

**Proposed Pebble Project
Preliminary Draft Environmental Impact Statement
Review Comments**

Reviewer: NARF Technical Team
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Chapter: 3.0 Affected Environment
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Comments

3.1 Introduction

This section includes subsections 3.1.1 through 3.1.4.5 and refers to Section 3.2 through Section 3.26. Most of the other sections are not currently available; therefore, Chapter 3 is incomplete. Chapter 3 must include a complete list of resources that will be considered and for which potential impact will be identified and evaluated. Based on the information provided for Chapter 3, the list of resources is incomplete.

Creating separate categories for “areas of analysis” and “project area,” and defining these areas differently is ill advised and inappropriate. The area of analysis should include the entire watershed in which a project component or components are planned to be located. The project area and the area of analysis should include the watersheds in which mining, construction, waste rock storage, tailings disposal and storage, mine infrastructure, mine reclamation, and post-closure monitoring and maintenance are expected to occur, since entire watersheds will be affected during and long after the proposed project’s life.

It is misleading to say this is a 20-year project when the buildout and expansion will occur over 78 years. And multiple other mining projects would use the Pebble infrastructure. Based on the projects that intend to use the Pebble infrastructure, the proposed project will effectively be there forever.

3.1.1 Project Components

As described in this subsection, it is unclear how the different alternatives are addressed in Sections 3 and 4 and whether it is possible to distinguish among them. Sections 3 and 4 appear to be handled somewhat differently in this respect, with Section 3 addressing the entire

applicant's proposed project area (and sometimes larger related areas), while Section 4 distinguishes among the alternatives in terms of impacts.

Currently, Section 3 appears to only describe the existing state of the environment, and then what would be affected by the applicant's proposed alternative. Section 3 should also identify which geographic areas would and would not be incorporated into the other action alternatives and be clear throughout whether and where there are differences.

Section 3.1.2 Project Area

According to the definition provided in this subsection "Project area" is constrained to "the exact proposed project footprint." It's not clear why such a narrow and restrictive definition is needed for this EIS. For the purposes of the EIS, the Project Area should include not only the areas directly impacted by mining and construction, but those surrounding geographic and resources areas are potentially impacted by the proposed project. The project area should include the watersheds in which mining, construction, waste rock storage, tailings disposal and storage, mine infrastructure, and mine reclamation are expected to occur, since the entire watershed will be affected during and long after the proposed project's life. The project area must include not just the areas of actual ground disturbance but all adjacent and connected areas.

Additionally, the "EIS analysis area" is likewise separately defined as "the entire area of resource analysis, which is specific to each of the resource sections and may differ by resource." This indicates the area and resources potentially impacted by the proposed project will be separated into different areas for analysis. This is inappropriate for a project that would impact multiple resources in multiple areas simultaneously. The project area and EIS analysis area should be the same area for the purpose of identifying and evaluating potential impacts, and this area should include the watersheds in which mining, construction, waste rock storage, tailings disposal and storage, mine infrastructure, mine reclamation, and post-closure monitoring and maintenance are expected to occur, since entire watersheds will be affected during and long after the life of the proposed project.

The EIS Analysis Area must include all areas of the four major projects (mine, roads, gas pipeline/utilities, port/ferry terminals) and their components in the Bristol Bay and Cook Inlet Watersheds as well as those areas bordering these watersheds including nearby national parks and refuges (particularly Katmai bears and McNeil River bears) that will be impacted by impaired migratory routes, reduced populations of fish and wildlife, etc. The EIS Analysis Area must be expanded to include aquatic and terrestrial migratory corridors for all aquatic and terrestrial species in fresh, estuarine and marine waters.

The exact project footprint should be shown for all action alternatives, preferably side-by-side for each component. By providing maps and schematics that show the footprints of project components, a separate definition and delineation of project areas should not be necessary.

As the proposed project would be expected to have direct and indirect effects on resources far beyond the "exact proposed project footprint", the focus of both the affected environment and the environmental consequences evaluations should be the EIS analysis area, and not the project area.

Without figures and maps it is not possible for the Cooperating Agencies to do an in-depth and specific review of this section. Suffice it to say, aside from the mine itself having a massive footprint across at least two watersheds, the infrastructure required to support the mine will have a large destructive footprint across large mostly pristine and wild geographic areas including close to 70 miles of roads and additional spur roads with 97 river and stream crossings, 11 bridges, and 88 culverts. The roads will cross through and over several watersheds and large fish-bearing rivers, streams, tributaries and through a mosaic of wetlands, lakes, ponds, bogs, marshes, riparian and upland areas. An 18-mile ice breaking ferry route will require ferry terminals and a port with associated offices, storage facilities, power plants and extensive road causeways built over and into the marine environment. A 187-mile gas pipeline with associated fiber optics going overland and under Cook Inlet and Iliamna Lake. The proposed project would require extraction of major quantities of water from rivers, streams, lakes, and ponds.

3.1.3 Resource Interrelationships

As noted in this section, although resources are described in Chapter 3 and analyzed in Chapter 4 in discrete sections, these subjects are dynamic and interrelated. A change in one resource can have cascading or synergistic impacts to other resources. For this reason, providing the Cooperating Agencies individual sections in a piecemeal fashion does not allow for meaningful review.

Section 3.1.3.1 Traditional Ecological Knowledge

It is not clear why the traditional ecological knowledge (TEK) topics considered for inclusion are limited to the "project area", and not the larger and more relevant EIS analysis area. TEK related to any area or resource directly or indirectly affected by the proposed project should be solicited.

In this subsection USACE needs to define TEK so that everyone is using the same standard for evaluating the incorporation of TEK into the EIS process. Furthermore, any such definition of TEK

can only be appropriately developed through either direct government-to-government consultation between the USACE and the region's federally recognized Tribes or through the Section 106 process that will occur outside of government-to-government consultation.

USACE's TEK sources for the EIS process need to be expanded beyond sources related to the proposed Pebble Project. Two examples include Doug Deur, Karen Evanoff, and Jamie Hebert's 2018 report *"Respect the Land – It's Like Part of Us" – A Traditional Use Study of Inland Dena'ina Ties to the Chulitna River and Sixmile Lake Basins, Lake Clark National Park and Preserve* and Yoko Kugo's 2014 MA thesis *Subsistence Practices of Iliamna Lake Villages: An Investigation of Dynamics of Traditional and Local Ecological Knowledge*. USACE should also incorporate TEK into the aesthetics, noise, and viewshed analyses. Furthermore, USACE needs to include an olfactory analysis into this EIS process because this mine will have a smell. Smell is one of the best triggers for memories and emotions. Changing the smell of culturally important places will affect these places for those who value them. Remembrance is a crucial part of passing on TEK and the importance of cultural places. Disruption to this knowledge transfer is an effect the USACE needs to analyze as part of this EIS process.

3.1.3.2 Climate Change

In the first category of climate change effects, greenhouse gas emissions, while an important consideration, are not the only way in which the project could impact the climate. The project area is currently undeveloped and therefore provides climate amenities such as sequestration of CO₂ by vegetation. To the extent that development of infrastructure and mining activities would remove trees and other vegetation over large areas, this loss of a CO₂ sink should be added to CO₂ emissions in calculating the potential contributions of this project to climate change.

Climate change is a natural response to emissions, carbon pollution, and other causal effects to the earth's atmosphere. In addition to greenhouse gas emissions, the effect of other pollutants on the atmosphere should be identified and evaluated in the EIS. For example, emissions from burning fossil fuels to generate electricity used by the proposed project should be quantified and evaluated in the EIS.

References to the project area in this section should be expanded to include the entire EIS analysis area and any other areas in which the proposed project would potentially impact natural, cultural, or human resources.

Table of Contents

The Table of Contents at the end of this document indicates an incomplete chapter with respect to the content proposed. In addition to the sections and subsections provided, Affected

Environment should include geology, soils, plants, animals, aquatic resources, atmosphere, indigenous people, local communities, and other natural and human resources that currently exist and that are potentially affected by the proposed project.