

March 4, 2019

Shane McCoy
Program Manager
United States Army Corps of Engineers
645 G Street
Suite 100-921
Anchorage, Alaska 99501

Subject: Pebble Project Environmental Impact Statement Schedule

Dear Mr. McCoy,

I write to express my deep concern about the extraordinarily short time lines allowed for the preparation of the Environmental Impact Statement (EIS) for the proposed Pebble Mine in the Bristol Bay region of Alaska.

Professional Background

I am an environmental scientist and manager with over thirty years of experience in the mining and consulting industries. During my 23 years with the global mining company Rio Tinto I performed environmental and permitting work at over fifty mines, projects and operations. This included over seven years as Head of Environment for Rio Tinto's Copper, Copper & Diamonds and Copper & Coal Product Groups. I have provided oversight and support to the design and permitting of new mines in Michigan, Arizona, Australia, Asia, Europe, Africa and South America. In particular I worked closely with the EIS permitting and environment team at Resolution Copper until my recent retirement. I have published numerous papers on mine environmental performance and management in peer reviewed scientific journals, conference proceedings and books. I am intimately aware of the environmental challenges and issues posed by the responsible development, operation and closure of large copper mines.

Discussion of the Pebble Project EIS

The United States Army Corps of Engineers (USACE) has promulgated a schedule of less than 2.5 years for the Pebble Project EIS, from the published notice of intent in March 2018 to issuance of a final record of decision (ROD) in mid-2020. This has necessitated completion of a draft EIS in only eleven months. These short time frames are unprecedented for such a large, complex mining project which will have unavoidable, material and long-term impacts to a sensitive globally significant ecosystem. I believe these short time lines will almost certainly compromise the technical rigor and reliability of the EIS outcomes.

In order to successfully design, develop and operate the Pebble Mine, potential environmental impacts and risks that will need to be controlled will almost certainly include: mineral waste environmental geochemistry; groundwater and surface water quality; dewatering and discharge impacts to in-stream flow regime; direct disturbance to land and water resources within the mine and transportation corridor footprints; geotechnical stability of tailings, open pits and waste rock piles; minimization of other upset conditions such as spills of reagents, hydrocarbons and concentrate; air emissions and noise; construction-specific impacts; ferry and port operations; and a complex and costly mine closure that will likely require permanent care and maintenance. Each of these areas requires the collection of field baseline data, but generally also laboratory analytical characterization, conceptual modelling of system behavior, numeric modelling predictions, management strategy development and detailed options analysis.

The average EIS completed in the United States between 2010 and 2017 took 4.5 years from the initial notice of intent to issuance of the final record of decision (Executive Office of President, Council on Environmental Quality, December, 2018). Even more importantly, the average draft EIS took 2.6 years to write; almost three times longer than the time allowed for completion of the draft Pebble EIS. The Executive Council on Environmental Quality further states that the mean time line for EIS completion when the Army Corps of Engineers was the lead agency is 6.1 years, and the average time to produce the draft EIS was 4.2 years. I do not believe the USACE can justify the short Pebble Project EIS time line when compared to their recent requirements and performance on other projects.

Unsurprisingly, Environmental Impact Statements for large, complex projects such as Pebble, which impact sensitive environments, and which are socially and politically contentious, typically take longer to complete than for small, simple projects. Mining project EIS documents also generally take longer to complete than the national average. A report completed for the National Mining Association in 2015 states that, on average, permitting for mining projects in the United States takes seven to ten years. Recent experience for successful mining-related Environmental Impact Statements illustrate the longer time lines required to produce a rigorous and defensible outcome. The Rosemont Mine EIS in Arizona took nine years to complete with a ROD issued in June 2017; the Gold Rock Mine EIS in Nevada took five years to complete with a ROD issued in September 2018; and the Donlin Mine EIS in Alaska took six years to complete with a ROD issued in August 2018. The proposed Resolution Copper Mine in Arizona is currently completing their EIS with a time line of greater than four years. The Pebble Project is generally more complex and located in a more sensitive environmental setting than any of these other mining projects and yet its EIS is proposed for completion in half the time.

The USACE has also proposed a 90-day public comment period on the draft EIS closing on May 31, 2019. This is certainly comparable to the comment periods associated with some other recent but less complex mining-related Environmental Impact Statements from outside Alaska. However, the Donlin Project located in Alaska and with the USACE as the lead agency allowed a

six-month public comment period on the Draft EIS in 2016. If the USACE determined that the longer comment period was appropriate for Donlin three years ago, it is unclear how a much shorter time line can be justified by the same agency for a project that poses greater risks. Given the extremely short time line allowed for preparation of the draft EIS, I believe it is particularly important for the public comment period to be extended to insure the draft document can receive a rigorous review.

In my professional opinion, given the site's sensitive environmental setting and the complexity of the necessary management strategies to ensure its responsible development, the extremely short EIS time lines are insufficient to ensure the selection of technically rigorous and defensible solutions to the range of environmental issues and impacts described above.

Sincerely,

A handwritten signature in black ink, appearing to read "Rick Borden". The signature is stylized with a large "R" and "B".

Richard K. Borden

Owner Midgard Environmental Services LLC
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