



January 9, 2020

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U.S. Army Corps of Engineers, Alaska District  
ATTN: DA Permit Application 2017-271, Pebble Limited Partnership  
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**Re: National Tribal Water Council Comments on the Proposed Pebble Mine Project and Army Corps of Engineers' Draft Environmental Impact Statement (Feb 2019)**

Dear Mr. McCoy:

The National Tribal Water Council (NTWC) was formed by the U.S. Environmental Protection Agency (EPA) to provide EPA with technical input from Indian Country to strengthen EPA's coordination with tribes, and to allow EPA to better understand issues and challenges faced by tribal governments and Alaska Native Villages as they relate to EPA water programs and initiatives. The NTWC provides tribes and associated tribal communities and tribal organizations with research and information for decision-making regarding water issues and water-related concerns.

Further, the NTWC advocates for the best interests of federally-recognized Indian and Alaska Native tribes and tribally-authorized organizations in matters pertaining to water. The NTWC also advocates for the health and sustainability of clean and safe water, and for the productive use of water for the health and well-being of Indian Country. The NTWC takes its role seriously and has provided input to EPA on many water issues since the Council's inception. Here, we provide input and response to the U.S. Army Corps of Engineers' (ACE) Pebble Project draft Environmental Impact Statement, which was released for public comment during February of 2019.

**The Council reminds the Army Corps of Engineers that virtually all tribes maintain a deep personal, cultural, and spiritual relationship to water. No matter the water body size,**



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**whether an ocean, lake, river, stream, creek, spring or seep, the water is treated with respect and dignity as a living entity and held sacred.**

Here the NTWC provides a comprehensive set of comments for the ACE to consider. This ensemble of comments draws on the NTWC's own DEIS comment development on its prior 2017 Pebble Project comments, and on DEIS comments submitted by the United Tribes of Bristol Bay, the Bristol Bay Native Association, the American Fisheries Society, the US EPA, and the Wild Salmon Society.

*“The people of Bristol Bay have been sustained on these lands since time immemorial. Our people have been traditionally taught to be stewards of our lands, to protect our lands for the future generations. The main life source that connects all our people and all living things is water. Water is life. Our watershed must be protected in order to maintain a healthy ecosystem. Water connects us to live a subsistence lifestyle and water connects us along the rivers to access our traditional fishing and hunting grounds.” - Bristol Bay Native Association*

The National Congress of American Indians in its recent (October, 2019) resolution concerning mineral development in the Bristol Bay region and Yukon-Kuskokwim Delta area summarized the undeniable inescapable facts concerning the setting for the proposed Pebble Project:

- *The Bristol Bay watershed is a resource of global importance, supporting the world's largest sockeye salmon run and one of the world's largest Chinook salmon runs;*
- *The salmon populations in Bristol Bay are entirely wild, representing one of the last abundant and sustainable populations of wild salmon in the world;*
- *Wild salmon in Bristol Bay have been the foundation of Alaska Native culture in the region for at least 4,000 years and continue to support one of the last intact wild salmon-based cultures in the world;*
- *The Bristol Bay fishery is economically important, supporting approximately 14,000 fishing and processing jobs and generating \$1.5 billion in annual profit;*
- *Wild salmon are essential to the social, cultural, spiritual, and economic wellbeing and survival of the indigenous people of Bristol Bay; and*
- *The health of wild salmon populations depends on the pristine ecosystems of the Bristol Bay watershed.*

### **NTWC 2017 Comments / Input to EPA on Proposed Pebble Project**

On October 2, 2017, the NTWC (letter from Ken Norton, NTWC Chairman to Scott Pruitt, EPA Administrator, and Michelle Pirazdeh, Acting EPA Region 10 Administrator) addressed EPA's proposal to withdraw the Proposed Determination (PD) to restrict the use of the Pebble Deposit Area in Southwest Alaska as a disposal site for dredged and fill materials resulting from proposed

PLP (Pebble Limited Partnership) mining activities. Note that EPA's proposal included a request for feedback, but prohibited comments on proposed restrictions or on the science or technical information underlying the Proposed Determination. In spite of many thousands of comments in opposition, on July 31, 2019, the EPA announced withdrawal of the Proposed Determination.

In its letter, the NTWC clearly indicated that it did not support withdrawal of EPA's 2014 Clean Water Act (CWA) Section 404(c) determination, and that it was unable to provide feedback as the parameters for providing feedback were too restrictive, narrowly drawn, and limiting of the Council's ability to adequately assess impacts of the proposed mining activities on tribes and Alaskan Native Villages.

The NTWC requested that EPA maintain its 404(c) standing in order to protect Bristol Bay fishery from impacts of large-scale mining. The healthy salmon runs to the Bristol Bay watershed are critical to the health and vitality of rural Alaska and is a means to sustain the financial, cultural and spiritual life of 29 Alaska Native villages located within the watershed.

The NTWC stated in its letter that the 2014 Bristol Bay Watershed Assessment clearly identified predictable impacts of mining on the sustainability of Bristol Bay's world-class commercial, recreational, and subsistence fisheries, and the future of Alaska Native tribes in the watershed, who have maintained a salmon-based cultural and subsistence-based way of life for at least 4,000 years.

Further, the NTWC indicated that the assessment provided a mechanism to determine the significance of Bristol Bay's ecological resources, to evaluate potential impacts of large scale mining on these resources, and to inform future decision making. A 404(c) determination is a rare occurrence, but this proposal, the unacceptable ecological risks and the rigorous, publicly-vetted scientific assessment that underpins EPA's PD is exactly the situation to which EPA's CWA oversight was intended to be applied.

The NTWC believed and continues to believe that the assessment has shown that impacts from mine waste deposits can be devastating to the Alaska Native subsistence lifeways. Alaska Natives are indigenous people whose way of life, culture, and subsistence are still dependent on the sustainability of Alaska's wild resources, and declared that the assessment must be referenced in all future decisions affecting the financial, ecological, environmental, and human impacts to the resources of indigenous people within the Bristol Bay Watershed.

The NTWC encouraged EPA Region 10's administrator to forward a recommendation to EPA Headquarters to maintain its authority to restrict defined areas in the Bristol Bay Watershed as a disposal site under Section 404(c). Any negligent mining development in the Bristol Bay watershed will devastate the Alaska Native way of life and have untold detrimental effects nationally and in international waters. The NTWC stated that it cannot accept a process that opens the door for mining operations that has a potential to impact or destroy one of the richest salmon habitats in the world.

## **NTWC Comments on DEIS and DEIS-Process**

The permitting process for the Pebble Project illustrates the U.S. government's failure, owned in this case by the ACE, to uphold its trust responsibilities to Bristol Bay tribes.

It is clear from numerous comments (e.g., Department of Interior National Park Service and to a much lesser extent the State of Alaska) that the USACE did not adequately consider cumulative impacts or the effects of climate change over the anticipated nearly 100-yr life of the mine. Without such considerations, the DEIS is flawed beyond use.

Once the mining industry establishes a beach-head in this region, a precedent will be set, and future expansion of mining is all but assured. If the DEIS is revised and for some reason found to be acceptable by the ACE, then the record of decision should identify the no action alternative as preferred, because the negative consequences of the Pebble Project on the many tribes of the Bristol Bay region, and on the wild salmon fishery so vital to the subsistence way of life, not to mention tribal economies and culture are unconscionable.

The DEIS should be revised in such a way that EPA's 2014 Bristol Bay Assessment is returned to its rightful status as the proper set of benchmarks, and scientific guidance against which the Pebble Project is evaluated for impacts.

Climate change impacts and looking out for the entire probable life of the project need to be taken into consideration in the DEIS, and this has not been done.

The DEIS is deficient and unacceptable in that proposed changes to the definition of Waters of the United States (WOTUS), part of an ongoing process on the part of EPA and ACE, have not been considered in terms of how they will influence conclusions drawn and impacts forecast.

The DEIS is deficient and unacceptable because a tailings storage facility failure analysis, which would of necessity consider that failure of such facilities has a significant probability – witness the almost regular failure of tailings storage facilities around the world has not been done. Without such an analysis, environmental impacts cannot be correctly or fully evaluated. For example, over the life of the project, and beyond, when the closed tailings facilities will still be there, though the Canadian mining company(ies) will have long gone, it is unavoidable that this region will be stricken by a M8-M9 earthquake, or even several such earthquakes. The failure of these earthen human-created tailings (mining waste) disposal impoundments under such extreme earthquake loading is not only probable, it is likely. The Pebble Project developer has considered such an event – but only at a distance of 200 to 300 miles to the east (Anchorage Daily News, December 15, 2018). However, the September 19, 1985, Michoacan earthquake, demonstrated that a distant major seismic event can result in extreme shaking at great distance (Mexico City) and how soft soils, and mine tailings definitely fall into that category are especially vulnerable. Any final EIS needs to consider these seismic realities and phenomena, including the prospect of a much closer extreme seismic event, and the loading caused by aftershocks.

## **NTWC Support of United Tribes of Bristol Bay Comment Letters on DEIS**

During the 2019 comment period for Pebble Project DEIS, the Aleknagik Traditional Council, the Manokotak Village Council, the Mentasta Traditional Council, the New Koliganek Village Council, the New Stuyahok Traditional Council, the Portage Creek Village Council, and the Traditional Council of Togiak, all belonging to the United Tribes of Bristol Bay, submitted comments to the USACE. The NTWC shares the alarm and concerns identified in the seven letters and reiterates them, below.

As written, the DEIS fails to take the legally required "hard look" at the project's impacts to the human and natural environment in Bristol Bay. Gaps in the USACE analysis are so pervasive that it is difficult to even view this DEIS as a complete document.

The DEIS tries to confuse impacts to waters and salmon by couching impacts and losses in terms of percentages in relation to the entire Bristol Bay watershed, however, a quick review of the USACE's own materials shows the unprecedented and devastating impacts the proposed Pebble Mine would have on this pristine watershed and ecosystem. The Pebble Mine would result in the permanent loss of 81.1 miles of streams, permanent loss of 3,560 acres of wetlands and other waters, and dewatering of 448 acres of wetlands, among other things. Especially concerning for those tribes belonging to the United Tribes of Bristol Bay, the Pebble Mine footprint will result in the loss of 8.87 linear miles of essential fish habitat – further undercutting the sustainability of the region's keystone subsistence resources.

In 2014, the EPA determined that a mine such as Pebble, in such a critical location such as Bristol Bay's headwaters, would have unacceptable adverse effects on the Bristol Bay's salmon resources. Such impacts will in turn be felt by the region's indigenous people, who have sustained themselves on this salmon resource since time immemorial. The losses of habitat summarized above far exceed the restrictions in EPA's Proposed Determination and confirm EPA's conclusion that, at a size even smaller than currently proposed, the impacts from the Pebble Mine "on anadromous fish streams is unprecedented in the context of the CWA Section 404 regulatory program in Alaska."

The proposed Pebble Mine threatens devastating environmental consequences for Bristol Bay that will last in perpetuity. The DEIS fails to adequately address the long term impacts to Bristol Bay's tribal communities, their subsistence way of life, or to the natural resources that provide for that way of life. The DEIS fails to adequately address the long-term impacts to Bristol Bay's existing sustainable economy, jobs and tribal communities. As written, the DEIS cannot meaningfully or legitimately be utilized as the basis for the USACE's ultimate permitting decision for the proposed Pebble Mine.

These tribes of the United Tribes of Bristol Bay place a high priority on the protection of area watersheds' environmental health. It is unacceptable to put Bristol Bay and all its supports at risk. As currently written, the DEIS supports only one option for moving forward: the "No Action Alternative." The only legally defensible option for the USACE to choose is to halt further progress

on this project and develop a true, fully researched supplemental EIS. Any other path is an affront to the responsibility owed to Bristol Bay's tribal nations by the USACE.

### **Bristol Bay Native Association (BBNA) Comment Letter Excerpts on DEIS**

Additionally, during the 2019 comment period for Pebble Project DEIS, the Bristol Bay Native Association, a non-profit organization serving 31 federally-recognized tribes in the Bristol Bay region of southwest Alaska, submitted comments to the USACE. The NTWC shares the deeply-held concerns of the Association and restates them below.

*BBNA provided oral testimony during the April 9, 2019 Dillingham public comment period for the draft Environmental Impact Statement (DEIS) on the Pebble Project. During this meeting, the USACE received copies of six (6) BBNA resolutions regarding our opposition to the Pebble Mine project and large-scale sulfide mining within the Bristol Bay region. The people in the Bristol Bay region have been opposed to this mine for over a decade and our comments have not changed. Our position and the Bristol Bay resident's opposition reflect many years of analysis, not only to the alternatives outlined in this DEIS but to all mine scenarios. Our comments reflect our values and traditional knowledge in maintaining an intact ecosystem to protect our traditional lands with clean air, clean water and our natural renewable resources. The comments on the docket and those received during the public comment period referencing subsistence and our way of life are substantive.*

*The Pebble Project application should have never been accepted due to the deficiencies in the project plan. The applicant changed the plan multiple times after the scoping period. This constant changing has created confusion and questions regarding the mine plan. BBNA and multiple other organizations requested for a longer comment period and we were granted an additional 30 days, however the deadline of July 1, 2019 is in the heat of our subsistence and commercial fishing season.*

*The DEIS has neglected to consider our community wellbeing as it has been negatively impacted during this entire process. This has caused significant psycho-social impacts on our people by hindering our ability to continue to live our traditional way of life with the threat of Pebble mine. There is no reason the DEIS should not have included a thorough health impact assessment (HIA). An HIA would consider input from stakeholders to determine the potential effects of this project on those that will be disproportionately impacted: our communities. Not including an HIA is a disservice to our people and future generations that will bear the burden of the social and physical harm that this mine will cause, if built.*

*It is unacceptable to presume that a private road, a slurry pipeline, numerous industrial port complexes, an ice-breaking ferry, and a natural gas pipeline would not deter subsistence. Users from accessing public lands for subsistence hunting and fishing; or from accessing in holdings within the federal conservation units. Traditional patterns of food gathering balance and define our roles within ourselves, our families, and the region as a whole.*

*Changes to these patterns, and changes to the disposition of public lands and access managed by federal agencies has not been adequately assessed, and the rights provided to our residents by ANILCA. The NEPA process is incomplete until the Bureau of Land Management (BLM) becomes a cooperating agency. These steps are mandatory in providing for the public review and development of a public easement plan and ANILCA section 810 analysis being included in the process.*

*We cannot put a price on our way of life that has sustained our people for thousands of years. This is the last place on the planet with the world's largest sockeye salmon return. The USACE has received comments from numerous of reputable scientists that support our position. We are in support of the comments from the American Fisheries Society, and agree with the scientific review and publication of the EPA Watershed Analysis. The science matches our traditional knowledge. During the 2014 EPA public comment period, EPA received 1.6 million comments and concluded to permanently protect the Bristol Bay watershed.*

*In the many years of public participation The Pebble Limited Partnership (PLP) has failed to gain social license or prove a no-net-loss to the fishery. The DEIS has also failed to provide an acceptable alternative that would prove the merits of this project.*

*In conclusion, BBNA supports the No Action Alternative and the denial of the CWA 404 permit for the Pebble Project. Further, in light of an additional last minute change to the process, BBNA opposes the withdrawal of the EPA's Bristol Bay Watershed Assessment and looks forward to EPA issuing a final 404c determination to protect the waters that are the lifeblood of our way of life.*

### **American Fisheries Society Comments on DEIS**

During the DEIS comment period, the American Fisheries Society (AFS) reviewed the DEIS and determined that it fails to meet basic standards of scientific rigor in a region that clearly demands the highest level of scrutiny and thoroughness. AFS found that the DEIS is an inadequate assessment of the potential impacts of the project. Specifically, as described below, AFS commented that the DEIS is deficient because:

*1) impacts and risks to fish and their habitats are underestimated; (this includes not accounting for the very real possibility of a catastrophic mine tailings impoundment failure, not using the best available science regarding watershed and habitat connectivity, failure to consider impacts to fish as they relate to distinct populations and life history diversity)*

*2) many conclusions are not supported by the data or analysis provided; (conclusions of likely effects of temperature changes resulting from treated water discharges are not supported by the data and analysis provided, not adequately addressing the potential impacts from uncaptured mine waste water because it is unrealistic to assume that all mine-influenced water will be captured), and*

*3) critical information is missing (inaccessibility of relevant data for a project).*

The NTWC incorporates by reference the AFS comments and all AFS supporting documentation submitted as part of the DEIS commenting.

### **Wild Salmon Center Comments on DEIS**

The Wild Salmon Center reviewed the DEIS and highlights of their comments are as follows. The NTWC incorporates by reference the Center's comments and all supporting documentation.

*Bristol Bay is the largest sockeye salmon fishery left on earth. It not only supports communities throughout the Bristol Bay region but also 14,000 jobs and \$1.5 billion dollars in annual economic activity. It is an incredibly important wild food source recognized by people around the world and relied on by a diverse array of mammals, birds and fish. The Pebble Mine poses an unacceptable risk to this great fishery and all who depend on it.*

*We believe the Draft Environmental Impact Statement (DEIS) underestimates the true risk of the Pebble Mine to Bristol Bay fisheries, water quality, and the long-term health of the Bristol Bay salmon ecosystem.*

- *The Army Corps failed to properly disclose the real risks associated with the Pebble Mine project in the DEIS because it has limited the review of the project to impacts associated with an unrealistic 20-year mine plan.*
- *The DEIS fails to properly consider the direct, indirect, and cumulative effects of elevated water temperature on salmon species due to mining activities.*
- *The DEIS fails to take a hard look at the direct, indirect, and cumulative effects of elevated levels of selenium on fish and other biota due to mining activities and wastewater discharge to streams.*
- *The DEIS fails to take a hard look at the direct, indirect and cumulative effects of infrastructure, ferry crossings and other mining related activities to Iliamna Lake and Bristol Bay salmon diversity.*
- *The DEIS fails to take a hard look at post-mine closure impacts to the Bristol Bay salmon ecosystem.*

### **U.S. EPA Comments on DEIS – July 1, 2019, letter from EPA to ACE**

On July 1, 2019, Region 10 of the U.S. EPA submitted comments on the draft EIS to the ACE. The NTWC incorporates by reference the EPA comments and all supporting documentation submitted as part of the DEIS commenting, and highlights below important points raised by Region 10 staff in their comment letter to the Corps.



*The DEIS and supporting reference information acknowledge that key aspects of the Pebble Project are at a conceptual level (i.e., early or initial stage) of design and development. Critical but conceptually developed project components include: the open pit mine dewatering system; the dams retaining the mine's tailings and main water management pond; the collection, pumpback, and monitoring systems for managing seepage from the tailings storage facilities (TSFs) and main water management pond; and the closure water treatment plant. Critical plans that are yet to be developed or are only conceptually described in the DEIS include plans for: mine reclamation and closure; environmental monitoring; adaptive management; tailings and waste rock characterization and management; fugitive dust control; and strategic timing of water discharges.*

*More detailed versions of these project components and plans, however, are critical to the evaluation of environmental impacts, alternatives and mitigation. Without more detail, many of the predictions associated with these components and plans in the DEIS do not appear to be fully supported based on the current level of documentation. Given the scale of the project and importance of the aquatic resources in the Bristol Bay watershed, we recommend including more developed designs and plans in the EIS to provide a level of detail that will allow for more meaningful disclosure of the project's potential impacts and the effectiveness of its pollution control infrastructure and plans that are important for environmental protection and mitigation.*

#### *Range of Alternatives*

*The DEIS predicts that groundwater contamination would occur under the bulk TSF. We therefore recommend that the EIS include as an alternative, variant, or mitigation measure, the use of a liner under the bulk TSF (with appropriate overdrains to ensure stability). In addition, we recommend that the EIS discuss in detail an alternative or variant that includes the infrastructure elements that would be anticipated under the Pebble Mine Expanded Development Scenario (i.e., diesel pipeline, port site at Iniskin Bay). This would enable consideration of options that would avoid or minimize cumulative impacts that would occur as result of redundant infrastructure associated with expanded development.*

*The EPA recommends that these alternatives or variants be further analyzed in the NEPA analysis as they may be components for the least environmentally damaging practicable alternative (LEDPA) under Section 404 of the Clean Water Act. We recommend that the alternatives analysis provide the information necessary to support an evaluation of alternatives under the Clean Water Act Section 404(b)(1) Guidelines, including information to support identification of the LEDPA. This issue is further discussed in the EPA's separate comments to the Corps on the Clean Water Act Section 404 Public Notice.*

*Alternative 3 includes a port site variant that would include a water treatment plant at the port to treat and discharge process wastewater from the concentrate pipeline to Cook Inlet. The discharge of process wastewater alone as defined under this variant likely is not allowed under the Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) regulations (see 40 CFR 440 Subparts J and L). Therefore, we recommend that this variant be reconsidered.*

### Groundwater and Streamflow Impacts

*The DEIS relies on watershed, groundwater, and water balance models to predict how mine site activities will change groundwater conditions and impact surface water and aquatic resources. The uncertainty analysis for the groundwater model, however, concludes that the model may significantly under-predict the amount of water produced during mine pit dewatering. The DEIS discloses that this could result in the groundwater zone of influence being larger than predicted and North Fork Koktuli, South Fork Koktuli, Upper Talarik Creek, and tributary stream flows being reduced to a greater extent than is currently predicted in the DEIS. Significant adverse impacts to wetlands and to streams with documented anadromous fish occurrence may result from such stream flow reductions. We recommend that the groundwater model be revised to reduce this uncertainty and provide more accurate predictions associated with open pit dewatering. We have additional recommendations to verify the water balance model and clarify how uncertainties associated with the watershed model effect EIS predictions. We recommend that the EIS fully analyze the potential adverse impacts to groundwater, wetlands, and streams with documented anadromous fish occurrence based on the results of the revised modeling.*

### Water Quality Impacts

*The DEIS may substantially under predict potentially significant impacts to water quality. Our key comments are:*

- The DEIS provides inadequate support for several assumptions regarding the behavior of leachate and relies on very limited sample representativeness for prediction of acid rock drainage and metal leaching. This may result in unanticipated leaching of metals/metalloids at elevated concentrations;*
- The DEIS lacks critical details regarding the design and operation of the water treatment plants, particularly at closure. The DEIS reference material states that there is insufficient available information to evaluate the effectiveness of the closure water treatment plant to meet water quality criteria. This prevents meaningful analysis and disclosure of potential water quality impacts related to water treatment;*
- As a result of groundwater model uncertainty, the DEIS states that the water treatment plants may need to treat and discharge more mining process water than that for which the plants are currently designed. Significant impacts to water quality could occur if that is the case; and*
- Use of conceptual drainage and seepage containment systems for the TSFs and water management pond do not fully support the DEIS assumption that 100% of the seepage would be captured.*

*The EPA also recommends that the EIS include a data quality assessment for background water quality data, a modeling sensitivity analysis of the water quality modeling and inputs, a reasonably complete analysis of water quality impacts in the closure and post-closure phases, and monitoring and adaptive management plans.*

### Wetlands Impacts and Compensatory Mitigation

*The Pebble Project would result in the permanent loss of approximately 3,560 acres of jurisdictional wetlands and other aquatic resources, including 3,443 acres of wetlands, 55 acres of lakes and ponds, 81 miles (50 acres) of stream channels, and 11 acres of marine waters. An additional 510 acres of streams, wetlands, lakes, ponds, and marine waters would be temporarily filled for construction access, and 2,345 acres would experience secondary impacts due to groundwater drawdown (449 acres) and fugitive dust (1,896 acres). The DEIS, however, does not fully identify and characterize existing aquatic resources and wetland functions to establish the environmental baseline for an impact analysis and mitigation considerations because the analysis area is limited and salient available site-specific data is not utilized. In addition, the EPA recommends a more complete analysis of secondary/indirect effects, which is important to analyze project impacts and compare alternatives.*

*In terms of compensatory mitigation, the draft Compensatory Mitigation Plan includes only a conceptual discussion, notwithstanding the proposed project's substantial impacts to wetlands and aquatic resources. The plan also does not fully address the types of direct and indirect impacts to waters of the U.S. that may occur and does not identify specific mitigation projects. Therefore, the availability, practicability, and effectiveness of compensatory mitigation to offset unavoidable impacts is unsupported. To ensure disclosure of practicable means to mitigate the direct, indirect, and cumulative impacts of the Pebble Project, the EPA recommends the EIS include a reasonably detailed draft Compensatory Mitigation Plan. This recommendation is further discussed in the EPA's separate comments to the Corps on the CWA Section 404 Public Notice.*

### Impacts to Fish and Fish Habitat

*The impacts on ecologically important streams, wetlands, lakes, and ponds and the fishery areas they support should be more fully addressed in the EIS. The EPA recommends significant improvements to: habitat characterization, assessment, quantification, and spatial referencing; assessment of linkages between the loss and/or degradation of habitat and impacts to fish species and life stages (i.e., incubating eggs, spawning fish, and rearing juveniles); groundwater and surface water flow characterization at a scale that is more relevant to fish and fish habitat; and analysis of the potential population-level effects and effects on genetic diversity in the context of the Bristol Bay salmon portfolio. We recommend that the analysis in the DEIS be revised to address these issues.*

### Air Quality Impacts

*Priority issues associated with the air quality analysis include:*

- Particulate matter impacts from the mine site may be under-predicted in the EIS based on the modeling parameters used to predict impacts from the mine pit; and*
- Assumptions and potential errors in the air quality modeling assessment for the port facilities include lack of evaluation of substantial mobile emissions from vessel traffic, and differences in meteorological conditions at the Diamond Point port site as compared to the Amakdedori port site.*
- EPA's detailed comments provide recommendations to strengthen the air quality analysis.*

### Tailings Containment and Spill Risk

*The DEIS does not fully characterize the stability and performance of the dams containing tailings and contact water in the event of an earthquake. A deformation analysis and seismic safety factor were determined for a past design of the bulk TSF, but this analysis was not provided for the current TSF dam design or for the other dams. The TSFs and main water management pond dams are significant structures that range in height up to 545 feet with combined lengths of 7.2 miles (for the TSF dams) and 3.6 miles (for the WMP dams). We recommend seismic safety factors and potential earthquake induced stability impacts be assessed for these dams so that the EIS discloses how the dams will be impacted by a potential earthquake.*

*The DEIS, based on conclusions of a Failure Modes Effects Analysis (FMEA), does not evaluate the potential release of tailings from the bulk TSF due to a dam breach or failure. The FMEA risk register, referenced in the DEIS, identifies a number of adverse factors that could occur during engineering, construction, and operations, but assumes that all of these challenges would be overcome. Support for this determination is limited given the simplified conceptual dam designs, lack of operational, monitoring, and closure plans and lack of representative seismic analysis for the bulk TSF. We recommend that a bulk TSF breach or failure scenario be developed, and potential impacts be evaluated and disclosed.*

*In addition, the spill risk analysis for concentrate and tailings warrants improvement. The current analysis may under predict impacts of spills due to assumptions and incomplete information related to the role of oxygen in aquatic environments, timing for release of mineral components, and reactivity in pore water. We recommend revising the analysis to address these issues, so that potential adverse impacts to water and sediment quality from leaching of metals are fully disclosed, as well as any associated impacts on fish populations.*

### Indirect Effects and Cumulative Impacts

*The DEIS summarizes potential indirect effects and cumulative impacts in general terms, with limited quantitative analysis of large-scale additional impacts resulting from reasonably foreseeable future actions. We recommend a more robust evaluation of indirect impacts and cumulative effects, particularly in terms of the Pebble Mine Expanded Development Scenario.*

## **Conclusion**

The NTWC appreciates the opportunity to provide our comments and recommendations on the Pebble Project DEIS. As laid out above, there are numerous comments of our own and from others that identify terminal deficiencies in this DEIS and the corresponding process of its development.


Further, the Pebble Project is no ordinary project and Bristol Bay is no ordinary place. The salmon fishery is not ordinary and the tribes, their cultures, their economies, and subsistence ways of living are not at all ordinary. This project, if permitted, will have detrimental unacceptable impacts to local tribes, their cultures, and ways of life, including the salmon fishery, and salmon dependent economies. For tribes who have inhabited these lands since time immemorial, the current DEIS

process, which offers a pathway to permitting of such without their explicit and conditional approval, is in itself entirely unacceptable.

The NTWC supports the No Action Alternative and the denial of the CWA 404 permit for the Pebble Project.

We thank the ACE for an opportunity to comment on the DEIS.

Sincerely,

A handwritten signature in cursive script that reads "Ken Norton".

Ken Norton, Chairman  
National Tribal Water Council

Cc: Karen Gude, EPA Office of Water