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Phil North/R10/USEPA/US
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To Richard Parkin, Sheila Eckman, Dianne Soderlund
cc
bcc
Subject Fw: [POSSIBLE SPAM] Pebble Environmental Baseline Meeting

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"To protect your rivers, protect your mountains."
----- Forwarded by Phil North/R10/USEPA/US on 09/14/2012 11:02 AM -----

From: Clara Trefon [redacted]
To: Phil North/R10/USEPA/US@EPA
Date: 09/14/2012 09:47 AM
Subject: [POSSIBLE SPAM] Pebble Environmental Baseline Meeting

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Good Morning,
Attached is a letter sent to John Shively regarding the Pebble Baseline Study, please let me know that you received this. Thank you.

Clara Trefon, Tribal Administrator
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Nondalton Tribal Council
PO Box 49
Nondalton, AK 99640

July 25, 2012

John Shivley
Pebble Limited Partnership
3201 C Street, Suite 604
Anchorage, AK 99503

Dr. Mr. Shivley,

We are writing in regard to PLP's visit to Nondalton on March 14, 2012 to relay information from the Environmental Baseline Document chapters concerning hydrology, water quality, and fisheries data collected during 2004-2008. The meeting was well attended and generated a great deal of discussion (so much discussion, in fact, that water quality was never addressed). While we appreciate PLP's efforts to reach out to local communities, the meeting raised serious concerns amongst members of Nondalton Tribal Council (NTC) and the community at large, which are outlined below. The community of Nondalton attended your meeting and respectfully listened to the information provided. We now request that you respectfully consider and address our comments and concerns regarding those presentations.

First and foremost, we feel scheduling a three-hour meeting to relay more than 12,000 pages of information on hydrology, water quality and fisheries studies was insufficient to share and discuss even a small fraction of topics in PLP's 30,000 page Baseline document. Second, the technical manner in which information was presented hindered—rather than facilitated—public understanding and participation. Our interactions with other scientists serve to clarify technical information but this did not occur during the PLP meeting. Further, judging by the presentations provided by Hugh McCreadie and Mary Lou Keefe, no attempt was made by PLP or its consultants to include Local Ecological Knowledge (LEK), or indigenous science despite apparent shortcomings of the document, which would have benefited from local consultation.

As the closest community to the proposed Pebble mine, and thus the community most likely to be impacted by project development, we feel these oversights are inexcusable. Below we list more specific concerns raised during the March 14th meeting. Please address and respond to the following questions:

HYDROLOGY AND WATER QUALITY QUESTIONS/CONCERNS

1. Given the short period of time PLP has been in the area, they should consult with local communities regarding the history of high and low water/snow years. Under-calculating the amount of water has potential implications for water treatment and over-calculating the amount of water could underestimate the impacts to fish from water withdrawals.
2. After local input, an effort should be made to include data from extreme years with record snowfall (such as fall 2003, spring/summer 2012); it sounded as though consultants were

using data from 2005 to set the standard for a 'high water year,' but we do not think that is sufficient.

3. It was unclear how and why weather data from the Iliamna airport was applied to the research presented for the mine site. Please explain. Weather in those two locations can be very different, and PLP reportedly installed five weather stations on site. In fact, Mr. McCreadie stated that precipitation and snowfall vary by as much as two times between weather stations located at the Pebble site. Please provide a summary of monthly weather data from each station at the mine site with a map indicating the location of each station.
4. How was cross-basin transfer (or lack thereof) measured between the North Fork Koktuli River and Upper Talarik Creek? We know that during flood time the North Fork and Upper Talarik share headwaters. Did PLP document this information also? Where is this information in the EBD?
5. How was cross-basin transfer (or lack thereof) measured between North Fork Koktuli and the Chulitna Drainage to Lake Clark? Is this described in the EBD, and if so, where? It sounded as if actual flow measurements were made where water transfers from the South Fork Koktuli to the Upper Talarik, but assessments of other potential water transfers were done through modeling rather than actual measurements.
6. Was cross-basin groundwater transfer investigated from the South Fork Koktuli toward Iliamna Lake? We are very concerned about potential groundwater contamination from a mine moving toward Iliamna Lake.
7. Although you stated during the meeting that the EBD includes a map of perched and flow-through ponds from which you collected water quality and flow data, we have been unable to locate that information in the EBD. Although the surface hydrology section discusses these ponds, we cannot find a map that clearly labels puddles and flow through ponds. Where, specifically, can we find that information in the EBD?
8. How many lakes will be impacted (i.e., dry up) if the mine is developed? Is there a discussion and map of these lakes in the EBD?
9. We are concerned your consultants overemphasize the "ephemeral" nature of the "downwelling reach" of the South Fork Koktuli. Your data and ADFG data clearly show fish presence above and below that reach, and Mr. McCreadie indicated there were several years that area did not go dry.
10. From Mr. McCreadie's presentation, it appeared only one deep drill hole was examined for water chemistry. We believe further characterization is needed in order to adequately assess deep groundwater quality. Has additional deep drill hole data been collected? If so, we would be interested in seeing that information. If not, more water sampling should occur in deep holes. Where in the EBD can we find the deep hole groundwater quality data?
11. Why were there no monitoring wells on the lower reaches of the North Fork Koktuli or lower reaches of Upper Talarik, especially below the inter-basin transfer area?
12. Mr. Taylor stated that several metals (copper, zinc, nickel, and aluminum) naturally exceed water quality standards. Where exactly have these high levels been measured? How do you explain the presence of healthy and spawning fish with respect to this information? Will you be using this data to acquire site-specific water quality criteria that could further endanger fish populations? When you seek discharge permits, will you attempt to use the highest recorded concentration of metals as the legal discharge, and will you tailor it to specific seasons or attempt to get legal permission to discharge the highest recorded concentration year-round?

13. A map presented by Mr. McCreadie indicated downwelling occurs beneath the Pebble deposit and generally porous soils throughout the region facilitate groundwater/surface water exchange. In light of that, how will pollution be contained from the aquifer below if Pebble is developed? Do you plan to put a liner below the entire waste rock and tailings areas?
14. We would like to understand how much water will be extracted from rivers during mining operations, and where it will come from? Where will you extract water in the winter when surface waters are frozen? Do you have a map that shows what streams and tributaries will go dry, and how that is expected to change as the mine expands?
15. The presentation of the groundwater model was highly technical—even more so than other aspects of presentations. We would like a more concise and understandable explanation. Further, Mr. McCreadie indicated the model is less reliable ten miles downstream of the Pebble site. Given that downstream areas are of particular concern relative to our subsistence use, we would like more confidence that those areas are appropriately characterized.
16. Due to extensive questions and discussion, Mr. McCreadie ran out of time to discuss water quality. As this is of central importance to our subsistence resources, we would like to hear more about water quality studies (in a digestible format) in the future. We would like to know what the water looks like where healthy and spawning fish exist now, and how your data informs you about the way water quality – and aquatic species – could change. What are the risks, and how is your research informing plans to reduce risk?

FISH AND AQUATIC HABITAT QUESTIONS/CONCERNS

We believe PLP studies would greatly benefit from input from people who live in and use the area.

1. Ms. Keefe stated that streams are single threaded. In our experience, streams in the study area are complex with overflow regions, sloughs, beaver complexes and wetlands. Fish use all these areas.
2. Ms. Keefe stated that pool habitat is ideal for salmonid rearing, and that few pools and/or beavers are present in the Upper Talarik drainage. Our experience in the region counters this statement. You also indicated that beaver dams of a few feet high block fish from upper waters. This is not true as we see salmon and mountain trout and other fish above higher beaver dams.
3. See question 5 above. ADFG data as well as our own experience indicate that salmon spawn above what you refer to as the "dry reach" of South Fork Koktuli.
4. Data presented suggest that trout are not a major component of the Upper Talarik. This is not consistent with our experience.
5. Ms. Keefe stated that none of the "Pebble Beach" lakes are connected to Upper Talarik. Nondalton residents are aware not only of groundwater connections between the lakes and Upper Talarik, but rearing coho, large rainbow trout, and spawning sockeye in those lakes.
6. We are concerned about the exclusion of headwater and tributary habitat from your models, as we know it to be important rearing habitat for salmon and other species.
7. How many total salmon spawn in the North Fork Koktuli? The South Fork Koktuli? Upper Talarik Creek? We could not find this information in the EBD. Where is this information in the EBD?

8. It appears that consultants combined fisheries data from multiple capture/observation methods. Is this standard scientific method? This would not seem to produce comparable data. How did you calibrate different methods such that they were comparable?
9. Data presented was collected only on mainstems. Was tributary data collected?
10. Ms. Keefe discussed observations of pink salmon in Upper Talarik but stated they did not spawn or generally use the river. It was unclear to us how that was determined and we were unable to locate additional information in the EBD.
11. Exactly how was salmon escapement estimated to the study area rivers? It is critical to determine how many fish spawn in these streams prior to development.
12. In the North Fork Koktuli, it appears the majority of the salmon habitat is below the valley proposed for tailings storage, and that there is an upwelling area immediately downstream of the proposed tailings area. How will you prevent contamination leaking from tailings?
13. Regarding the PHABSIM model briefly discussed by Ms. Keefe, we are concerned about the exclusion of headwater and tributary habitat as it is known to be important rearing and spawning habitat for salmon and other species we use for subsistence.
14. Ms. Keefe stated that "only very high concentrations of copper hurt the salmon." Our understanding is that in waters as clean as these, it only takes an increase of a few parts per billion to change how salmon react.

GENERAL QUESTIONS/CONCERNS

1. We are concerned that PLP has not sought input with respect to a mine plan or inclusion of local ecological knowledge.
2. Some residents of Nondalton would like a tour of the mine site.
3. There are general and grave concerns about the methods and effectiveness of post-mining reclamation work, and distrust in the bonding process.
4. How will PLP mitigate or compensate for lost salmon production from the mine?
5. There are general and grave concerns about potential earthquake activity in the region. Mr. Taylor stated that is "not one of [PLP's] biggest concerns." We believe insufficient attention is being paid to this potentially catastrophic matter.
6. Mr. Taylor stated that flotation agents will be used on site. We would like to know both what those are (communicated in an understandable way), and their potential impacts to fish and other aquatic life if they are spilled.
7. Will PLP use cyanide?
8. What effort, if any, will be made to preserve historic trails that Nondalton residents and their ancestors have used? How will access across traditional-use land be changed?
9. What effort, if any, will be used to control dust generated by blasting and earth moving? Are potential impacts of dust being considered in the mine plan?
10. Our elders as well as Nondalton Tribal Council officially oppose Pebble Mine, and have a joint resolution stating so.

Nondalton Tribal Council feels strongly that PLP should return to Nondalton to address the significant environmental concerns of council members as well as residents regarding potential development of Pebble. The short presentation here was insufficient to our understanding of the studies PLP conducted. This is underscored by the fact that presentations of EBD information in Anchorage took 3 days. We are very interested in concise presentations showing how and where groundwater moves relative to Iliamna Lake, Kaskanak, and Chulitna. We are interested in

understanding how you determined total escapement and how many spawning salmon may be impacted by the mine. We are interested in understanding what the seismic risk is in the region and how exactly you determined it.

Because of our close proximity to the deposit and potential impacts from mine development to our way of life, we believe that Nondalton residents should have been included in the process of environmental baseline data collection (including local ecological knowledge), and our participation should be sought during development of the mine plan, as well as throughout the permitting process. As the closest village to the Pebble deposit, Nondalton should be included in the process of deciding whether to go forward with mine development.

Thank you for your consideration of these important matters. We look forward to receiving your response.

Sincerely,
Nondalton Tribal Council

William Evanoff

William Evanoff, President