time of the effects and associated actions. For example, construction impacts such as noise and truck traffic on a small community will be greater if multiple projects cause these impacts to occur over a longer time-frame.

For a project with a timeframe measured decades from the beginning of construction to final closure and completion of monitoring, reasonably foreseeable future actions (RFFAs) should not be limited to 5 years into the future from the EIS. RFFAs should include any reasonably foreseeable projects occurring within the lifetime of the action alternative, including follow-on projects related to exploration and development of additional areas of the ore body. The geologic existence of the larger ore body makes additional projects reasonably foreseeable if the infrastructure proposed for this project is installed. These projects do seem to have been included in Table 4.1-1, but the text needs to be revised to reflect a more realistic timeframe for these and other projects.

This section indicates that "actions are considered reasonably foreseeable if they are proximate to the project area and are anticipated to enter the permitting process in the next 5 years." This limited time frame is inconsistent with the later statement that "the USACE has determined that expansion of the Pebble Project to develop 55 percent of its reserves over a 78-year period… will

be analyzed under the cumulative effects analysis…[t]herefore, other reasonably foreseeable future activities that may occur in the 78-year time period will also be considered." USACE must explain how it intends to evaluate RFFAs over this extended period.

If the proposed Pebble Project is permitted, constructed, and operated; it would probably operate for 50 to 100 years, and the impacts from the proposed project would persist for hundreds of years beyond that; therefore, one or more alternatives reflecting projects of varying life cycles should be developed and included in the EIS for evaluation of a full range of alternatives.

4.1.3.2 Reasonably Foreseeable Future Actions Considered

The first category, "mineral exploration and mining," should be separated into three categories: mineral exploration, surface mining, and underground mining. The category "subsistence" should be separated into a least two categories: subsistence fishing and subsistence hunting and gathering.

The bullet item beginning with "Geographic timeframe" should explain the areal extent of mining during logical phases. Beyond the current proposed plan which should be depicted in five-year phases at a minimum, maps should be provided to clearly depict the additional areas that would be mined during sequential 20-year phases. Based on the size of the ore body, value of the mineral resources, and capital investment required to capitalize the proposed project, a reasonably foreseeable future action would be long-term mining by open pit methods followed by underground mining methods. The areas that would be open pit mined and the area that would be underground mined should be clearly described and shown on maps. Underground mining must be identified as reasonably foreseeable future action, and the potential impacts of underground mining should be identified and evaluated in the EIS. The type of underground mine (block cave versus room and pillar or stope) should also be identified and described.

Geographic timeframe: This section seems to indicate that, although "typically only projects with dedicated funding, currently in or scheduled to undergo federal, state, or local permitting, and with a medium to high probability of occurring, are included" the USACE will nevertheless still consider RFFAs that may occur over a 78-year time period. How will the USACE identify and evaluate cumulative impacts from projects over this extended period that don't meet the "typical" criteria?

Table 4.1-1 Potential RFFAs Evaluated for Cumulative Effects

Several mining projects are included in this table that were evaluated in the EPA 2014 report; however, these mining projects are not proposed as RFFAs for this EIS. Assuming the development of infrastructure for this project, USACE needs to justify why these projects would not be reasonably foreseeable with a 78-year timeframe and why USACE's evaluation differs from EPA's. Realistically, it would be expected that at least some of these projects would be developed within the next four decades, if infrastructure were available to support them. Since the cumulative impacts evaluation for fisheries has already been completed by EPA, this information could be easily included in the EIS as a worst-case analysis.

The EIS should analyze a range of future expected mining projects such as one additional similar mine or five similar mines. It is without question that development of the Pebble Project, specifically Pebble's necessarily infrastructure, would lead to additional mine proposals in the region, and it could lead to extensive development. The EIS should also analyze the potential for the Pebble Project to be developed at an increased production rate resulting in a 40-year rather than 78-year time frame.

4.1.4 Issues Selected for Analysis

A list of the issues not selected and the reasons for eliminating them should be included here. Under "Other Concerns," the risks of spills and releases is not limited to fuel. Chemicals and other industrial products being transported to and from the mine overland and by water are also of concern and should be addressed.

4.1.5.1 Conservation

Most of these "other topics" are addressed far too superficially to be useful. Conservation, for example, could at a minimum include a discussion of the impacts of the project on the wildlife refuges, marine reserves, and other protected areas surrounding the project area. A topic like this, that incorporates a number of different elements of the environment, would be better placed at the end of the chapter once the reader had reviewed the other elements of the environment.

4.1.5.2 Energy Needs

This section very briefly describes the energy needs of the project and what the infrastructure is designed to provide or use, but does not discuss the impacts on other users of electricity and natural gas, or whether the projected facilities will create a net demand or surplus once the project requirements are factored in. The total energy needs in terms of both energy consumption and carbon and greenhouse gas emissions should be quantified and evaluated for

the proposed plan, alternatives, and cumulative effects, and include both local, regional, state-wide, and global impacts. The proposed project calls for a major expansion of energy use and a major expansion of fossil fuels use. The proposed project does not support energy conservation.

4.1.5.3 Mineral Needs

This section relies too heavily on general statements by the project applicant, without significant attempt at independent review and verification. This should involve a two-step process: (1) is there an actual global need and (2) can other existing and planned projects meet that global need? Furthermore, if the project would, as stated, "provide a short-term beneficial impact on mineral needs," is this worth the irreversible impacts and irretrievable loss of natural resources required for such a short-term benefit? And is filling a need for a commodity considered a benefit from the standpoint of an Environmental Impact Statement?

The EIS should answer practical questions. For example: Do entire watersheds need to be destroyed to acquire gold to make jewelry? This apparent need for gold jewelry seems trivial to the point of comical in comparison to the trade-off: gold jewelry for an invaluable renewable resource – wild salmon. The EIS should discuss the repercussions of the proposed project on the real "gold" in this area – the salmon.

4.1.6 Unavoidable Adverse Effects

A final section should be added to Chapter 4 that specifically summarizes and compares, by alternative, unavoidable adverse effects and irretrievable commitments of resources, as well as effects that may not be unavoidable but are likely to occur or if they occur would be catastrophic (e.g., major earthquake that results in tailings dam failure). This is necessary for the public to clearly understand the nature of the alternatives and the costs and benefits associated with each, prior to reviewing the mitigation chapter.

4.1.7 Irreversible and Irretrievable Commitment of Resources

Second bullet – These impacts will not only occur during the life of the project, but indefinitely, as the project site will not be restored to its previous state. Mining areas will remain denuded of vegetation needed to support life, and roads, ferries, ports, pipelines, and other infrastructure will remain.

Third bullet – Funds and labor are not environmental resources.

Fifth bullet – Not only would carbon-based fuels be irretrievably committed for the uses described, use of these resources would cause irretrievable CO_2 emissions to occur along with loss of CO_2 sink capacity, advancing climate change in ways that may also be irreversible.

Not mentioned in this section is the potential impacts of worst-case scenarios, such as major earthquakes, tsunamis, and/or shoreline subsidence or uplift that could cause irremediable harm to watersheds, shoreline resources, and fisheries due to spills or failure of dams for containment facilities. Given the seismic history of and predictions for this area, these are foreseeable events that must be taken into consideration.

If the proposed project is permitted, constructed, and operated, entire river and wetland systems will be destroyed, and not just in the construction areas. The discussion in this section makes it sound like the project is just going to have irreversible impacts to upland areas and a few wetlands. The impacts of the proposed project would affect entire watersheds across a vast geographic area. Impacts to natural resources will not just occur during the life of the project; these impacts will occur forever. Entire pristine watersheds cannot be restored.

4.1.8 Financial Assurance and Bonding

Mining companies in the United States and elsewhere have a dismal record of failure to close their mining sites in a manner that is safe for the public and protects or restores the environment over the long term. In the United States, harm from these failures has fallen disproportionately on American Indian and Alaska Native communities, particularly those living in rural areas or wilderness areas and those practicing a subsistence way of life. In addition, the waters that could be impacted by this project support fisheries that are world-renowned for their quality and provide food and livelihood for most of the residents of this area. It is difficult to imagine a landscape and communities dependent on the resources of that landscape that could be more in harm's way should a catastrophic event occur, or the mine simply fail to be closed in a safe, complete, and effective manner.

This section appears to rely on future regulatory action by the State of Alaska to require a multinational corporation to carry out its financial and environmental obligations, without any current assurances that such plans or financial instruments are in place. Without knowing what the post-closure management plans or requirements will be, it is impossible to accurately assess the potential long-term environmental impacts of this project.

The Pebble Project proposes measures and controls that we believe will require long term post-closure operations and maintenance (O&M) to protect water quality. The need for long-term post-closure O&M, facilities replacement, and monitoring should be acknowledge in the EIS. The

EIS should contain adequate details regarding financial assurance commitments (e.g., for reclamation and long-term O&M), as well as meaningful assurances that an adequate financial instrument will exist to ensure adequate funds are available during the entire time that these funds might be needed for this purpose. Although USACE has taken the position that it does not address financial assurance in the EIS, we disagree with this position. We believe that financial assurance is a critical element of an EIS and should be disclosed in the EIS for the proposed Pebble Project because the viability of reclamation, closure, and post-closure management is a critical factor in whether this project may be considered fully protective of environmental resources. Furthermore, we believe this information is significant and essential for an adequate analysis of the proposed project because it could make the difference between a project that is adequately managed over the long-term by the site operator and an unfunded or under-funded contaminated site that becomes a liability that may need to be addressed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) or another publicly funded program. This is especially important given the permit applicant's most recent financial discloses to Canadian regulators in which it declares: "If the Group is unable to raise the necessary capital resources and generate sufficient cash flows to meet obligations as they come due, the Group may, at some point, consider reducing or curtailing its operations. As such, *there is material uncertainty that raises substantial doubt about the Group's ability to continue as a going concern*."

If a long-term trust fund will be established for the proposed project, the appropriate level of funding, types of financial instruments, and mechanics of the fund are critical to ensuring it will be available when it is needed. In addition to the projected long-term engineering and monitoring costs of each activity, the EIS should discuss the financial assumptions used to estimate the funding level, projected trust fund growth rate, and mechanics of the trust fund. The fund mechanics include: (a) requirements for timing of payments into the trust fund; (b) how USACE ensures that the trust fund is bankruptcy remote; (c) acceptable financial instruments (such as those specified in 43 CFR 3809.555); (d) legal structure of the trust for tax purposes; (e) who will pay the taxes on trust earnings and trust fees and expenses; (f) how taxes and trust fees will be paid on the trust if the mining company goes out of business; (g) who will make investment decisions if the operator is no longer viable; (h) if the federal government controls the investment decisions, what legal and ethical issues arise from USACE controlling investment decisions about investments in private companies, voting stock and similar issues if the trust owns stock; (i) the identity of the trust fund beneficiaries; and (j) the identity and corporate structure of the operator with responsibility/ liability for financial assurance at this site.