

RFI 010
Pebble Project EIS

Request for Information

Title/Subject:	Tailings Characteristics
Requestor:	Nancy Darigo/Cecil Ulrich, AECOM
Date Transmitted:	4/26/18
Recipient:	Pebble Limited Partnership
Response Requested by:	5/17/18
Rationale:	The Project Description and EBD Chapter 11 (Geochemical Characterization) provide limited details on 1) the planned bulk and pyritic tailings split of 88%-12% that determines the size of their respective TSF impoundments, and the location and size of the TSF Internal Embankment; and 2) the tailings thickening process to achieve 55% solids slurry. Additional information is needed to evaluate the overall constructability of the TSF, and potential risks to embankment stability and seepage chemistry from changed conditions during operations.
Describe the Information Requested and Level of Detail:	<ol style="list-style-type: none"> 1) Describe how the 88%-12% split between bulk and pyritic tailings was determined and the confidence level in achieving the split during operations. 2) Describe how much flexibility there is in the split percentage that would still allow the TSF Internal Embankment and impoundments to be constructed as planned. 3) Describe contingency plans to adjust process operations and/or modify the TSF cell configurations if the planned split cannot be achieved. Explain if and how the TSF Internal Embankment design and construction would be impacted or adjusted. 4) If higher than expected pyritic tails are produced from the process plant, would they be directed to the bulk tails impoundment? If so, how would that change the geochemistry of the bulk tailings? 5) Describe the steps taken to reach the concept of a thickened 55%-solids slurry for the bulk tailings, versus a lower %-solids aqueous slurry. 6) Provide examples of successful thickened TSFs in cold regions. 7) Describe water balance mitigations if 55% thickening cannot be achieved. 8) Provide any additional geochemical test work (e.g., acid-base accounting, net acid generation tests, humidity cell tests, etc.) on bulk or pyritic tailings conducted since 2010.

Recipient Response Form

Date Received from USACE:	Click here to enter text.
Response from Recipient (Describe Information Requested to the Level of Detail Requested; Provide Attachments as Needed):	<p>1: The split between the NPAG tailings and PAG tailing was estimated from batch flotation tests conducted on samples derived from core from drill holes throughout the pit area. The locations and intervals were selected to produce a representative sample set of ore grade material from the pit shell. The batch flotation tests simulated the processing of the ore in a process plant. The rougher flotation tailings (or NPAG tailings) content for each sample was obtained from the flotation test results. The rougher flotation tailings mass ranged from 81% to 94% of total tailings content of the individual ore samples. The average fraction was 88%. The pyritic tailings content for each sample was predicted from the cleaner flotation Lock Cycle test results. The cleaner flotation tailings mass ranged from 5.2% to 17.6% of total tailings content of the individual ore samples. The average fraction was 12%.</p> <p>2: The current proposed alternative has been revised to remove the LGO stockpile. A separate pyritic tailings and PAG storage facility will be located in the area formerly designated for the LGO stockpile. Consequently, the current plan no</p>

	<p>longer includes an internal embankment in the TSF.</p> <p>3: If the split between the bulk and pyritic tailings deviated significantly from the predicted split, the embankment raise schedules for the TSF and pyritic tailings and PAG storage facility would be adjusted to accommodate the tailings volumes.</p> <p>4: Pyritic tailings would not be directed to the bulk tailings storage facility.</p> <p>5. A tradeoff study was conducted to optimize the water content of the tailings to pump to the TSF to minimize the volume of tailings slurry transferred from the process plant to the bulk and pyritic tailings storage facilities, and reduce the need to re-handle water from the slurry after settlement of the solids (supernatant water in the bulk and pyritic tailings storage facilities, and water from the seepage ponds associated with the bulk tailings storage facility).</p> <p>6. To be provided no later than 5/30/18.</p> <p>7. There would be no changes to the overall site water balance, the bulk or pyritic tailings storage facility embankment heights, or the embankment raise schedules if the 55% thickening could not be achieved. Additional tailings storage capacity would not be required as the differences in the settled density of the 55%-solids thickened tailings and higher water content tailings will be minimal. Additional pumping capacity would need to be provided to transfer the tailings slurry from the process plant to the tailings storage facilities, and for pumping additional supernatant water from the tailings storage facilities and water from the bulk tailings storage facility seepage ponds.</p> <p>8: PLP will provide an update to the geochemistry EBD (SEBD) with the data transfer on 5/11/2018. Laboratory test work continued through 2013 and is therefore not all included in the SEBD. The data is currently being evaluated and a technical memorandum addressing the data will be submitted by 5/30/2018. Initial feedback is that the additional data period does not show any changes in observed trends.</p>
List Number and Type of Response Attachments:	<p>One Report, delivered as part of the data transfer on May 11, 2018:</p> <p>The Pebble Partnership, 2018. Pebble Project Supplemental Environmental Baseline Data Report (2004-2012), Chapter 11, Geochemical Characterization, Bristol Bay Drainages. May.</p>
Date Returned to USACE:	May 11, 2018

AECOM Intake Form

Date Response was Received:	5/14/2018
Received by (Name):	Bill Craig, AECOM
Describe any Follow-up Related to this RFI (Communications, Clarifications):	None at this time; pending receipt of technical memorandum referenced in response above.