



October 2012 | BBNC

PEBBLE WATCH

Impartial, educational, and fact-based content related to the development of Pebble mine

This issue of Pebble Watch focuses on upcoming science panels that will give the public a chance to hear what other scientists think about the Environmental Baseline Document that Pebble Limited Partnership (PLP) released in early 2012.

These panels are being facilitated by the Keystone Center and funded by PLP.

Update: Watershed assessment

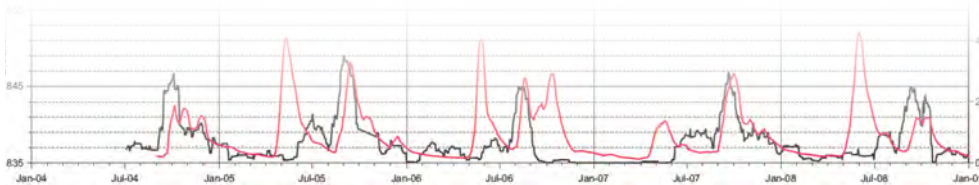
A report from the peer review team that evaluated the Environmental Protection Agency's draft Bristol Bay Watershed Assessment is expected to be released soon.

Readers should note that the EPA peer review process is not related to the Keystone science panel reviews of PLP's environmental baseline document.



Photo: Holly Torrison

evaluating THE SCIENCE



Pebble Limited Partnership (PLP) released its Environmental Baseline Document (EBD) in January, describing it as one of the most exhaustive baseline studies ever. At a cost of more than \$120 million, the document is an attempt to characterize the physical, biological and social environments in the Bristol Bay and Cook Inlet areas where the Pebble project would have an impact. This baseline data helps developers when creating a mine plan, and is a requirement for the permitting process.

PLP posted the entire EBD online and crafted a shorter overview with colorful photos and easy-to-read charts. However, for the general reader, a critical review of the EBD and its 20,000 pages of technical information likely isn't feasible. Industry documents such as the EBD are written for the permitting process and don't typically go through the peer review process common for academic scientific papers.

To help readers get a head start on asking critical questions about the EBD, Pebble Watch developed a series of fact sheets on scientific topics included in the document. Scientists funded by various organizations (including Bristol Bay Native Corporation) also began to review portions of the EBD to evaluate whether there are gaps or errors in data, and whether studies can be reproducible (a cornerstone of the scientific method).

Additionally, the nonprofit Keystone Center has organized a series of science panels to review and evaluate sections of the EBD. These will convene in

Anchorage in this month and will be open to the public for those who have previously registered (see details inside).

The Keystone Center, based in Boulder, Colo., was contracted by PLP in 2007 to conduct an "independent stakeholder assessment and dialogue feasibility study" on the Pebble project. According to Keystone senior associate Todd Bryan, the recommendation to hold science panels came out of the stakeholder assessment process. After interviewing 90 individuals in Southwest Alaska on their issues related to the proposed Pebble mine, Keystone recommended panels made up of credible scientists from "academic institutions, government agencies, and science-based non-governmental organizations in Alaska and the U.S."

Because the dialogue process is funded by PLP, environmental groups have called into question Keystone's independence. Bryan points out that Keystone has built a reputation for working on national environmental, energy and health policy issues using impartial, transparent methods. Current projects include forums on water quality, and dialogues on climate, recycling, and surface mining.

At the very least, Keystone's science panels will provide an opportunity for stakeholders to learn more about PLP's report, and to ask their own questions about the findings before PLP begins the official permitting process.

Image: PLP Environmental Baseline Document



KEYSTONE CENTER PANELS

October 2-4 • October 9-11 • UAA Consortium Library

Photo: Open hardware summit, via Flickr

The Keystone Center has organized science panels to help stakeholders review and understand science included in Pebble Limited Partnership's (PLP) Environmental Baseline Document (EBD).

Goal of the science panels

"The state and federal permitting process will be all about the baseline studies and evaluation of the mine plan," said Keystone Center's Todd Bryan. "What we're trying to do is help inform people about that process, not through adversarial spinning of information, but through objective, impartial science. Keystone recognizes this is probably the most important decision the region will make in several generations."

"We're not trying to influence anyone," Bryan said. "People are in a better position to make wise choices the more they understand about what's going on." Pebble Watch asked Bryan what decisions the general public is empowered to make after learning more about the science. He responded that regulatory agencies, the congressional delegation, and the governor listen to the public. "It's still a policy decision Alaskans have to make, not just a technical decision," said Bryan.

Panel content/organization

Each panel will last about a day and a half, beginning with presentations from Pebble Limited Partnership scientists about relevant EBD chapters. Panel members will then review and evaluate the chapters and take questions from participants (in person and by email). As preparation for the discussion, panelists will have reviewed specific EBD chapters and other relevant outside papers that were accepted by the Keystone. These include several reports from scientists

not affiliated with PLP, and relate to water quality, hydrology, geochemistry, seismic hazards, aquatic macroinvertebrates, fish habitat and distribution, and fish escapement studies. Keystone has made these reports available online so that the public can review them as well. Go to www.pebblewatch.com/links to find these reports (under the Keystone heading).

Independent panelists

Keystone took a number of measures to ensure independence, Bryan said, including consultations with the National Research Council on best practices. He said Keystone is following those guidelines.

Keystone has been working with a Science Advisory Panel for three years and considers the members to be in "the top of their fields." These scientists were tasked with finding independent panel members, and their connections have "helped tremendously," said Bryan. Panel members are not paid.

Keystone checked for potential conflicts of interest, ruling out scientists who had monetary ties to Pebble or advocacy groups, those employed by agencies that would be reviewing the baseline document during permitting, and those employed by stakeholder agencies. With such strict criteria, it's been a challenge to fill the panels. "It's hard to find scientists who will review thousands of pages of data and take the time to participate in the panels without being paid," said Bryan.

That's not to say the scientists don't have their own opinions. "Scientists aren't naturally objective," said Bryan. "But they need to be impartial. That's where the scientific method comes in. It's sort of a check and balance against your values and personal feelings getting too close or too involved in your science."

Public participation

Members of the public are encouraged to register to attend the sessions in person or through a live webcast. They will have the opportunity to ask questions, but Bryan emphasized that, "We're looking at pure science – not looking for public opinion." The panel will address questions that relate to the EBD, not the mine itself, since panelists have not reviewed a mine plan. Bryan gave examples of the types of questions that could be helpful: "Have you considered X or have you considered Y? For example, have they looked at existing cancer rates within the region? Do we really know how many fish are here? Do we really know enough about the seismology to take the next step to plan and monitor a mine?"

Panel recommendations

Bryan said the panel may result in specific recommendations if panelists find data gaps or discrepancies between Pebble's data and outside scientific reports. If so, it would be up to PLP to decide whether to respond to those recommendations.

Want more detail?

Find a Pebble Watch Q & A with Todd Bryan at www.pebblewatch.com.

DATA DILEMMA

The Pebble Limited Partnership's (PLP's) Environmental Baseline Document (EBD) is a large collection of data gathered over several years for permitting purposes. PLP describes the study as "a valuable legacy for the academic community, serving as a vast database of advanced science for the state of Alaska..."

However, PLP has not released data from the study in a format easy for others to review, and that has been a criticism. At a March 2012 science conference in Dillingham, then-PLP vice president of environment Ken Taylor said: "We have no plans at this time to distribute the information in an electronic form that can easily be manipulated. It's not a standard industry practice to release this information." Taylor said that data may become available as needed by regulators during the permitting process. Tim Troll, who works with the Bristol Bay Heritage Land Trust, said PLP's "unwillingness to share data raises doubt about its accuracy." Scientists maintain they need to be able to work with the data to verify how it was originally interpreted, or to run fresh analyses.

Responding to a criticism that the Environmental Protection Agency had not sufficiently considered PLP's data in its draft Bristol Bay Watershed Assessment, Region 10 Administrator Dennis McClerran also said the format was an issue for the agency. "Some Pebble data is not in a format to allow it to be manipulated. It does not allow us to break it down, or analyze it to use as good science."

A number of EBD critiques written by scientists independent of PLP echo that same complaint, and also report that some data is missing or omitted.

The Keystone Center's Todd Bryan explained that although PLP was willing to provide raw data to Keystone, it did not want the data available the public. In an effort to maintain a transparent process, Keystone refused to accept the data from PLP unless it was publicly available.

But how could reviewers critique an EBD provided in a locked PDF format that did not allow copying or pasting of information? Bryan said Keystone (and other scientists) cracked the password on the EBD and extracted data themselves. Additionally, some data were available only as images, which required the use of software that could convert images into text. This is the only way members of the Keystone science panels had access to data from specific tables needed to make their evaluations.

The issue of data sharing has been a hot topic in the science community in the last several years, as advances in technology have made it much easier to provide raw data in a usable format. Noted scientific journals such as *Nature* and *Science* have data-sharing policies that ask for data sets as a requirement for publication.

Pebble Watch says: The sharing of raw data may not be an industry standard, as Taylor stated, but it is more and more a standard in the scientific community: to provide checks and balances and to add to the body of scientific work for the public good. If the EBD is to be used as a "valuable legacy" for academics, PLP should make it available in a more flexible format.

Navigating the science with Pebble Watch

The Keystone science panels won't be the first time Pebble Watch readers hear about many of these topics. In 2010, the Pebble Watch program began providing summaries of environmental reports provided by PLP, and has continued to produce fact-based materials to help readers understand the complex environmental and permitting issues related to the development of the proposed Pebble mine. These materials are online at www.pebblewatch.com.

WHO ARE THE PANELISTS?

The following panelists are confirmed to serve on the Keystone Center science panels. For links to their biographies, visit www.pebblewatch.com/links.

Geology & Geochemistry

Tom Al – University of New Brunswick, Department of Earth Sciences

Steve McNutt – University of Alaska Fairbanks, Geophysical Institute

Jeremy Richards – University of Alberta, Department of Earth & Atmospheric Sciences

Chris Waythomas – Alaska Volcano Observatory/USGS

Hydrology & Water Quality

Larry Gough – USGS National Center

Tom Myers – Consultant, Hydrology & Water Resources

Katie Walton-Day – USGS Colorado Water Science Center

Fish, Wildlife & Habitat

Hal Geiger – St. Hubert Research Group

Stanley (Jeep) Rice – Auke Bay Laboratories, AFSC/NMFS/NOAA/DOC Ted Stevens Marine Research Institute

Charles (Si) Simenstad – University of Washington, School of Aquatic & Fishery Sciences

Mike Stone – Wyoming Game & Fish (retired)

Socioeconomic & Cultural Dimensions

Don Callaway – National Park Service (retired)

Steve Colt – University of Alaska Anchorage, Institute of Social & Economic Research

Sharman Haley – University of Alaska Anchorage, Institute of Social & Economic Research

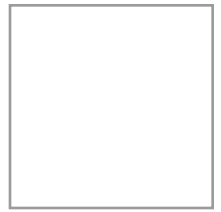
Josh Greenburg – University of Alaska Fairbanks, Department of Humans & the Environment

David Yesner – University of Alaska Anchorage, Department of Anthropology



PEBBLE WATCH

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In this issue: Evaluating the science: What is the Keystone dialogue process all about? • Keystone Center science panels: Discussing Pebble Limited Partnership's baseline data • Data dilemma • Who are the panelists?



"Like" Pebble Watch on Facebook for regular updates, visit www.pebblewatch.com for more in-depth stories, a calendar of relevant events, and links to helpful resources.

Pebble Watch is an impartial, educational and fact-based resource for sharing information about the proposed Pebble project. It is a program of the Bristol Bay Native Corporation Land Department. Questions? Call (800) 426-3602.

Upcoming Keystone Science Panels

Geology and Geochemistry

October 2, 8 a.m. - 5 p.m. • October 3, 8 a.m. - lunch

Hydrology and Water Quality

October 3, after lunch - 5 p.m. • October 4, 8 a.m. - 5 p.m.

Fish, Wildlife and Habitat

October 9, 8 a.m. - 5 p.m. • October 10, 8 a.m. - lunch

Socioeconomic and Cultural Dimensions

October 10, after lunch - 5 p.m. • October 11, 8 a.m. - 5 p.m.

Location

University of Alaska Anchorage
Consortium Library, Room 307
3211 Providence Drive, Anchorage

Parking

Hourly - Use "Pay and Park" machines
\$2/hour

Day Pass - Available for \$10 at the
Consortium Library Circulation Desk

Register to attend

Sign up at www.keystone.org/
ISPRegistration, or call (866) 276-3074.
(Space is limited.)

Can't be there?

Watch online live and submit questions
by email, or watch on public television
(KTOO). Visit www.pebblewatch.com for
a link to the webcast and for updates on
panel proceedings.

Panels focus on chapters from Pebble Limited Partnership's (PLP) Environmental Baseline Document and will limit discussion to the science of baseline data, rather than discussion of a mine plan or risk factors.

An additional science panel, to be held sometime in 2013, will focus on:

- a review of the mine plan, expected for release in early 2013
- discussion of whether participants and stakeholders believe the mine plan is workable and should move forward
- analysis of how well PLP incorporated responsible large-scale mining practices, principles, criteria and standards into its plan.