



Enriching Our Native Way of Life

APPENDIX D

to

Comments of Bristol Bay Native Corporation
on the Clean Water Act 404 Permit Application
for the
Proposed Pebble Mine Project (POA-2017-271)
and the
National Environmental Policy Act
Draft Environmental Impact Statement

Submitted to the U.S. Army Corps of Engineers
July 1, 2019

Appendix D – Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps

From the outset, PLP submitted an inadequate permit application lacking project specifications and advanced engineering, baseline data, and required state and federal permit applications necessary for a proper analysis of the project under the CWA and NEPA. This Appendix contains a review of the Draft EIS and supporting documentation to identify at least 45 separate topics with missing significant project details admitted to by the Army Corps.

The missing information is organized into the following larger topic areas:

1. Mine Plan and Design
2. Mine Reclamation and Closure
3. Transportation Corridor and Natural Gas Pipeline
4. Port Site Design and Baseline Data
5. Water Treatment and Management Plans and Designs
6. Baseline Water Flow Surveys and Water Modeling
7. Wetlands Data, Mitigation Plan, and Clean Water Act Compliance
8. Subsistence, Cultural Resources, Historic Properties, and Human Health
9. Fish and Wildlife Baseline Data and Plans
10. Transportation Corridor Design, Baseline Data, Mitigation, and Reclamation

It is worth emphasizing that these are permit applications and Draft EIS deficiencies that *the Corps itself has admitted, and which PLP is, partially, trying to resolve with its plans to be in the field later in 2019 but in some cases not until after publication of a Final EIS.*

Finally, this Appendix contains a review of cooperating agency scoping comments and comments on preliminary drafts of the Draft EIS, as well as statements from the EIS third party contractor (AECOM), and Corps itself where they express concerns about proceeding with NEPA review without this missing information.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
1. Mine Plan and Design		
Mine Operations Plan; Advanced Engineering	“final engineering designs and construction and operations plans are finalized during the successive state permitting phase.” ¹	<p><u>Alaska Governor Bill Walker (June 29, 2018)</u>: “we are submitting this letter to voice ongoing concerns regarding the readiness of the proposed Pebble project to move forward, and respectfully request that the Corps suspend the EIS process.”²</p> <p><u>Nondalton Tribal Council</u>: “If the USACE initiates the NEPA process without a complete permit application, and at the same time expects or is required to expedite the NEPA process, then the process will be shortchanged, and it will probably detrimentally affect the participation and involvement of Tribes, as well as public stakeholders.”³</p>
Economic Feasibility Study	Screening for full range of alternatives includes “practicable in terms of cost, existing technology, and logistics in light of the overall project purpose.” ⁴	<p><u>Alaska Governor Bill Walker (June 2018)</u>: “PLP has yet to demonstrate to us or the Alaska public that they have proposed a feasible and realistic project. Without, at minimum a preliminary economic assessment, but preferably a pre-feasibility study, the Corps will be unable to take a hard look at all reasonable alternatives in the draft EIS.”⁵</p> <p><u>Alaska DNR</u>: “The USACE should consider reasonability, feasibility, and practicability when developing action alternatives to be evaluated in detail in the Draft EIS. For example, a full feasibility study should be part of the USACE’s evaluation which considers among other things the economics of the proposed project itself as well as economic impacts to the region.”⁶</p> <p><u>EPA</u>: “need for more back-up statements about financial return.”⁷</p>
Geotechnical Site Report and Data	<p>“The report, along with the data, would help inform the impact analysis for the Preliminary Final EIS.”⁸</p> <p>“investigations and studies are ongoing, and will continue as needed to support detailed design and ensure project compliance with all relevant regulations that are protective of the environment.”⁹</p>	<p><u>PLP</u>: “PLP is not proposing to complete the final field report for the geotechnical boring program this year. The report will be updated following collection of additional data from the instrumentation installed in the borings and is not anticipated to be available prior to completion of the FEIS.”¹⁰</p> <p><u>EPA</u>: “The EPA has not been offered the opportunity to review the draft geotechnical stability section of the EIS. Therefore, we have questions about the safety and stability of the tailings storage facility dams under the proposed action.”¹¹</p>

¹ Draft EIS, at page 5-5.

² Letter from Alaska Governor Bill Walker to Shane McCoy, Program Manager, Army Corps of Eng’rs (June 29, 2018).

³ Nondalton Tribal Council Proposed Pebble Project EIS Scoping Comments (June 2018), page 7.

⁴ Draft EIS, page 2-2.

⁵ Letter from Alaska Governor Bill Walker to Shane McCoy, Program Manager, Army Corps of Eng’rs (June 29, 2018).

⁶ Letter from Kyle Moselle, Associate Dir., Office of Project Management & Permitting, Alaska DNR, to Shane McCoy, Army Corps of Eng’rs (June 29, 2018).

⁷ AECOM, Pebble Project EIS Alternative Screening Discussion Meeting Notes (Aug. 22, 2018), p. 1.

⁸ RFI 0014a, Geotechnical Boring Program Report (sent to PLP on March 1, 2019, response requested by March 15, 2019).

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Embankment Design	<p>“The current level of embankment design for the proposed project is at a very early phase, considered a <i>conceptual</i> phase. Site investigation and engineering plans are still ongoing. The ADSP [Alaska Dam Safety Program] would require additional risk assessment prior to issuing a Certificate of Approval to Construct a Dam (ADNR 2017a).”¹²</p> <p>“specific details would be developed through the embankment preliminary and detailed design and construction preparation processes, and State permit process, specifically the ADNR Dam Safety permit process and ADEC Integrated Waste Management Plan approval.”¹³</p>	<p><u>AECOM</u>: “With PLP’s currently limited dam design, <i>do we have enough information to do a FMEA?</i>”¹⁴</p> <p><u>AECOM</u>: “The EIS-Phase FMEA was <i>not</i> intended to satisfy ADNR approval requirements. PLP and its engineering consultants Knight Piésold would be required to provide additional technical risk assessment well beyond the scope of the FMEA prior to request for and issuance of <i>Certificates of Approval to Construct a Dam</i> once the design progresses.”¹⁵</p> <p><u>Alaska DNR</u>: “The Dam Safety and Construction Unit of DNR suggests that the scope of the pending EIS should include consideration of the hazard potential classification of all proposed tailings and water storage dams in accordance with [DNR regulations]: ‘for new construction of Class I and II dams, an analysis of project alternatives including a feasibility study and a site study that justifies the location, type, and configuration of the proposed dam over other alternative locations, types, and configurations of dams or other projects.’ The Draft EIS should include an alternative to whole tailings, such as a dry stack or paste dewatering method.”¹⁶</p> <p><u>EPA</u>: “The discussion on tailings management is missing several key elements, which we recommend be added to the description, including: (1) how dust and erosion of the TSF buttresses and beaches will be managed and mitigated; (2) the stability, seepage, and environmental monitoring that would occur to determine whether the dams are performing as designed, and actions that would be taken if they are not; and (3) the emergency action plans that would be developed and how notification would occur in the event of an emergency.”¹⁷</p>

⁹ Draft EIS, page 4.13-1.

¹⁰ RFI 0014a Response, available at <https://pebbleprojecteis.com/files/2adbb867-af4d-4918-bddd-fc854df0d099>.

¹¹ EPA Comments on Pebble Project Dry Stack Tailings Option (Oct. 24, 2018).

¹² Draft EIS, at page 4.27-71

¹³ Pebble Project Comment Response Matrix, Army Corps Response to EPA Comments on Preliminary Draft EIS Ch. 2 Alternatives, comment no. 22, at pages 12-13.

¹⁴ AECOM, Notes for DNR Dam Failure Scenarios Meeting (Aug. 1, 2018), page 1 (emphasis original).

¹⁵ AECOM, Pebble EIS-Phase Failure Modes and Effects Analysis Workshop Report, prepared for USACE (Dec. 2018), p. 1 (emphasis original).

¹⁶ Letter from Kyle Moselle, Associate Dir., Office of Project Management & Permitting, Alaska DNR, to Shane McCoy, Army Corps of Engr’s (June 29, 2018).

¹⁷ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 2 Alternatives, comment no. 22, at pages 12-13.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Tailings Facility Design – Underdrains and Geotechnical and Geological Investigations	<p>“Locations, alignments, configurations, sizes, capacities, and other details of the underdrains would be developed following more detailed site-specific geotechnical and geological investigations and observations made during the preliminary and detailed designs, in accordance with the ADSP guidelines.”¹⁸</p> <p>“the underdrain configurations, numbers and alignments cannot be provided now because they would be developed during preliminary and detailed designs, per ADSP guidelines, after the completion of more detailed geotechnical and geological investigations, and Quarry A observations.”¹⁹</p>	EPA: “We recommend describing whether the underdrain system would be designed to capture 100% of the TSF seepage. We also recommend providing a figure that shows the number of underdrains and alignment of the underdrain system below the TSF. These details are necessary to evaluate effectiveness of the system and potential groundwater impacts.” ²⁰
Materials used to Construct Embankments	“Preliminary testing of quarried material was completed in 2018 and confirmed suitability of the material. ... Further detail would need to be developed in support of state permitting and the Reclamation Plan Approval requirements, and Closure Cost Estimate and bonding requirements.” ²¹	EPA: “we recommend that the DEIS describe the methods and criteria that would be used to determine if rock is NAG [non-acid generating] and nonmetal leaching and evaluate the effectiveness of the methods/criteria.” ²²
Fugitive Dust Control Plan	<p>“PLP is developing a fugitive dust control plan for mitigation and control of fugitive dust and wind erosion related to project activities.”²³</p> <p>“The FDCP [Fugitive Dust Control Plan] may not be available for the Draft EIS, but would be developed as part of the state permitting process.”²⁴</p>	EPA: “we recommend that a draft FDCP [Fugitive Dust Control Plan] be developed, analyzed and disclosed in the DEIS as part of the overall impacts analysis and mitigation measures required by NEPA. Without a draft FDCP, it is difficult to determine which specific BMPs and control technologies would be used and how they would be implemented. Without this information, it is not clear to agency decision makers and the public how the effectiveness of these control technologies and BMP measures and subsequent reductions in impacts to air quality were evaluated.” ²⁵

¹⁸ Draft EIS, at page 2-22.

¹⁹ Pebble Project Comment Response Matrix, Army Corps Response to EPA Comments on Preliminary Draft EIS Ch. 2 Alternatives, comment no. 16, at pages 8-9.

²⁰ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 2 Alternatives, comment no. 16, at page 8.

²¹ Draft EIS, at page 2-18.

²² Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 5 Mitigation, comment no. 25, at page 10.

²³ Draft EIS, page 4.18-11

²⁴ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 5 Mitigation, comment no. 9, at page 6.

²⁵ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 5 Mitigation, comment no. 9, at page 6.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Mitigation Measures	<p>“Mitigation measures included in the project design are integral components of the proposed action, are implemented with the proposed action, and therefore should be clearly described as part of the proposed action.” ²⁶ “Where there is insufficient detail to determine effectiveness, the measure could not be incorporated into the impact analysis, but serves to inform the public of PLP’s commitments.”²⁷</p>	<p><u>EPA</u>: “We recommend that the DEIS identify mitigation goals, measurable performance standards, and monitoring that would be designed to reduce impacts to a particular level or adopted to achieve an environmentally preferable outcome.”²⁸</p>
2. Mine Reclamation and Closure Plan, Financial Assurances, and Bonding		
Reclamation Plan	<p>“Prior to commencing construction, the project Reclamation and Closure Plan approval and associated financial assurance mechanisms would need to be in place.”²⁹</p> <p>“Not all aspects of the required plans (as disclosed in the project description and mitigation measures) will be fully included in the Draft EIS.”³⁰</p>	<p><u>EPA</u>: “we recommend that a draft RCP [Reclamation and Closure Plan] be developed, analyzed, and disclosed in the DEIS. Otherwise, it will be difficult for agency decision makers and the public to assess the effectiveness and success of the closure actions identified in the project description.”³¹</p> <p><u>Army Corps</u>: “A detailed reclamation plan is potentially essential to a reasoned choice among the alternatives. A detailed reclamation plan would provide an understanding of temporary versus permanent impacts to wetlands and other waters and vegetation between alternatives. A detailed reclamation plan would also provide rationale and details on what a successful reclamation approach would be, and provide specific number of acres of planned reclamation in specific locations, which may differ among alternatives.”³²</p>

²⁶ RFI 071b, Update of Applicant’s Proposed Mitigation for Analysis in the EIS (sent to PLP on March 1, 2019, response requested by Aug. 1, 2019).

²⁷ Draft EIS, page 5-5.

²⁸ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 5 Mitigation, comment no. 6, at page 3.

²⁹ Draft EIS, page 2-41.

³⁰ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 5 Mitigation, comment no. 8, at page 5.

³¹ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 5 Mitigation, comment no. 8, at page 5.

³² Draft EIS, page 3.1-8.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Description of Financial Assurances or Bonding	<p>“Prior to commencing construction, the project Reclamation and Closure Plan approval and associated financial assurance mechanisms would need to be in place.”³³</p> <p>The Draft EIS “does not disclose the estimated financial assurance amount. The estimated financial assurance amount will be developed in support of State permitting and the Reclamation Plan Approval and Closure Cost Estimate and bonding. The effectiveness of the mine plan is not defined by how much it costs but by how the issues are understood and addressed. The estimated financial assurance amount is a function of the plan, the plan is not a function of the cost estimate.”³⁴</p>	<p><u>Nondalton Tribal Council</u>: “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.”³⁵</p> <p><u>EPA</u>: “we recommend that the DEIS disclose the estimated financial assurance amount. This information is necessary to assess the effectiveness of reclamation and closure activities, which is critical to the assessment of environmental consequences of the project at and beyond closure.”³⁶</p>
3. Transportation Corridor and Natural Gas Pipeline Specific Alignment and Landowner Agreements		
Natural Gas Pipeline Surveys	<p>“Additional details will be available in support of ROW and CWA Section 404 permitting following the completion of marine surveys in 2019.”³⁷</p>	<p><u>Alaska DNR</u>: “[O]nly a small amount of the on-land natural gas pipeline corridor and transportation corridor has been surveyed.”³⁸</p>
Horizontal Directional Drilling and Trenching Plans for Cook Inlet and Iliamna Lake	<p>“PLP would determine if the port shore approach uses HDD or trenching following further field work in 2019.”³⁹</p>	<p><u>Alaska Dept. of Fish and Game</u>: “The project description says that the pipeline will use HDD to enter Cook Inlet but does not indicate how it will leave Cook Inlet. EIS project description should describe how the pipeline will leave the West Side of Cook Inlet.”⁴⁰</p> <p><u>Alaska Dept. of Fish and Game</u>: “EIS project description should describe how the pipeline will leave the West Side of Cook Inlet as well as specifically describe the transition and burial through Lake Iliamna.”⁴¹</p>

³³ Draft EIS, page 2-41.

³⁴ Pebble Project Comment Response Matrix, Army Corps Response to EPA Comments on Preliminary Draft EIS Ch. 2 Alternatives, comment no. 41, at page 25.

³⁵ Pebble Project Comment Response Matrix, Nondalton Tribal Council Comments on Preliminary Draft EIS, Section 4.1, comment no. 12, at page 12.

³⁶ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 2 Alternatives, comment no. 41, at page 25.

³⁷ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 2 Alternatives, at page 29.

³⁸ State of Alaska Cooperating Agency Comments Table, Pebble Project Preliminary Draft EIS (Dec. 21, 2018), p. 4, available at <https://pebbleprojecteis.com/files/3482e979-5119-415a-8cbd-d01c1b34a880>.

³⁹ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 2 Alternatives, p. 29.

⁴⁰ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, First Set (submitted Nov. 21, 2018), comment number 41.

⁴¹ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, First Set (submitted Nov. 21, 2018), comment number 42.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Landowner Agreements for Natural Gas Pipeline and Transportation Corridor	“The natural gas pipeline corridor would cross subsurface lands owned by Cook Inlet Region, Inc. and Bristol Bay Native Corporation. Uses on these surface and subsurface lands privately owned by Alaska Native corporations are subject to the approval of the landowners.” ⁴²	<p><u>Statement of PLP to the Army Corps (May 25, 2018)</u>: “It should be noted that all access corridors are subject to PLP’s ability to negotiate a mutually acceptable access agreement with the associated landowners. The Proposed Project and Eagle Bay option will both require rights of way (ROWs) from Iliamna Natives Limited (INL) and Alaska Peninsula Corporation (APC). The Northern Access option will require ROWs from INL, Pedro Bay Corporation (PBC), Bristol Bay Native Corporation (BBNC) to cross a private parcel owned by BBNC, Cook Inlet Region Incorporated (CIRI), Tyonek Native Association (Tyonek), Salamatof Native Association (Salamatof), and Seldovia Native Association (Seldovia). The Southwestern Access option will require ROWs from Igiugig Native Corporation (Igiugig) and APC. All access routes also cross State of Alaska lands.”⁴³</p> <p><u>Statement of PLP to the Army Corps (Aug. 3, 2018)</u>: “PLP does not currently have access to private lands in the Diamond Point to Eagle Bay area that would be required for this alternative to be practicable.”⁴⁴</p>
4. Port Site Design and Baseline Data		
Metocean Data and Other Marine Baseline Data	“site-specific metocean data for the detailed design phase of the port. Results of this program are needed to update the affected environment description in Section 3.16 (Surface Water Hydrology) of the Final EIS.” ⁴⁵	<u>EPA</u> : “Additional information is needed to assess potential impacts to the marine environment. Each Port option currently lacks the basic descriptive information about the marine causeways/jetties and adjacent shoreline areas (littoral transport direction, grain size, bathymetry) and the structures themselves.” ⁴⁶
Port Site final engineering and design	<p>“As with the sheet-pile dock, detailed engineering analysis has not been completed in support of initial design.”⁴⁷ Regarding sheet-pile dock: “Additional geotechnical investigation would be conducted as the project design progresses.”⁴⁸</p> <p>“Some project design details would continue to be developed during the NEPA process and into the permitting phase.”⁴⁹</p>	<p><u>EPA</u>: “no clear location and coverage area for a floating dock for ice breaking tugs is provided; we recommend that the DEIS clarify where the floating dock will be located and at what water depth.”⁵⁰</p> <p><u>EPA</u>: “Additional information is needed to assess potential impacts to the marine environment. For physical reclamation and closure discussions, it is not clear what portions of the causeway and jetty structures will remain in the marine environment and for how long. We recommend adding this information, which is necessary to understand the long-term effects of the structures on adjacent marine shorelines. Also, the piling variant options might have different short- and long-term effects on sediment movement, and we recommend that these options be considered by the coastal engineering analysis.”⁵¹</p>

⁴² Draft EIS page 4.2-4.

⁴³ Memo from James Fueg, PLP, to Shane McCoy, USACE (May 25, 2018) re Response to RFI-032 Project Options, at p. 7.

⁴⁴ Memo from James Fueg, PLP, to Shane McCoy, USACE (Aug. 3, 2018) re Additional Lake Access Options Studied by PLP (attached to response to RFI-032).

⁴⁵ RFI 039a, Metocean Buoy Measurement Program Data (sent to PLP on March 1, 2019, response requested by July 1, 2019).

⁴⁶ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, General, comment no. 1, page 1.

⁴⁷ Draft EIS, at page 4.15-14.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Water flow baseline data at port sites	“Groundwater/surface water interactions have not been studied in the transportation corridor or at port sites.” ⁵²	EPA: “No streamflow gaging stations are present in the port area ... We recommend that the DEIS discuss whether surface water data collection is planned for this area.” ⁵³
5. Water Treatment and Management Plans and Designs		
Water Management Plan	“A mine site water management plan is essential to understanding fresh water and mine process water requirements in relation to natural runoff timing and open pit dewatering requirements; to design water management and treatment systems; and to minimize the potential for an uncontrolled discharge of untreated contact or tailings water. PLP has developed mine site management plans for operations (Knight Piésold 2018a) and closure (Knight Piésold 2018d) to support the NEPA analysis. Additional detail would be developed and included in updates to these plans as the project proceeds through the state permitting process.” ⁵⁴	<p>Alaska DEC Commissioner’s Office, regarding the Pebble Water Balance Model and ultimate, detailed design of water collection and management : “It is not clear how the impact of the project can be determined if the details will not be provided until a later date. If more detailed information exists it should at least be referenced here.”⁵⁵</p> <p>Alaska DEC Commissioner’s Office, regarding open pit dewatering details: “It is not clear how the volume of dewatering is being determined or how it would be addressed in the water management modules.”⁵⁶</p> <p>Nondalton Tribal Council: “The project description included with the permit application states that ‘<i>The ultimate Project design will incorporate a detailed analysis of water collection and management, including quantity and quality estimates, water treatment options, water management facility design, and strategic discharge of treated water.</i>’ (Pebble Partnership, 2017). This analysis must be completed as part of and during the EIS process, and it must be described in the draft and final EISs. [...] It will be impossible to properly assess and evaluate the impacts to water resources without the requisite baseline water quality information and the analysis, estimates, options, designs, and plan identified above.”⁵⁷</p>

⁴⁸ Draft EIS, at page 4.15-11.

⁴⁹ Pebble Project Comment Response Matrix, Army Corps response to EPA Comments on Preliminary Draft EIS, General, comment no. 1, page 1.

⁵⁰ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, General, comment no. 1, page 1.

⁵¹ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, General, comment no. 2, page 1.

⁵² Draft EIS, at page 3.17-25.

⁵³ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Section 3.16, comment no. 9, page 4.

⁵⁴ Draft EIS, at page 2-31.

⁵⁵ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, First Set (submitted Nov. 21, 2018), comment numbers 12-13.

⁵⁶ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, First Set (submitted Nov. 21, 2018), comment number 14.

⁵⁷ Nondalton Tribal Council Proposed Pebble Project EIS Scoping Comments (June 2018), page 7.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Water Treatment Plants and Effluent	<p>“Water quality of discharge from the open pit WTP is the subject of ongoing engineering analysis.”⁵⁸ “Modifications might be required to address the process requirements for the long-term water treatment from the open pit.”⁵⁹ “Water quality would be closely monitored, and monitored, and changes and adjustments to the treatment process would be made as needed.”⁶⁰</p> <p>“there is some concern that salt and selenium could build up over time in the pyritic TSF, which has the potential to lead to increased total dissolved solids (TDS) concentrations that would require treatment in the main WTP (AECOM 2018i). This <i>may require further investigation as design progresses</i>, and/or as a long-term adaptive management strategy.”⁶¹</p> <p>“If hydraulic capacity of the WTPs is not adequate to meet the influent flow, additional trains would be installed as needed.”⁶²</p> <p>“The current estimate for the capacity of the Amakdedori Port WTP is 100 gpm. The WTP capacity would be finalized during the preliminary detailed designs and in support of State permitting.”⁶³</p>	<p><u>AECOM</u>: “While the lack of specific detail and apparent contradictory information in planning documents is assumed to be a result of the current stage of planning for the project, it is difficult to fully assess the treatment process in a meaningful way without confidence in reliability of the design of the treatment process.”⁶⁴</p> <p><u>AECOM</u>: “There are several general areas of concern with regard to proposed water treatment methodologies that would be applied during operations and into closure: ... (1) The proposed water treatment process as outlined in various memos and plans ... has evolved without trackable rationale for process changes ... (2) Discrepancies in stated WTP design details and capacities are present in various memos and plans outlining the water treatment process ... (3) The planned conversion of WTP#1 to WTP#3 at closure is not well described, specifically regarding changes in treatment process and increases in treatment rate.”⁶⁵</p> <p><u>EPA, regarding Port WTP</u>: “We recommend describing the WTP design capacity as compared to expected flows and describe the location of the WTP discharge outfall.”⁶⁶</p> <p><u>EPA</u>: “Prior to the operations WTPs being brought on-line, modular WTPs would be used to treat contact water that does not meet discharge requirements....We recommend describing the water treatment processes that would be used prior to the operations plants being brought on-line.”⁶⁷</p> <p><u>EPA</u>: “Per our previous comments submitted to the Corps, we continue to recommend that more specific information is needed about how this system would work during mine operations and closure in order to evaluate the simulation system’s effectiveness at achieving the stream flow augmentation goals described in this section. We have been unable to find information in the EIS that describes the system in a sufficient level of detail to support the conclusions made.”⁶⁸</p>

⁵⁸ Draft EIS, at page 4.18-8.

⁵⁹ Draft EIS, at page 2-36.

⁶⁰ Draft EIS, at page 2-37.

⁶¹ Draft EIS, at page 4.18-4 to 5.

⁶² Draft EIS, at page 4.18-7.

⁶³ Pebble Project Comment Response Matrix, Army Corps response to EPA Comments on Preliminary Draft EIS Ch. 2, comment no. 54, at page 28.

⁶⁴ AECOM Memo (Oct. 25, 2018) re Pebble Project – Review of Water Treatment Approach.

⁶⁵ AECOM Memo (Oct. 25, 2018) re Pebble Project – Review of Water Treatment Approach.

⁶⁶ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 2, comment no. 54, at page 28.

⁶⁷ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Ch. 2, comment no. 26, at page 17.

⁶⁸ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Section 4.16, comment no. 5, at pages 2-3.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Design and placement of water management pond embankment and pump wells	<i>“Based on the current mine plan, it is possible that gaps exist along the main WMP embankment that would allow potentially affected groundwater to flow through areas where wells are limited (e.g., along the southwestern side of the embankment; see Section 4.16, Surface Water Hydrology, Figure 4.16-1). As discussed in the EIS-Phase FMEA, the final location and spacing of pump-back wells would be determined based on additional hydrogeologic investigation as design progresses, to minimize the likelihood of this occurrence.”</i> ⁶⁹	<u>EPA</u> : “the discussion includes that there is potential for gaps in the well network (also can see on Fig 4.16-1), which would lead to potential impacts on groundwater. We note that the best mitigation measure for groundwater impacts caused by the potential inability to capture seepage is to minimize the potential for seepage to occur. For all of these reasons, we recommend that the Corps consider an alternative, variant, or additional mitigation measures to minimize leakage from these liners (facilities), such as a double-liner system. In addition, we recommend that the DEIS include details from the additional hydrogeologic investigation regarding well placement and consider revised or additional well placement as needed to improve the ability to capture leakage and seepage.” ⁷⁰
6. Baseline Water Flow Surveys and Water Modeling		
Surface Water Hydrology	<i>“There is limited information on surface water hydrology in project component areas outside the mine site.”</i> ⁷¹	<u>EPA</u> : “Although the [EIS] discusses the meteorological data inputs to the model and calibration, it does not provide information about the water balance model itself. We recommend that the DEIS include the following information: (1) which hydrologic cycle components are included in the model; (2) whether the spreadsheet method in the water balance approach was tested at different watersheds for its applicability; (3) a description of the model sufficient to address the model’s merits and limitations compared to other possible models; and (4) the size and extent of the overall watershed used in the model.” ⁷²
Incomplete Groundwater Model	<i>“In reviewing these estimates, it should be noted that the predictions presented above may be subject to significant uncertainty, due in part to uncertainties associated with the input from the groundwater module (see Section 4.17, Groundwater Hydrology).”</i> ⁷³ <i>“Considering the model uncertainties, the actual results of dewatering the pit may differ from projections described above. It is expected that the amount of water produced during pit dewatering could be larger than simulated, and the capture zone and zone of influence could be larger.”</i> ⁷⁴	<u>Alaska DNR</u> : “Provide evidence to support the claim that hydraulic conductivity (K) decreases with depth. ... Provide further evidence that regional groundwater systems do not exist.” ⁷⁵ <u>EPA</u> : “we continue to recommend that the EIS discuss the adequacy and accuracy of the models used to characterize baseline conditions and assess impacts. Appendix K3.17 discusses model calibration but does not describe why the specific models were selected for use or disclose any limitations and uncertainties associated with the model input parameters, assumptions, and outcomes. For example, there is no information provided that describes the accuracy of the estimates of groundwater flow changes, drawdown, and seepage. This information is needed to disclose the certainty associated with the impact assessment predictions and inform mitigation needs. We recommend that this information be added.” ⁷⁶

⁶⁹ Draft EIS, at page 4.18-15

⁷⁰ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Section 4.18, at pages 2-3.

⁷¹ RFI 118, Surface Water Hydrology (sent to PLP on March 1, 2019, response requested by Aug. 1, 2019).

⁷² Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Section 3.16, comment no. 43, at pages 20-21.

⁷³ Draft EIS, at page 4.16-11. See also Draft EIS at page 4.16-19 and 23.

⁷⁴ Draft EIS, at page 4.17-6

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Groundwater model validation and sensitivity analysis	“The requested information is necessary to help inform the impact analysis for the Preliminary Final EIS.” ⁷⁷	<u>Alaska DNR</u> : “Conduct a validation analysis for the groundwater model by comparing modelled and observed piezometer levels for data collected post 2007 (outside the calibration period). Conduct a sensitivity analysis to understand the sensitivity of model results to model parameters. These additional modelling steps will provide greater understanding of the mining impacts on the groundwater systems, including pit dewatering as well as the impacts to groundwater-surface water interactions and flows.” ⁷⁸
7. Wetlands Data, Mitigation Plan, Clean Water Act Compliance		
Compensatory Mitigation Plan	<p>“A draft conceptual Compensatory Mitigation Plan (CMP) has been prepared by PLP ...Detailed information about each compensatory mitigation opportunity proposed would be included in an attachment to a future version of a CMP.”⁷⁹</p> <p>“A compensatory mitigation plan (CMP) will be used in our determination whether the proposal is in compliance with the 404(b)(1) guidelines and the public interest review, and to inform the NEPA analysis.”⁸⁰</p>	<p><u>EPA</u>: “The Draft CMP contains little information regarding the substance of potential compensation measures. No specific mitigation projects are proposed. As drafted, readers will not be able to provide meaningful comment on proposed compensation measures for the purposes of either NEPA or CWA 404. To ensure a meaningful opportunity for public and cooperating agency comment for purposes of NEPA and 404, we recommend that the CMP included in the DEIS be revised...”⁸¹</p> <p><u>Army Corps</u>: “recommend stating how, in the absence of a functional assessment, you will justify that the proposed comp mit would provide sufficient offset for the lost aquatic functions. See 33 CFR 332.3(f).”⁸²</p> <p><u>Army Corps</u>: “A compensatory mitigation plan with specific details on sites and site specific plans that includes all the elements of 33 CFR 332.4(c) must be approved in advance of USACE making a permit decision.”⁸³</p>

⁷⁵ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, Second Set (submitted Dec. 21, 2018), page 1.

⁷⁶ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Section 3.17, at pages 2-3

⁷⁷ RFI 109d, Groundwater model validation and sensitivity analysis (sent to PLP on March 1, 2019, response requested by March 15, 2019).

⁷⁸ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, Second Set (submitted Dec. 21, 2018), page 1.

⁷⁹ Draft EIS, at page 3.1-9

⁸⁰ RFI 056a, Final Compensatory Mitigation Plan (sent to PLP on March 1, 2019, response requested by Aug. 1, 2019).

⁸¹ EPA Comments on Pebble Draft Compensatory Mitigation Plan (Jan. 31, 2019), page 1.

⁸² Attachment to email from Katie McCafferty, Program Mgr, U.S. Army Corps of Eng’rs, to James Fueg, PLP (Dec. 17, 2018).

⁸³ Email from Katie McCafferty, Program Mgr, U.S. Army Corps of Eng’rs, to James Fueg, PLP (Dec. 17, 2018).

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Wetlands and Vegetation Mapping	<p>“portions of the EIS analysis areas [are] lacking field-verified mapping”⁸⁴ “Remaining wetland data gaps would be addressed during the 2019 field season for reporting in the Final EIS (FEIS).”⁸⁵ “Information provided in the DEIS may not be precise enough to make a [Clean Water Act Section 404] permit decision...”⁸⁶</p> <p>“The final EIS will need to precisely disclose the amount and type of wetlands and other waters and vegetation that would be impacted by the project and how those impacts vary among the alternatives and variants. Field-verified wetlands and other waters data is requested for locations where data were not available for inclusion in the draft EIS.”⁸⁷</p>	<p><u>Army Corps</u>: “Data gaps are acknowledged in Section 3.1...field verifications and field work planned for 2019.”⁸⁸</p> <p><u>Army Corps internal email regarding Pebble wetlands delineation (March 11, 2015)</u>: “I might accept such a [outdated 1987 wetlands delineation] methodology for the NEPA discussion, but not for the determination of direct impacts, especially since their wetlands data is now more than 10 years old.”⁸⁹</p> <p><u>Army Corps Pebble Project Memo for the Record (July 7, 2009)</u>: “any data that is more than 5 years old must be spot checked to determine if any changes in jurisdiction have occurred. Any determinations made from the date of this memo must use the Alaska Regional Supplement to the 1987 Corps Wetland Delineation Manual.”⁹⁰</p>
Clean Water Act 404(b)(1) guidelines analysis	<p>“USACE’s 404(b)(1) evaluation and Public Interest Review will be completed after the Final EIS (FEIS).”⁹¹</p>	<p><u>Nondalton Tribal Council</u>: “Given the potential for significant adverse impacts to wetlands from the proposed project, the CMP and draft Section 404(b)(1) evaluation should be provided to the cooperating agencies, and they should be afforded the opportunity to review and comment on this section of the PDEIS with respect to the information in the CMP and draft Section 404(b)(1) evaluation before a Draft EIS is produced and released.”⁹²</p> <p><u>EPA</u>: “We recommend providing additional explanation regarding the process for evaluating alternatives to comply with the CWA Section 404(b)(1) guidelines. We note that the current alternatives evaluation does not enable comparison of the alternatives for the purpose of compliance with the 404(b)(1) guidelines and to identify the potential least environmentally damaging practicable alternative (LEDPA) for 404 permitting purposes because, for example, there is insufficient information about how all practicable steps have been taken to avoid and minimize aquatic impacts. We understand that the 404(b)(1) guidelines analysis will be included in an appendix, and we request an opportunity to review and provide comments on that appendix prior to release of the Draft EIS.”⁹³</p>

⁸⁴ Draft EIS, at page 3.22-5.

⁸⁵ Draft EIS, at page 3.22-5.

⁸⁶ Draft EIS, at page 3.1-10.

⁸⁷ RFI 116, Wetlands 2019 Field Verified Data (sent to PLP on March 1, 2019, response requested by Aug. 15, 2019).

⁸⁸ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Section 3.22, page 5.

⁸⁹ Email from Katie McCafferty, U.S. Army Corps of Engr’s Alaska Dist. Pebble Project Manager (March 11, 2015).

⁹⁰ CEPOA-RD Memorandum for Record, Subject: Pebble Limited Partnership Meeting Notes from July 7, 2009.

⁹¹ Draft EIS, at page 2-8

⁹² Pebble Project Comment Response Matrix, Nondalton Tribal Council Comments on Preliminary Draft EIS, Ch. 5, comment no. 10, page 7.

⁹³ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Ch. 2, comment no. 1, page 1.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Wetlands Functional Assessment	<p>“A functional assessment will not be prepared for this proposed project or this EIS.”⁹⁴</p>	<p><u>EPA</u>: “we recommend adding an analysis describing how the baseline conditions for each of the functions performed by the aquatic resources impacted by the project are expected to change with each project alternative. This is a critical component of analysis for this section of the DEIS in order to adequately characterize the likely impacts of each alternative.”⁹⁵</p> <p><u>Army Corps</u>: “recommend stating how, in the absence of a functional assessment, you will justify that the proposed comp mit would provide sufficient offset for the lost aquatic functions. See 33 CFR 332.3(f).”⁹⁶</p> <p><u>EPA</u>: “Since a function or condition assessment was not used, the CMP should clarify how it will comply with the Mitigation Rule’s requirements regarding the amount of compensation, which state that “[i]f a functional or condition assessment or other suitable metric is not used, a minimum one-to-one acreage or linear foot compensation ratio must be used” and “[t]he district engineer must require a mitigation ratio greater than one-to-one where necessary to account for the method of compensatory mitigation (e.g., preservation), the likelihood of success, differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation site. The rationale for the required replacement ratio must be documented in the administrative record for the permit action.” (33 CFR 332.3(f)/40 CFR 230.93(f)). For example, the CMP should clarify if a minimum one-to-one acreage ratio (or higher based on the factors in 33 CFR 332.3(f)(2)/40 CFR 230.93(f)(2)) is being proposed for impacts to wetlands, lakes, and ponds and if a minimum one-to-one linear foot ratio (or higher based on the factors in 33 CFR 332.3(f)(2)/40 CFR 230.93(f)(2)) is being proposed for impacts to streams. The CMP should include the supporting rationale for the approach used.”⁹⁷</p>

⁹⁴ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Section 4.22, at page 1.

⁹⁵ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS Section 4.22, at page 1.

⁹⁶ Army Corps comments on Pebble Project Draft Compensatory Mitigation Plan, at page 27 (December 17, 2018 at 3:12:22PM).

⁹⁷ EPA comments on Pebble Project Draft Compensatory Mitigation Plan, at page 1.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
8. Subsistence, Cultural Resources, Historic Properties, and Human Health		
Subsistence baseline information	<p>“Updated information would provide a more current picture of subsistence use in the immediate vicinity of the mine site, transportation corridor, port, and natural gas pipeline facilities.”⁹⁸</p> <p>Pertaining to subsistence activities in Bristol Bay drainages, some information is “unavailable, older, or limited” and in Cook Inlet drainages, “the extent of subsistence harvest activity, particularly fishing, in the project area on the western side of Cook Inlet has not been documented and limited information is available.”⁹⁹</p>	<p><u>Lake and Peninsula Borough</u>: “The EIS needs to provide information to provide a baseline for the EIS to assess project impacts. The information should be at a fine enough scale to differentiate among alternatives, and to provide some direction for mitigation measures – i.e., mechanisms to minimize or avoid subsistence impacts. To effectively accomplish these tasks, the section should provide the following. ...Baseline information on the subsistence harvest by village. The preliminary draft attempts to provide that information but needs to resolve the data-quality issue presented above.”¹⁰⁰</p>
Cultural Resources and Historic Properties baseline information	<p>“[T]he transportation route from the mine site to Amakdedori has not been field surveyed.”¹⁰¹ “[I]t is possible that there are undiscovered cultural resources sites, particularly in areas that have not been subject to a field survey.... additional field surveys may occur while the EIS is being completed.”¹⁰² “the USACE will require additional surveys to be completed in the 2019 field season to be incorporated into the FEIS.”¹⁰³</p>	<p><u>Advisory Council on Historic Preservation</u>: “Overall, the chapters on cultural resources and on historic properties demonstrate the incomplete nature of the effort to identify cultural resources and historic properties that may be affected by the referenced undertaking.”¹⁰⁴</p> <p><u>Alaska DNR, Office of History and Archaeology</u>: “Analysis of how many historic properties or potential historic properties may be impacted by each alternative will need to be revised once the APE [Area of Potential Effects] has been determined and, if possible, once identification efforts and determinations of eligibility have been completed on potentially impacted historic properties.”¹⁰⁵</p>

⁹⁸ Draft EIS, at page 3.1-11.

⁹⁹ Draft EIS, at page 3.1-10

¹⁰⁰ Letter from Nathan Hill, Manager, Lake and Peninsula Borough, to Shane McCoy, Program Mgr, U.S. Army Corps of Eng’rs (Sept. 7, 2018).

¹⁰¹ Draft EIS, at page 3.1-12

¹⁰² Draft EIS, at page 3.1-12

¹⁰³ Pebble Project Comment Response Matrix Army Corps response to Nondalton Tribal Council comments on Section 3.7, comment no. 10, at page 4.

¹⁰⁴ Letter from Jaime Loichinger, Acting Assistant Dir., Federal Permitting, Licensing, and Assistance Section, Advisory Council on Historic Preservation, to Sheila Newman, Program Mgr, U.S. Army Corps of Eng’rs (Dec. 21, 2018), at p.1.

¹⁰⁵ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, Second Set (submitted Dec. 21, 2018), page 4.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Cultural Resources Field Verification Data	“Portions of the direct permit area (project footprint) have had no archeological surveys conducted, and there has been no field verification for the interview-identified cultural resources collected by Stephen R. Braund and Associates. Per input provided by the State Historic Preservation Office and other consulting parties, and in accordance with both NEPA and NHPA, expanding the identification and evaluation of cultural resources in the project footprint is required to better compare alternatives and discuss impacts on cultural resources associated with each.” ¹⁰⁶	<p><u>Army Corps</u>: “the USACE will require additional surveys to be completed in the 2019 field season to be incorporated into the FEIS.”¹⁰⁷</p> <p><u>Alaska DNR, Office of History and Archaeology</u>: “only a small amount of the on-land natural gas pipeline corridor and transportation corridor has been surveyed.”¹⁰⁸</p> <p><u>PLP, regarding summer 2019 cultural resources field survey effort</u>: “PLP notes that field survey completion may be affected by consultant availability, weather conditions, and land access agreements.”¹⁰⁹</p>
Historic Properties Evaluations	“Evaluations are needed to complete the assessment of impacts on historic properties under NEPA for the EIS...” ¹¹⁰	<p><u>Advisory Council on Historic Preservation</u>: “the Corps should characterize the identification effort for historic properties that may be affected in the Area of Potential Effects (APE) that still needs to be implemented and the status and timing of such efforts.”¹¹¹</p> <p><u>Alaska DNR, Office of History and Archaeology</u>: “Analysis of how many historic properties or potential historic properties may be impacted by each alternative will need to be revised once the APE has been determined and, if possible, once identification efforts and determinations of eligibility have been completed on potentially impacted historic properties.”¹¹²</p>
Offshore and onshore Cultural Resources Information at Port Site	“PLP anticipated conducting offshore geophysical work to support the required engineering and archaeology reports to BSEE for the proposed pipeline ROW in 2018; due to weather constraints, this work was not completed in 2018. As indicated in Item #2 in the PLP response to RFI 025, PLP plans to conduct this work in 2019.” ¹¹³	<p><u>AECOM</u>: “required engineering and archaeology reports to BSEE for the proposed pipeline ROW”¹¹⁴</p> <p><u>Advisory Council on Historic Preservation</u>: “aside from the small surveys near Amakdedori port, the complete Amakdedori port site and the transportation corridor have not been surveyed.”¹¹⁵</p>

¹⁰⁶ RFI 117, Cultural Resources Field Data (sent to PLP on March 1, 2019, response requested by March 31, 2019).

¹⁰⁷ Pebble Project Comment Response Matrix, Nondalton Tribal Council Comments on Preliminary Draft EIS, Section 3.7, at page 4.

¹⁰⁸ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, Second Set (submitted Dec. 21, 2018), at page 4.

¹⁰⁹ RFI 117.

¹¹⁰ RFI 119, Eligibility Determinations Effort (sent to PLP on March 1, 2019, response requested by May 1, 2019).

¹¹¹ Letter from Jaime Loichinger, Acting Assistant Dir., Federal Permitting, Licensing, and Assistance Section, Advisory Council on Historic Preservation, to Sheila Newman, Program Mgr, U.S. Army Corps of Eng'rs (Aug. 31, 2018), at page 1.

¹¹² Pebble Project Comment Response Matrix, State of Alaska on Preliminary Draft EIS, Section 3.8, comment no. 6, at pages 1-2.

¹¹³ RFI 025a, 2019 Offshore Cultural Resources Survey Data (sent to PLP on March 1, 2019, response requested by July 15, 2019).

¹¹⁴ RFI 025a, 2019 Offshore Cultural Resources Survey Data (sent to PLP on March 1, 2019, response requested by July 15, 2019).

¹¹⁵ Pebble Project Comment Response Matrix ACHP comments on Section 3.7, comment no. 9, at page 2.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Health Impact Assessment	"Funding and completion of a health impact assessment (HIA) following Alaska guidelines is strictly voluntary in Alaska and is not required by either Alaska law or federal law." ¹¹⁶	EPA: "The Health Impact Assessment methodology is a common tool that can be used to assess potential health impacts. HIA is a combination of procedures, methods, and tools that enables systematic analysis of potential positive or negative effects of a policy, plan, program, or project on the health of a population, as well as the distribution of those effects within the population. [...] we recommend that the Corps involve public health professionals in determining the appropriate level of analysis. In addition to evaluating impacts, we recommend that the HIA identify the appropriate actions to manage or mitigate health effects from the proposed project." ¹¹⁷
9. Fish and Wildlife Baseline Information and Plans		
Wildlife Management Plan	"PLP's proposed mitigation incorporated into the project includes development of a Wildlife Management Plan. The plan would be developed for the project prior to commencement of construction." ¹¹⁸ "A Wildlife Management Plan would be developed as part of a later permitting process." ¹¹⁹	Alaska Dept. of Fish and Game: "Develop Wildlife Management Plan for inclusion in Draft EIS." ¹²⁰
Aquatic Resources Monitoring Plan	"An Aquatic Resources Monitoring Plan would be developed for the project...as part of the plans of operation during state permitting." ¹²¹	EPA: "we recommend that a draft ARMP be developed, analyzed and disclosed in the DEIS, so that monitoring (which is a key aspect of the project description) is disclosed and the effectiveness of the monitoring plans and any anticipated triggers for monitoring changes can be understood and evaluated by decision makers and the public." ¹²² EPA: "A monitoring plan is typically provided as part of a mine plan of operations to support EIS development and described in Chapter 2 of the EIS (since it is part of the project description). We recommend that a monitoring plan be included in the Alternative 1 description or provided in an appendix. The monitoring plan should include a sufficient level of detail to demonstrate that it can measure environmental effects and trends." ¹²³
Marine Mammals	"USACE can proceed with completion of Section 7 consultation under ESA and make permit a decision prior to PLP's receipt of MMPA authorization. If a permit is issued by USACE, it would include conditions to require that no in-water work or other actions that could cause take to marine mammals could proceed until after MMPA authorization has been issued." ¹²⁴	NOAA: "There are insufficient details regarding aspects of the proposed project that would allow us to make determinations regarding the requirements for authorization under the Marine Mammal Protection Act (MMPA)." ¹²⁵

¹¹⁶ Draft EIS, at page 3.10-3.

¹¹⁷ Letter from EPA to the Corps (June 29, 2018).

¹¹⁸ Draft EIS, page 4.23-3.

¹¹⁹ Pebble Project Comment Response Matrix, Army Corps Response to State of Alaska Comments on Preliminary Draft EIS, Section 4.23, comment no. 7, at page 3.

¹²⁰ Pebble Project Comment Response Matrix, State of Alaska Comments on Preliminary Draft EIS, Section 4.23, comment no. 7, at page 3.

¹²¹ Draft EIS, page 5-9.

¹²² Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Chapter 5, comment no. 10, at page 6,

¹²³ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Chapter 2, comment no. 59, at page 30.

¹²⁴ Email from Katie McCafferty, Army Corps, to James Fuego, PLP (Feb. 11, 2019).

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Fish and Wildlife Baseline Data	<p>“This information is not necessary to disclose the reasonably foreseeable significant impacts of the proposed project. Additionally, the requested information would not be essential to make a reasoned choice among alternatives. It has not been included in the Draft EIS.”¹²⁶</p>	<p><u>U.S. Fish and Wildlife Service</u>: “Many of the chapter sections contained notations that 2018 and 2019 field data are pending, and an analysis of those data will be added to the EIS when available. Due to a lack of current data for the affected environment, the Service is not able to provide comprehensive analysis of the environmental consequences of the proposed project on fish and wildlife resources.”¹²⁷</p> <p><u>Alaska Department of Fish and Game</u>: “Additional surveys should be conducted in 2019...”¹²⁸</p> <p><u>Alaska Department of Fish and Game</u>: “There are several productive sockeye salmon spawning streams in this area and adult sockeye salmon are frequently observed staging in the near shore areas of this portion of the lake. Site specific studies should be conducted for this area so the extent of resources and potential impacts can be described.”¹²⁹</p> <p><u>Alaska Department of Fish and Game</u>: “fish sampling along the south portion of the access road was just initiated in 2018 and surveys should continue in 2019.”¹³⁰</p> <p><u>Alaska Department of Fish and Game</u>: “The proposed location for Pebble Mine straddles two major drainages that support highly productive and valuable fishery resources. Although ADF&G monitors the escapement of major stocks targeted by commercial fisheries, many gaps in knowledge exist regarding the abundance, diversity, and productivity of freshwater resources in this area and how they might be impacted by the construction and operation of a copper-gold-molybdenum mine. Given the scope and scale of the proposed mine project, the Draft EIS should be informed by high-quality baseline data sets for all aquatic resources and habitats potentially affected by the proposed activities. There should be studies that evaluate the abundance and distribution of adult salmon species in water bodies that could be affected by development of the Pebble Mine. Specifically, studies to delineate important spawning reaches and determine the proportion of reaches that may be inundated by the mine or thought to be at risk from mining activities should be described in the Draft EIS.”¹³¹</p> <p><u>Alaska Department of Fish and Game</u>: “Field studies documenting anadromous and resident fish presence and absence along the road corridor route should be considered in the Draft EIS. The southern portion of the road corridor, from the south ferry terminal outside of Kokhanok to the port at Amakdedori Creek is unstudied in terms of fish presence in streams where road crossings are currently proposed.”¹³²</p>

¹²⁵ Letter from James W. Balsiger, Ph.D., NOAA Administrator Alaska Region, to Colonel Michael S. Brooks, US Army Corps of Engr's (Feb. 9, 2018).

¹²⁶ Pebble Project Comment Response Matrix, Army Corps Response to State of Alaska Comments on Preliminary Draft EIS, Section 4.23, comment no. 8, at page 3.

¹²⁷ Letter from Mary Colligan, Assistant Reg'l Dir., U.S. Fish & Wildlife Serv., to Shane McCoy, Program Mgr, U.S. Army Corps of Eng'rs (Dec. 21, 2018), at p.2.

¹²⁸ ADF&G, Pebble Project EIS Consolidated Comments Table, p. 17, available at <https://pebbleprojecteis.com/files/3482e979-5119-415a-8cbd-d01c1b34a880>.

¹²⁹ ADF&G, Pebble Project EIS Consolidated Comments Table, p. 14, available at <https://pebbleprojecteis.com/files/3482e979-5119-415a-8cbd-d01c1b34a880>.

¹³⁰ ADF&G, Pebble Project EIS Consolidated Comments Table, p. 16, available at <https://pebbleprojecteis.com/files/3482e979-5119-415a-8cbd-d01c1b34a880>.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
10. Transportation Corridor Design, Baseline Data, Mitigation, and Reclamation		
Road Design	“Although a final design has not been completed, a typical road section is presented in Figure 2-16.” ¹³³	
Baseline Data	“This information is not necessary to disclose the reasonably foreseeable significant impacts of the proposed project. Additionally, the requested information would not be essential to make a reasoned choice among alternatives. It has not been included in the Draft EIS.” ¹³⁴	DNR: “the current proposal being evaluated by the USACE includes a new road corridor, ferry terminals and ferry operations in Iliamna Lake, a proposed port at Amakdedori Creek/Kamishak Bay, and a natural gas pipeline extending from the Kenai Peninsula through Cook Inlet and along the proposed transportation corridor to the mine site. Additional baseline data is likely to be needed to further inform the USACE and the public about the entire project, and new data collection and reference sites should be established to fully evaluate any new project components.” ¹³⁵
Materials Sites Locations and Plans	“Final volumes of these gravel materials, and specific location of material sites and development plans for those sites, would be part of the final project design.” ¹³⁶	
Culverts and Waterbody Crossings Designs and Numbers	“The Alternative 1 design currently estimates 86 culverts; of these, 41 would be designed as fish passage culverts. The exact number and design of waterbody crossings would be determined during final design and permitting.” ¹³⁷ “The road system would include water crossings with nine bridges and 86 culverts (see Section 4.24, Fish Values, for discussion of fish-bearing water crossings). <i>The exact number and design of waterbody crossings would be determined during final design and permitting.</i> Inlet/outlet protection may be installed at some streams, as necessary, to protect the soil surface.” ¹³⁸	<u>National Parks Service</u> : “All culverts need to be constructed to ensure future fish passage regardless of whether anadromous fish are currently present.” ¹³⁹ <u>EPA</u> : “We recommend that the EIS clarify whether this means any fish, or anadromous fish specifically, and provide data to support this statement. We note that only 35 of 88 crossed streams having fish seems very low.” ¹⁴⁰

¹³¹ Letter from Kyle Moselle, Associate Dir., Office of Project Management & Permitting, Alaska DNR, to Shane McCoy, Army Corps of Engr’s (June 29, 2018).

¹³² Letter from Kyle Moselle, Associate Dir., Office of Project Management & Permitting, Alaska DNR, to Shane McCoy, Army Corps of Engr’s (June 29, 2018).

¹³³ Draft EIS, at page 4.16-26

¹³⁴ Pebble Project Comment Response Matrix, Army Corps Response to State of Alaska Comments on Preliminary Draft EIS, Section 4.23, comment no. 8, at page 3.

¹³⁵ Letter from Kyle Moselle, Associate Dir., Office of Project Management & Permitting, Alaska DNR, to Shane McCoy, Army Corps of Engr’s (June 29, 2018).

¹³⁶ Draft EIS, at page 2-58.

¹³⁷ Draft EIS, at page 2-42.

¹³⁸ Draft EIS, at page 4.16-25

¹³⁹ Pebble Project Comment Response Matrix, National Parks Service Comments on Preliminary Draft EIS, Section 4.9, comment no. 11, at page 2.

¹⁴⁰ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Ch. 2, comment no. 42, at page 25.

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Culvert and Bridge Design	<p><i>“If not properly designed, constructed, and maintained, culverts and bridges could constrict natural streamflow enough to significantly increase the water velocity at the downstream end of the structure.”</i>¹⁴¹ <i>“Although specific bridge design details would vary with stream size and hydrologic properties, a typical bridge schematic is presented on Figure 2-17.”</i>¹⁴² <i>“The magnitude of impact of a bridge on the stream being crossed is directly related to the criteria used to design the bridge, and the extent to which the bridge was constructed according to the design.”</i>¹⁴³ <i>“The magnitude of the impact of the culvert on the stream being crossed would be directly related to the criteria used to design the culvert, and the extent to which the culvert is constructed according to the design.”</i>¹⁴⁴ <i>“The design of the seven culverts would be reviewed and verified by ADF&G during the permitting process (if permits are issued). Impacts to these streams would be certain to occur if the project is permitted and built.”</i>¹⁴⁵ <i>“Because there is no information on how much the bridges would restrict streamflow, the magnitude, duration, and geographical extent of the impacts cannot be accurately predicted.”</i>¹⁴⁶ <i>“Because there is no information available on the extent to which the culverts would restrict streamflow, the magnitude, duration, and geographical extent of the impacts cannot be accurately predicted.”</i>¹⁴⁷</p>	<p>National Parks Service: “All culverts need to be constructed to ensure future fish passage regardless of whether anadromous fish are currently present.”¹⁴⁸</p> <p>EPA: “We recommend that the EIS clarify whether this means any fish, or anadromous fish specifically, and provide data to support this statement. We note that only 35 of 88 crossed streams having fish seems very low.”¹⁴⁹</p> <p>Alaska Dept. of Fish and Game: “Many surface water extraction sites along road routes are likely very small streams. But no information is provided about hydrology along south access road corridor. Hydrology data will be needed to size culverts along this corridor and assess impacts to fish habitat.”¹⁵⁰</p> <p>EPA: “We recommend clarifying whether all culverts would be designed to optimize fish passage. Other sections of the EIS indicate that only some culverts would.”¹⁵¹</p> <p>PLP to US Coast Guard: “We recognize that these drawing packages do not represent full application packages, but as discussed at the meeting we wanted to get some concepts out to initiate the process and for your review to see if there were any concerns before we advance more detailed work. We look forward to your feedback on the drawings.”¹⁵²</p>

¹⁴¹ Draft EIS, at page 4.16-26

¹⁴² Draft EIS, at page 4.16-27

¹⁴³ Draft EIS, at page 4.16-27

¹⁴⁴ Draft EIS, at page 4.26-29

¹⁴⁵ Draft EIS, at page 4.24-22

¹⁴⁶ Draft EIS, at page 4.16-28

¹⁴⁷ Draft EIS, at page 4.26-30

¹⁴⁸ Pebble Project Comment Response Matrix, National Parks Service Comments on Preliminary Draft EIS, Section 4.9, comment no. 11, at page 2.

¹⁴⁹ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Ch. 2, comment no. 42, at page 25.

¹⁵⁰ Pebble Project Comment Response Matrix, State of Alaska Comments on Preliminary Draft EIS, Section 3.16, comment no. 18, at page 2.

¹⁵¹ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Ch. 2, comment no. 25, at page 10.

¹⁵² Email from James Fuego (PLP) to David Seris and James Helfinstein (USC) and Shane McCoy (USACE) regarding Bridge Crossings over Potentially Navigable Waters (Nov. 21, 2018).

Draft EIS Data Gaps and Deficiencies as Admitted by the Army Corps		
Topic	Army Corps Admission of Deficiency – quotes from the Draft EIS and Supporting Documentation	Comment on Deficiency by Agencies / EIS Contractor / PLP
Transportation corridor reclamation plan	“A detailed reclamation plan would be prepared in compliance with State requirements during the State permitting and right-of-way (ROW) lease processes prior to construction.” ¹⁵³	
Water flow baseline data at transportation corridor	“Groundwater/surface water interactions have not been studied in the transportation corridor or at port sites.” ¹⁵⁴	<u>DNR</u> : “Surface and ground water studies in the project areas are needed to characterize hydrology. Characterization of baseline hydrologic conditions should be of a sufficient extent and density to estimate relative hydrologic contributions at scales relative to potential project changes.” ¹⁵⁵
Mitigation measures and engineering of road design	“The evaluation of impacts from construction of roads, bridges, culverts, and pipelines on surface water hydrology is based on an understanding of planned mitigation in the form of engineering design, and the planned maintenance that can also significantly reduce impacts. The evaluation also considers the probability of occurrence, magnitude, duration, and geographical extent associated with specific impacts.” ¹⁵⁶	<u>Alaska Dept. of Fish and Game</u> : “There is no indication in the Project description on how the pipeline will cross fish streams. EIS project description should describe how the pipeline will cross fish streams.” ¹⁵⁷ <u>Nondalton Tribal Council</u> : “Any assumptions being made regarding probability of occurrence, engineering design, and/or planned mitigation need to be clearly stated. ... Bridge footings, embankments, and supports would certainly have an impact on stream hydrology. Please describe these impacts in more detail.” ¹⁵⁸
BMPs for road and port construction	“The magnitude and extent of stream sedimentation that could result from such disturbance would depend on the effectiveness of required state-of-the-process BMPs under stormwater pollution prevention regulations implemented, monitored, and maintained during all phases of the project.” ¹⁵⁹	<u>EPA</u> : “we recommend that the EIS include the Applicant’s plans for stormwater control strategies, best management practices and the Pollution Prevention Plan in appendices or as reference documents in order to support the assumption that the proposed earthwork would meet permit and Plan conditions. It will be useful for agency decision makers and the public to understand the specific BMPs and control strategies that would be used (and the locations where they would be used).” ¹⁶⁰ <u>EPA</u> : ““Establishment of suitable BMPs” is generally mentioned. Without a sense of the possibility and breadth of impacts, it’s difficult to know what BMPs would be needed, and whether they will be sufficient to counter scouring or other adverse effects to the seabed and resources adjacent to the structures. We recommend that the DEIS include additional information and discussion of the specific BMPs that would be utilized...” ¹⁶¹

¹⁵³ Draft EIS, Executive Summary, at page 10.

¹⁵⁴ Draft EIS, at page 3.17-25.

¹⁵⁵ Letter from Kyle Moselle, Associate Dir., Office of Project Management & Permitting, Alaska DNR, to Shane McCoy, Army Corps of Engr’s (June 29, 2018).

¹⁵⁶ Draft EIS, at page 4.16-26

¹⁵⁷ State of Alaska, Consolidated State Agency Comments on Preliminary Draft EIS, First Set (submitted Nov. 21, 2018), comment number 40.

¹⁵⁸ Pebble Project Comment Response Matrix, Nondalton Tribal Council Comments on Preliminary Draft EIS, Section 4.16, comment no. 9, at page 3.

¹⁵⁹ Draft EIS, at page 4.24-20

¹⁶⁰ EPA Cooperating Agency Review Comments, Preliminary Draft EIS Chapter 4 (Aug. 15, 2018), page 2.

¹⁶¹ Pebble Project Comment Response Matrix, EPA Comments on Preliminary Draft EIS, Section 4.16, comment no. 10, at pages 5-6.