

PERMITTING PROCESS FOR PROPOSED PEBBLE MINE FAILS TO MEET BASIC STANDARDS

Bristol Bay, Alaska, is home to North America's most productive wild salmon fishery and is a stronghold for sustainable American jobs. For more than a decade, scientists, Alaska Natives, sportsmen and women, commercial fishermen, local business owners and a majority of Alaskans have strongly opposed the proposed Pebble mine, which threatens the salmon, a \$1.5 billion fish-based economy, and the local way of life.

Given what's at stake, any permit for the proposed mine deserves careful scrutiny, especially one as important as the Clean Water Act 404 permit. Unfortunately, the current permit review process led by the U.S. Army Corps of Engineers (Corps) and its Draft Environmental Impact Statement (DEIS) falls well short of even the most basic standards. There are dozens of shortcomings, but the most egregious are summarized below. **The permitting process for the Pebble mine proposal must stop until these issues are addressed.**



1 A DECEPTIVE MINE PLAN

While the Pebble Partnership claims publicly that it has a new, "small" mine plan and has applied for a permit to develop just 1/8th of the known mineral deposit, it repeatedly brags to industry insiders and potential investors that it will expand to build a much larger mine. By proceeding with the permit-review process and ignoring the immense risks of future expansion, government regulators are complicit in the Pebble Partnership's deception of the public.

"Although we're only trying to permit a 20-year mine, this would be a 200-year mine at this scale."

Doug Allen, - Pebble VP of corporate communication (Jan 2019) [1]

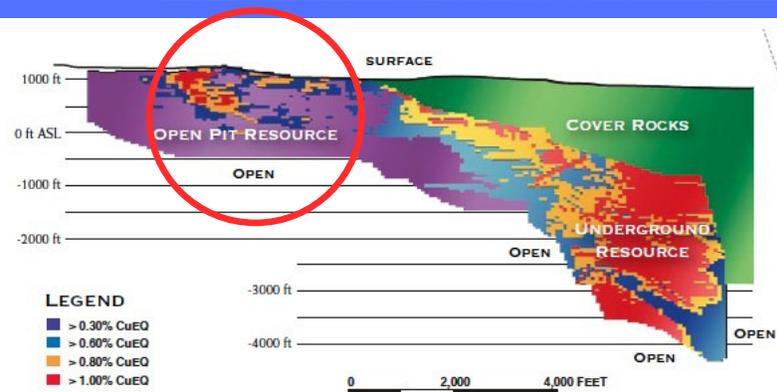


Figure above: The permit application proposes only to mine a fraction of the deposit (added circled area) while leaving the most valuable minerals, shown in warm colors.

Source: Pebble Limited Partnership publication 2012)

"Pebble is "a multigenerational opportunity. Its size and scale will lead to a very, very long life mine."

- Ron Thiessen, Pebble President and CEO (Sep. 2017)[2]

2 NO PROOF OF ECONOMIC FEASIBILITY

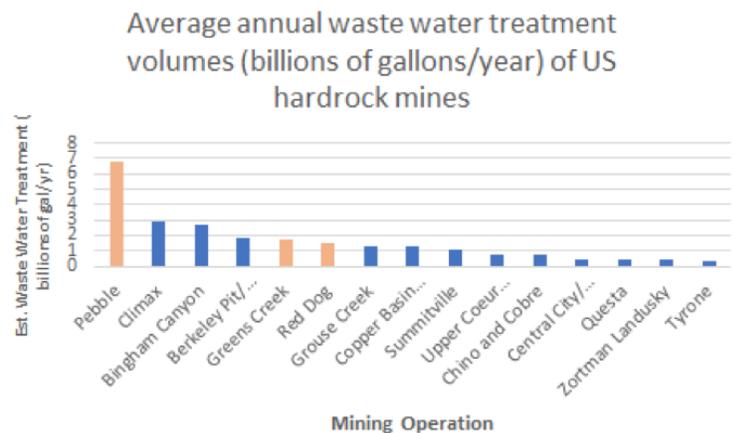
Building and operating the mine will require a significant initial investment in infrastructure that must be recuperated over time to turn a profit. While the Pebble Partnership has only applied to mine 1/8th of the total deposit, it is banking on future expansion to cover the initial capital investment to eventually turn a profit. It has failed to submit standard documentation demonstrating its initial plan is economically feasible. Meanwhile, every major "partner" of the Pebble Partnership has walked away from the project, [3] and an industry expert determined the net present value of the plan to mine 1/8th of the deposit is negative \$3 billion. [4]

INCOMPLETE MINE PLAN

Not only does the DEIS fail to include detail and analysis about future expansion, but it is also incomplete with regard to the plan to mine the first 1/8th of the deposit. The DEIS fails to specify disposal sites as required by Clean Water Act 404(b)(1) guidelines,[5] fails to include a necessary public interest review,[6] and includes numerous data gaps. A sample of the missing information includes: a detailed reclamation plan;[7] wetland and vegetation mapping;[8] subsistence resources;[9] cultural and historic properties; financial assurances or bonding;[11] a health impact assessment;[12] an aquatic resource monitoring plan;[13] fugitive dust control plan;[14] and a wildlife management plan[15]. There is no mine construction plan, mine operations plan, or water management plan, and the Corps acknowledges that these details will not be available until successive state-permitting phases [16].

WATER MANAGEMENT SYSTEM UNPRECEDENTED & UNTESTED

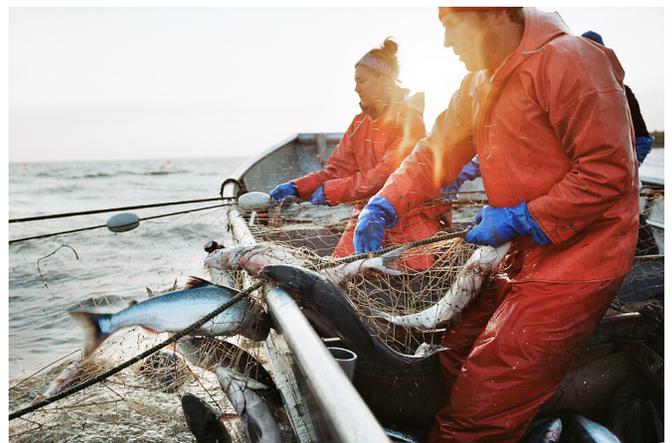
Mining the Pebble deposit in the headwaters of Bristol Bay will generate huge volumes of water and is highly likely to introduce toxic materials from metal leaching and acid rock drainage into the watershed. Pollutants will need to be stored and maintained without accident in an open pit and tailings storage facilities forever. Mining just the first 1/8th of the deposit will generate an estimated 6.8 billion gallons of wastewater annually during operation and 11.8 billion gallons annually upon closure.[20] After closure, assuming the pit doesn't continue to grow as the mine expands, the mine pit would contain more than 61 billion gallons of wastewater that would persist forever and cause a permanent hazard to the world's largest wild salmon fishery and local wildlife. For comparison, filling the entire 80,000-seat Dallas Cowboys Stadium would take just over one-billion gallons. This initial proposed Pebble mine would generate 4 times the volume of water as any other large mine in Alaska and 3 times the volume of water as any other mine in the U.S.[21] A 2012 review of 14 operating U.S. copper mines, accounting for 89% of U.S. copper production, found 92% failed to capture and treat mine seepage that caused significant water quality impacts.[22]



Source: Pebble Mine Draft Environmental Impact Statement

FAILS TO CONSIDER FORESEEABLE IMPACTS

The National Environmental Policy Act (NEPA) requires permitting agencies to consider reasonably foreseeable impacts,[23] yet many potential impacts to the Bristol Bay region are missing from the Corps' DEIS. Impacts of climate change, expansion to mining the full deposit, a catastrophic tailings dam failure, and subsequent mine development in the area (made possibly by infrastructure from the proposed Pebble mine) on fisheries, communities, public lands and cultures should be thoroughly detailed and considered, but currently are not.



PROCESS RUSHED & INADEQUATE

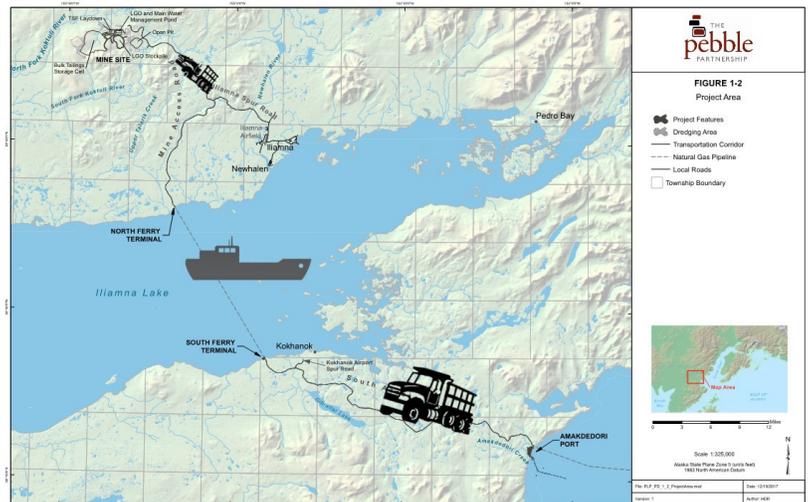
The Corps intends to review the Pebble Partnership's permit application in a fraction of the time it normally takes to review smaller projects in less environmentally-sensitive areas.[17] A sample of the issues with the expedited timeline include: allowing the Pebble Partnership to change its permit application and mine plan in the middle of the public comment period,[18] releasing the draft scoping report before the scoping comment period ended, limiting tribal and agency consultation, no independent review of the tailings dam storage facility,[19] and, as discussed above, allowing baseline data collection and various scientific studies to occur after environmental review and permitting decisions are made.

IGNORES SCIENCE RELATED TO FISH, WATER QUALITY, HEALTH & CULTURE

The Corps refuses to consider a variety of potentially harmful impacts and is moving forward despite an incomplete and inadequate scientific basis. The DEIS fails to specify disposal sites as required by Clean Water Act 404(b)(1) guidelines,[24] fails to include a necessary public interest review,[25] and includes numerous data gaps. A sample of the missing information includes: a detailed reclamation plan;[26] wetland and vegetation mapping;[27] subsistence resources;[28] cultural and historic properties;[29] financial assurances or bonding;[30] a health impact assessment;[31] an aquatic resource monitoring plan;[31] fugitive dust control plan;[33] and a wildlife management plan.[34] There is no mine construction plan, mine operations plan, or water management plan, and the Corps acknowledges that these details will not be available until successive state-permitting phases.[35] The Corps refuses to model impacts from a potential tailings dam failure.[36] Yet, the Corps plans to issue a final decision before any of the missing information will be available and without evaluating likely impacts associated with hazardous contaminants, fish migration past proposed culverts, changes to water quality, critical habitat loss, and other indirect ecological effects.

IMPACTS IN PHASE ONE ALONE ARE ALREADY MASSIVE

Even if the proposed Pebble mine never expanded past the first 1/8th of the deposit, impacts from would exceed limits proposed for the Bristol Bay region in 2014 by the Environmental Protection Agency following a peer-reviewed Watershed Assessment and more than 1 million public comments. [37] Even based on the Corps' incomplete analysis, the proposed mine would completely destroy more than 3,500 acres of wetlands and 80 miles of streams.[38] It would include a massive pit (more than a mile-long, nearly a mile-wide, and a 1/3 mile deep); more than 4 times as much wastewater as any other large mine in Alaska; an 83-mile-long transportation corridor with more than 200 stream crossings; a year-round ferry across the massive Lake Iliamna; a port site in critical habitat for endangered beluga whales and brown bear migration; a 270-megawatt power plant; and a 188-mile natural gas pipeline.[39]



UNDERESTIMATES VALUE AND FAILS TO ASSESS IMPACTS TO RECREATIONAL FISHING & TOURISM INDUSTRIES

A 2006 angler survey showed Bristol Bay visitors care just as much about the wild experience as they do about catching fish.[40] Clients tell lodge owners they won't come back if the mine is built, noting that new infrastructure, noise and pollution will spoil the experience. The bear viewing industry, a growing sector of the regional economy, is hardly mentioned in the DEIS. [41] Yet, the Corps uses the region's remote and wild nature to discount impacts to tourism and recreation, when the reality is these characteristics are what draw tourists to the region. Impacts from the mine will spread to the broader tourism services economy, including air taxis, gas stations, shipping and other services.



REFERENCES

- [1] Northern Dynasty Minerals Presentation at the Vancouver Resource Investment Conference (January 20-21, 2019), available at https://www.youtube.com/watch?v=EPFm_t_mzEDQ&feature=youtu.be
- [2] Ron Thiessen, Presentation at the Denver Gold Forum (Sep. 2017), webcast available at <http://www.denvergoldforum.org/DGF17/company-webcast/NDM:CN/>.
- [3] <https://www.ktoo.org/2018/05/27/pebble-mine-loses-funding-from-first-quantum-minerals/>
- [4] Richard Borden, Owner Midgard Environmental Services LLC https://www.eenews.net/assets/2019/04/01/document_gw_02.pdf
- [5] See 33 U.S.C. § 1344(b)(1); 40 C.F.R. Part 230; U.S. Army Corps of Engineers, Pebble Project EIS Draft Environmental Impact Statement 2-8 (July 2014).
- [6] See 33 C.F.R. § 320.4(a); DEIS at 2-8.
- [7] DEIS at 3.1-8 to 3.1-9.
- [8] Id. at 3.1-9 to 3.1-10.
- [9] Id. at 3.1-10 to 3.1-12.
- [10] Id. at 3.1-12 to 3.1-13.
- [11] See id. at 2-41.
- [12] Id. at 3.10-3 to 3.10-6
- [13] See id. at 5-9.
- [14] See id. at 4.18-11.
- [15] See id. at 4.23-3.
- [16] Id. at 5-5.
- [17] The Donlin Gold Mine in Southwest Alaska, for comparison, took nearly six years to advance from scoping to a Record of Decision (December, 2012, to August, 2018) while the proposed Pebble mine is on track to complete the process in just two years (March, 2018, to spring, 2020).
- [18] See Pebble Limited Partnership, Project Updates (May 10, 2018).
- [19] See 33 CFR 325.1(d)(6); U.S. Army Corps of Engineers, Comment Response Matrix, EPA Comments – Pebble Project Preliminary Draft EIS, Chapter 2 – Alternatives 6 (Feb. 15, 2019) rejecting comments from the EPA to conduct a Failure Modes Effect Analysis for the tailings dam designs.
- [20] See Knight Piesold Ltd., Pebble Project: Pebble Mine Site Operations Water Management Plan 47 at Table 4.2 (July 6, 2018); Knight Piesold Ltd., Pebble Mine Site – Closure Water Management Plan 23 at Table 5.1 (Sep. 21, 2018).
- [21] There are mines in Nevada that capture and discharge large volumes of mine water into groundwater via infiltration trenches. However, there are no large mines in Nevada that capture, treat and discharge an annual average of 29-50 cfs into surface water. Source: e-mail response from Rob Kuczynski, P.E., Supervisor, Regulation Branch, Bureau of Mining Regulation and Reclamation, Nevada Division of Environmental Protection, May 13, 2019.
- [22] Earthworks, U.S. Copper Porphyry Mines Report: The Track Record of Water Quality Impacts Resulting From Pipeline Spills, Tailings Failures and Water Collection and Treatment Failures. July 2012 (Revised 11/2012) Available at: https://earthworks.org/publications/us_copper_porphyry_mines/
- [23] 40 C.F.R. § 1508.7.
- [24] See 33 U.S.C. § 1344(b)(1); 40 C.F.R. Part 230; U.S. Army Corps of Engineers, Pebble Project EIS Draft Environmental Impact Statement 2-8 (July 2014).
- [25] See 33 C.F.R. § 320.4(a); DEIS at 2-8.
- [26] DEIS at 3.1-8 to 3.1-9.
- [27] Id. at 3.1-9 to 3.1-10.
- [28] Id. at 3.1-10 to 3.1-12.
- [29] Id. at 3.1-12 to 3.1-13.
- [30] See id. at 2-41.
- [31] Id. at 3.10-3 to 3.10-6
- [32] See id. at 5-9.
- [33] See id. at 4.18-11.
- [34] See id. at 4.23-3.
- [35] Id. at 5-5.
- [36] U.S. Army Corps of Engineers, Comment Response Matrix, EPA Comments – Pebble Project Preliminary Draft EIS, Chapter 2 – Alternatives 6 (Feb. 15, 2019) rejecting comments from the EPA to conduct a Failure Modes Effect Analysis for the tailings dam designs.
- [37] See EPA, Proposed Determination of the U.S. Environmental Protection Agency Region 10 Pursuant to Section 404(c) of the Clean Water Act, Pebble Deposit Area, Southwest Alaska ES-5 to ES-6 (July 2014); EPA, An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay Alaska EPA 910-R-14-001ES (Jan. 2014).
- [38] U.S. Army Corps of Engineers, Pebble Project EIS Draft Environmental Impact Statement Table ES-2 (Feb. 2019) available at <https://pebbleprojecteis.com/files/Draft%20EIS%20Files.zip>.
- [39] Id. at ES2.
- [40] Economics of Wild Salmon Watersheds: Bristol Bay, Alaska, February 2007 John Duffield and David Patterson Department of Mathematical Sciences, The University of Montana. Chris Neher, Bioeconomics, Inc.
- [41] <https://static1.squarespace.com/static/5c4025a7b40b9dc76548186e/t/5cdb69154e17b630b2880c51/1557883183050/BearEconomicsStudy-Full.pdf>

Until these issues are addressed and a rigorous review is conducted, permitting for the proposed Pebble mine must stop.



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