

**ALASKA STATE LEGISLATURE
HOUSE RESOURCES STANDING COMMITTEE**

March 25, 2019

1:02 p.m.

MEMBERS PRESENT

Representative John Lincoln, Co-Chair
Representative Geran Tarr, Co-Chair
Representative Grier Hopkins, Vice Chair
Representative Sara Hannan
Representative Ivy Spohnholz
Representative Chris Tuck
Representative Dave Talerico
Representative Sara Rasmussen

MEMBERS ABSENT

Representative George Rauscher

COMMITTEE CALENDAR

CONFIRMATION HEARING(S) :

Alaska Oil and Gas Conservation Commission

Jessie Chmielowski - Anchorage, Alaska

CONFIRMATION (S) ADVANCED

PRESENTATION(S) : PEBBLE PROJECT STATUS AND UPDATE

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

JESSIE CHMIELOWSKI, Appointee
Alaska Oil and Gas Conservation Commission
Department of Administration
Anchorage, Alaska

POSITION STATEMENT: Testified as appointee to the Alaska Oil and Gas Conservation Commission, Department of Administration.

TOM COLLIER, Chief Executive Officer
Pebble Limited Partnership
Anchorage, Alaska

POSITION STATEMENT: Co-provided a PowerPoint presentation entitled, "A Clear Path Forward."

JOHN SHIVELY, Chairman
Board of Directors
Pebble Limited Partnership
Anchorage, Alaska

POSITION STATEMENT: Co-provided a PowerPoint presentation entitled, "A Clear Path Forward."

JAMES FUEG, Vice President of Permitting
Pebble Limited Partnership
Anchorage, Alaska

POSITION STATEMENT: Co-Provided a PowerPoint presentation entitled, "A Clear Path Forward."

ACTION NARRATIVE

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CO-CHAIR JOHN LINCOLN called the House Resources Standing Committee meeting to order at 1:02 p.m. Representatives Hannan, Talerico, Spohnholz, Rasmussen, Hopkins, Tarr, Tuck, and Lincoln were present at the call to order.

CONFIRMATION HEARING(S): **Alaska Oil and Gas Conservation Commission**

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CO-CHAIR LINCOLN announced the first order of business would be a confirmation hearing for the appointee to the Alaska Oil and Gas Conservation Commission.

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JESSIE CHMIELOWSKI, Appointee, Alaska Oil and Gas Conservation Commission (AOGCC), informed the committee she wished to serve as the petroleum engineering commissioner for AOGCC in order to use her experience and skills to protect the public interest in Alaska's oil and gas resources. She said she has lived in Alaska for almost 20 years and has worked with AOGCC in her profession. Ms. Chmielowski gave a brief personal and educational history, noting the following qualifications: her

experience; she is a registered professional petroleum engineer with the state; she has nineteen years of work experience, with three years of work as an engineer on the North Slope in all facets of oil field operations; she has government regulatory experience as senior petroleum engineer with the Alaska office of the Bureau of Land Management (BLM), Department of the Interior, performing regulatory oversight functions; she has reviewed drilling permits and metering, unit agreements, and development obligations; she was the main point of contact at BLM pertaining to the ConocoPhillips Alaska, Inc. development in the National Petroleum Reserve-Alaska (NPR-A).

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REPRESENTATIVE RASMUSSEN asked if Ms. Chmielowski is aware of areas in the regulatory process that could be made more efficient for the oil and gas industry.

MS. CHMIELOWSKI was unsure; however, she suggested cooperative joint federal and state oversight may be one area of improvement.

CO-CHAIR TARR asked Ms. Chmielowski to discuss subsidence issues related to BP wells, her work at Milne Point, and bonding.

MS. CHMIELOWSKI recalled in the matter of BP well integrity, on 2/28/19, AOGCC released an order that required BP to undertake specific actions; the order remains under investigation, although she said she is well prepared to handle surface subsidence issues. Related to bonding on idle wells that are on state land, she advised if an operator is unable to shut in a well that has been closed for over one year, the state ends up with the obligation to plug the abandoned well. Therefore, AOGCC seeks to update its regulations to create a tiered system of bonding for operators across the North Slope, which would mitigate the state's potential liability should an operator claim bankruptcy.

CO-CHAIR TARR asked Ms. Chmielowski to elaborate on the "California proposal."

MS. CHMIELOWSKI explained another method to address state liability for shut-in wells entails AOGCC meeting annually with each operator to identify idle wells that are ready to be plugged and abandoned; a third option is enacting legislation to establish "predecessor liability," in which the state holds the

prior operator liable should the current operator claim bankruptcy.

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CO-CHAIR LINCOLN inquired as to other issues coming before AOGCC and the legislature.

MS. CHMIELOWSKI restated the top issues before AOGCC are: the idle and long-term shut-in wells; ensuring new and smaller operators - that are unfamiliar with state regulations and standards - follow regulations; new exploration activity workload for staff; unknown issues that arise.

CO-CHAIR LINCOLN asked whether permafrost problems are widespread on the North Slope.

MS. CHMIELOWSKI acknowledged the subsurface subsidence issue occurs across the North Slope including Prudhoe Bay, Milne, and Kuparuk; however, how the operators respond will vary due to differences in well construction. For example, the BP wells were completed with the outer surface casing anchored within the permafrost zone. She opined subsidence is an issue that would benefit from study by all of the industry on the North Slope because it is a regional problem.

CO-CHAIR LINCOLN surmised a taskforce on this issue would be organized by AOGCC.

MS. CHMIELOWSKI said AOGCC has suggested organizing a taskforce to hold a knowledge-sharing session.

CO-CHAIR LINCOLN questioned whether the aforementioned well designs were approved and permitted by AOGCC.

MS. CHMIELOWSKI advised the aforementioned wells were the earliest wells drilled at Prudhoe Bay and are no longer permitted under current regulations; in fact, there are 14 wells of a similar design and all have [shut-in] plans. In further response to Co-Chair Lincoln, she said she would provide a timeline for the completion of the identified wells; it will take at least through 2019.

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CO-CHAIR TARR asked Ms. Chmielowski to disclose any potential conflict of interest.

MS. CHMIELOWSKI responded AOGCC is an independent, quasi-judicial body and thus she disclosed she formally held BP stock and her husband works at Oil Search Limited.

REPRESENTATIVE HANNAN stated her support for Ms. Chmielowski's appointment. She noted AOGCC has a vacant position and asked whether AOGCC is functioning without a chair, or if the governor will appoint a chair.

MS. CHMIELOWSKI was unsure of the process or the timing [for the appointment of a chair].

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CO-CHAIR LINCOLN will inquire.

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REPRESENTATIVE HANNAN observed two commissioner positions are filled by petroleum engineering and geologist professionals and the third commissioner fills a public member seat. She asked whether AOGCC would face limitations in fulfilling its mission were the third position not filled.

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MS. CHMIELOWSKI expressed her understanding a quorum for the commission is two, thus AOGCC can function.

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CO-CHAIR LINCOLN opened public testimony; after ascertaining no one wished to testify, public testimony was closed.

CO-CHAIR TARR paraphrased from the following statement:

The House Resources Standing Committee has reviewed the qualifications of the governor's appointee, Jessie Chmielowski, to the Alaska Oil and Gas Conservation Commission, [Department of Administration] and recommends that the name be forwarded to a joint session for consideration. This does not reflect the intent by any of the members to vote for or against this individual during any future sessions for the purpose of confirmation.

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The committee took an at-ease from 1:18 p.m. to 1:21 p.m.

PRESENTATION(S): PEBBLE MINE STATUS AND UPDATE

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CO-CHAIR LINCOLN announced the final order of business would be an update on the Pebble Project related to its permitting status and the draft environmental impact statement (EIS) process.

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TOM COLLIER, Chief Executive Officer, Pebble Limited Partnership, gave brief professional background information. He said his career in permitting brings a perspective - broader than simply a mining perspective - of environmental protection and how natural resource development and environmental protection can go hand-in-hand. Further, principles learned from his earlier experience in government are: it is a false choice between development and environmental protection; development and environmental protection can coexist; hard and intense scientific analysis through the National Environmental Policy Act of 1969 (NEPA), EIS will determine how natural resource development and environmental protection coexist. Mr. Collier directed attention to a PowerPoint presentation entitled, "A Clear Path Forward," and informed the committee the importance of mining begins with a [positive] economic impact for the state, but mining is also essential for modern life and particularly for green technology: wind turbines, solar panels, and electric vehicles require enormous amount of copper; in fact, green transportation requires much more copper than other transportation options. Beginning in 2021, there will be a significant gap in the supply of copper; the base supply from existing mines will begin to decrease, demand will increase, and "Pebble fits right into that ... gap." Mr. Collier advised copper will be needed for green energy, and it can be sourced in the third world, where there are poor environmental protections, or it can be mined in Alaska, under the strictest environmental regimen found in the world (slides 1-8).

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MR. COLLIER said Pebble is a copper mine with other minerals including silver, gold, molybdenum, and rhenium, and is located on state land that was acquired by the state for its mineral

potential (slides 9-13). Slide 14 was a picture of the site of the Pebble deposit.

REPRESENTATIVE TUCK asked for more information on the land acquisition.

MR. COLLIER explained there was a three-way land trade with the state, Cook Inlet Region, Incorporated (CIRI), and the federal government to expand the boundary of Lake Clark National Park and Preserve. The state relinquished timberland to CIRI, CIRI relinquished land needed for Lake Clark National Park and Preserve, and the federal government relinquished land to the state that had mineral potential. He said the trade was recognized in federal statute; if the land is not developed the state will not benefit from the trade.

REPRESENTATIVE HANNAN asked when the trade occurred.

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JOHN SHIVELY, Chairman, Board of Directors, Pebble Limited Partnership, recalled the trade occurred in 1977, as part of agreements related to the Alaska National Interest Lands Conservation Act (ANILCA); CIRI traded land that became part of Lake Clark National Park and Preserve.

REPRESENTATIVE HANNAN surmised all of the land was part of the original Lake Clark National Park and Preserve proposal.

MR. SHIVELY clarified [the land] was part of ANILCA negotiations that went on for four years, "and this took place I think relatively early on during those negotiations as a way to sort of make Lake Clark National Park more complete."

REPRESENTATIVE TUCK questioned whether the land trade was an amendment to ANILCA.

MR. SHIVELY said, "It was approved as part of ANILCA."

MR. COLLIER further explained the Pebble Partnership worked from 2013-2014 to reassess and redesign the project in response to concerns about the project. The plan has the following changes: the project has a smaller footprint; a proposed 20-year mine plan; the footprint has been moved away from the Upper Talarik and Kvichak River systems; no cyanide will be used to recover gold; there will be no waste rock piles at closure; there are

enhanced environmental safeguards regarding water treatment and the tailings facilities (slide 15).

REPRESENTATIVE SPOHNHOLZ asked whether the smaller project is economic.

MR. COLLIER said yes.

REPRESENTATIVE SPOHNHOLZ expressed her understanding the present design of the project would leave a majority of the mineral resource in the ground.

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MR. COLLIER agreed. In further response to Representative Spohnholz, he said a decision to reduce the size of the project was in response to concerns by opponents that the project was too large. He remarked:

We tried to find the exact sweet spot where a mine could be built, including the infrastructure, that would be economically profitable, and yet one that would have the smallest footprint out in Bristol Bay as we could find, and we think we found that.

REPRESENTATIVE SPOHNHOLZ inquired as to how long it will take the proposed project to recover its capital investment.

MR. COLLIER explained the project moves into profitability within the 20-year course of the project.

REPRESENTATIVE SPOHNHOLZ asked, "What's the percentage of capital outlay versus the total ... gross revenue you'd expect to earn?"

MR. COLLIER was unable to comment on the specific financial aspects of the project because of the [National Instrument 43-101 for the Standards of Disclosure for Mineral Projects], which prevents Canadian mining companies from disclosing financial information about a project except under certain conditions; the project has completed internal analyses that cannot be disclosed.

REPRESENTATIVE HANNAN questioned how, after 20 years, with mineral resource still in the ground, "you're done with business, [and] Pebble shuts up and goes away, and that's the end."

MR. COLLIER acknowledged - with the amount of mineral resources that are known - a permit may be filed for an expansion of the project and more mining. However, Pebble Partnership seeks a permit for the project as proposed, and to build the project as proposed; later, if an expansion is proposed, permits would be required for the existing project and for the expansion.

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REPRESENTATIVE HANNAN said it is odd that a project that was described as a large 100-year gold mine is now described as a small 20-year copper mine.

MR. SHIVELY pointed out Pebble Partnership never intended to obtain a permit to mine the entire resources. When Anglo American was a partner in the project, the mine life was projected to be 20-25 years; although it was a bigger project, is not reasonable to permit for [100 years] because of changes in technology and regulations. Regarding leaving resources in the ground, he said that has always been an aspect of Pebble.

MR. COLLIER added in his experience, the aforementioned permitting plan is exactly the way the oil and gas industry "opens up" a new field, and he provided details. Further, he noted many mines in Alaska have been expanded by this process. He directed attention to slide 16, which illustrated the footprint that was analyzed by the U.S. Environmental Protection Agency (EPA) in its Bristol Bay watershed assessment. He said the footprint shows the current project is about one-fifth the size of the original project.

REPRESENTATIVE TUCK remarked:

... when you said that the Canadian statutes limits your ability to disclose information, how ... does that affect the operations on U.S. soil, on Alaska state land, ... that carries over - international orders?

MR. COLLIER clarified the aforementioned is a disclosure obligation: [Pebble Partnership] is not allowed to disclose certain information, and it does not affect the proposed operation of the project in the U.S.; operations on U.S. land are controlled by federal and state law. In further response to Representative Tuck, he remarked:

It's a disclosure obligation, and so we're out in the stock market, we're listed on the Canadian [Securities] Exchange and the New York Stock Exchange, we are controlled by both laws of both of those two federal entities in terms of disclosure, disclosing financial information only.

REPRESENTATIVE TUCK opined without knowing the project's expected return on investment, one cannot determine what the state's revenue will be from the project. He asked for the timeline for getting minerals to market.

MR. COLLIER related the current plan is that the project will take five years to build and an additional two years to obtain a permit, thus it will be six to seven years before minerals would be available to market.

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CO-CHAIR LINCOLN acknowledged there are standards for the public disclosure of "financials" and observed, typically, operators and developers provide financials at a certain point, for example, as a prefeasibility study. He asked whether the project is currently working on a prefeasibility study.

MR. COLLIER said the Pebble Partnership plans to publish financial data in a manner consistent with statutes.

CO-CHAIR LINCOLN remarked:

But in terms of the timeline of a typical mining project like this, would you normally have ... permitting before you did a pre-FEAS, or does a pre-FEAS normally come first ...?

MR. COLLIER agreed normally a project would have a prefeasibility study prior to permitting, but it is not unusual to not do so. In further response to Co-Chair Lincoln, he pointed out a prefeasibility study is not required to obtain permits.

CO-CHAIR TARR observed other projects have departed from a typical schedule and expressed concern that as a result, investors have been misled, because the project looks better economically, which may also influence those issuing permits.

MR. COLLIER disagreed, noting that the pertinent statute is designed to protect investors and has no impact on permitting; furthermore, it is not unusual for a mine to obtain a permit and subsequently make a final decision to advance the project.

CO-CHAIR TARR opined permitting could be influenced by public comment in support of a project because of its potential positive impact to economics and jobs, even though financial, cost-benefit analysis, and environmental information would be incomplete.

MR. COLLIER stated economic impact data is available on the project; however, certain financial data is constrained by reasons previously discussed.

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MR. SHIVELY pointed out almost \$800 million has been spent on the project; this investment would not have been made without some conviction of a positive economic outlook. Furthermore, the investment that has been made has garnered the information needed to advance the project to permitting.

CO-CHAIR TARR posited parties are looking at the investment in the project and questioning how a 20-year project will allow sufficient return on the investment that has been made. She suggested multiple phases of the project would be required to recover \$800 million.

MR. SHIVELY said the permitting process does not reflect whether a project is economic. He cautioned there is no guarantee the project will advance to [multiple phases]. Furthermore, some of the money spent by Anglo American does not need to be recovered as part of the economics of the project.

REPRESENTATIVE HOPKINS asked for elaboration of the footprint illustrated on slide 16.

MR. COLLIER explained the footprint is one of three alternatives considered by EPA within the Bristol Bay watershed analysis published in 2014. He remarked:

And at the time that they did that analysis, Pebble had not put a specific plan on the table, and so EPA looked at some of our earlier financial data and tried to determine what were the three alternatives that we might be considering taking forward, and this was one

of those alternatives. The one that I've shown here, the smaller one, is the one that we took into permitting.

REPRESENTATIVE HOPKINS said, "So, theoretically, the next four phases would look similar to the previous iteration, the previous slide."

MR. COLLIER said, "Perhaps. There are lots of different ways you can come at this project in terms of an underground mine, a larger pit mine, all kinds of things that could be future alternatives. This is something that ... we never proposed, but that EPA thought we might consider"

MR. COLLIER, in further response to Representative Hopkins, said the exact location of the ore is known [shown as a red circle on slide 16].

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REPRESENTATIVE HOPKINS asked for the location of mine infrastructure such as the mill, roads, and the [natural] gas pipeline.

MR. COLLIER said he would provide a map of the transportation corridor that includes a direct transportation corridor to Lake Iliamna, a ferry across the lake, another road to Cook Inlet, and a natural gas pipeline to the [ferry] port.

REPRESENTATIVE RASMUSSEN opined hypotheticals are irrelevant at this point in time and urged the committee to consider the information as it is currently presented.

MR. COLLIER continued, noting Pebble is an asset to Alaska that will bring thousands of jobs and hundreds of millions [of dollars] in tax revenue, and the debate is how to safely develop a mine in Bristol Bay without significant damage to fish (slides 17 and 18). For 12 years, developers have sought to ensure a safe process, and developers now have answers from the NEPA process, which must be followed to advance a project (slides 19-21). He explained the NEPA process is an independent, scientific analysis that requires approximately 60 categories of permits and is the right way to evaluate the project; further, the NEPA process is supported by an environmental organization (slides 22-24). As part of the NEPA process, a draft EIS was prepared by the U.S. Army Corps of Engineers (USACE) a major independent agency of the federal government (slides 25-27).

Slide 28 illustrated other agencies involved in the preparation of the draft EIS, including federal and state agencies.

CO-CHAIR TARR expressed her concern that the current federal administration has directed that all environmental impact statements must be completed in less than one year, which "sidesteps the scientific process." She opined the process is no longer independent and scientifically sound.

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MR. COLLIER said environmental impact statements issued by USACE are unaffected by the one-year timeline directed by the federal administration. He related in his professional experience, USACE is not an agency easily subject to political whims; he described in detail the rank and education of various USACE personnel. Mr. Collier stressed USACE approaches its work with rigor, and its work is subject to judicial review. In fact, the Pebble Partnership expects the record of decision and permit to be challenged in court as related to whether the process was thorough, scientific, and independent.

REPRESENTATIVE HANNAN asked whether the USACE EIS process allows for dissenting opinions to be included in its final report.

MR. COLLIER said all comments filed by federal and state agencies are part of the record.

REPRESENTATIVE HANNAN directed attention to slide 29 and asked whether the Tribal governments and councils listed have local government authority over lands that are affected by the current proposal.

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JAMES FUEG, Vice President of Permitting, Pebble Limited Partnership, said the land falls within the Lake and Peninsula Borough. In further response to Representative Hannan, he said Lake and Peninsula Borough is a cooperating agency that is participating in the development of the EIS, and which will issue a development permit before the project can proceed.

REPRESENTATIVE HANNAN advised in state permits, the permitting agency usually references dissenting views; she asked if dissenting views are attached or excluded in the EIS process.

MR. COLLIER said comments from agencies or governments with dissenting views are "made very clear in the comments they file in response to this draft EIS."

CO-CHAIR TARR characterized the Section 404 [of the Clean Water Act] issue as a political hot potato; she said there are reasons to believe politics can influence a permitting process.

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MR. COLLIER disagreed adding, in his experience as a federal regulator "at a pretty high level," he never knew USACE to be subjected to political influence. Mr. Collier returned attention to slide 29 which listed 35 Tribal governments that were contacted by USACE during the draft EIS process. Slide 30 illustrated the Pebble EIS schedule: application filed in December 2017; the scoping period began in April [2018] with the final draft EIS released in February [2019]; the public review process extends to [5/30/19]; the target date for the final EIS is early in 2020; a record of decision is expected mid-2020. To address questions about whether the [draft EIS] was rushed, he provided several examples of permitting periods for other projects such as the Point Thomson oil facility (slide 31). Slide 32 listed comment periods for several projects; he pointed out a 45-day public comment period is required by statute, and this project has a "quite a reasonable" public comment period of 90 days.

REPRESENTATIVE HANNAN returned attention to slide 32 and asked whether the Bristol Bay watershed assessment was related to Pebble project permitting.

MR. COLLIER said yes.

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MR. SHIVELY disagreed; he clarified at that time Pebble had not submitted an application for a project to any federal agency. He said the assessment was a process by EPA that was not part of a permitting process, but was a biased effort to stop the project and led to legal action.

MR. COLLIER agreed. In further response to Representative Hannan, he said EPA initiated the Bristol Bay watershed assessment.

REPRESENTATIVE HANNAN remarked:

So, the EPA can ... ask for an assessment to be done and they did, with the Bristol Bay, in response to probably 13 years of inquiries and discussions about Pebble.

MR. COLLIER opined EPA does not have the statutory authority to do so; in fact, a preliminary injunction to stop the report was issued. However, the case was settled thus the issue was never finally resolved by the court system. In further response to Representative Hannan, the injunction stopped EPA from making a decision to await litigation, which was ultimately settled, allowing Pebble to advance to the USACE permitting process.

REPRESENTATIVE HANNAN questioned whether the document was released.

MR. COLLIER said the document was published, followed by several public comment periods; this is the fifth public comment period held on the project, two of which were related to the EPA process.

REPRESENTATIVE HOPKINS asked for the length of the draft EIS.

MR. COLLIER said the draft EIS is approximately 1,600 pages.

There followed brief discussion related to the Donlin Gold mine project permitting process.

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REPRESENTATIVE HOPKINS observed the applicants and projects at Point Thomson are not similar to Donlin Gold or the Pebble Partnership project, based on their long-term impacts and reclamation projects.

MR. COLLIER pointed out the public comment period for the very controversial Arctic National Wildlife Refuge Coastal Plain Oil and Gas Leasing project is 45 days.

REPRESENTATIVE HOPKINS stated [the difference is] oil and gas projects are "pipes and rigs."

MR. COLLIER said the public comment period for Pebble is appropriate because most of the controversial issues are out of the project as follows: one-fifth the size of the original announcement; no cyanide; redesigned tailings facilities; no

waste rock. The major issue with a mine project is the quality and quantity of water affected by the project, therefore, the redesign removes all of the facilities from "the Upper Talarik" (slides 34-36). Slide 37 illustrated the current design; cyanide will not be used for gold recovery; all water affected by the mine will be captured, treated, and strategically released to optimize fish habitat, for example, at time necessary for salmon to spawn (slides 37-39). Slide 40 illustrated two water treatment plants, water storage, and water release points.

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REPRESENTATIVE TUCK returned attention to slide 37 and asked for the diameter of the open [ore pit shown in orange].

MR. FUEG said approximately one mile by one mile.

REPRESENTATIVE TUCK observed the redesign eliminated waste rock piles and questioned what concerns are raised by waste rock.

MR. COLLIER explained waste rock piles increase the impact of the mine site to wetlands; the intent is to reduce the footprint on the site by eliminating waste rock piles.

REPRESENTATIVE TUCK asked how the project will dispose of waste rock.

MR. COLLIER said the mine is designed for the lowest strip ratio possible for 20 years, thus there is not much waste, and the waste will be treated as potentially acid-generating rock (PAG) tailings instead of stored separately as waste rock.

[Mr. Collier pointed out the main water management pond and other aspects of the mine shown on slide 37 are also shown on slide 40 larger and in grey with blue arrows.]

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MR. FUEG, in response to Representative Hopkins, explained the project mines little waste rock thus waste rock cannot be used to build the infrastructure. So, during construction, rock will be quarried for building materials, and the quarries are shown in brown on slide 37.

REPRESENTATIVE HOPKINS asked whether the quarried rock would be used for the tailings pond.

MR. FUEG said the tailings dams would be built from the quarried rock.

MR. COLLIER stated one conclusion of the draft EIS is to have a management plan to discharge water into three nearby streams to benefit fish habitat; there will be no downstream impacts from the pit in post closure at reclamation (slides 41 and 42).

REPRESENTATIVE TUCK surmised the main water management pond would be created to collect water that normally courses in three streams, and then the water would have to be discharged.

MR. COLLIER said the facility would be built to handle extreme precipitation thus normally [water storage] would not be needed except in a year with too much rain. He added that all water in contact with the site must be treated.

REPRESENTATIVE TALERICO returned to slide 40 which illustrated settlement ponds and treatment plants, and asked whether the blue arrows indicated the project has the capacity to recirculate water prior to discharge.

MR. FUEG explained the primary purpose of the [main water management pond shown on slides 37 and 40] is to store excess water, although water can be recirculated. Recent tailings dam failures are associated with too much water building up in the tailings facility; the pond is there to store excess water, so it does not have to be stored in the tailings facility. After storage, the water is treated to meet all the water quality standards prior to discharge. He pointed out the applicants have 75 years of precipitation data from the region and have included allowances for multiple years of wet or dry weather.

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MR. COLLIER, in response to Representative Hannan, said the streams affected are Upper Talarik Creek, North Fork Kuktuli River, and South Fork Kuktuli River.

REPRESENTATIVE HANNAN asked how discharging water would benefit fish habitat.

MR. COLLIER explained many streams near the mine site do not have an annual flow, and "what we can do is bring back annual flow to the streams."

REPRESENTATIVE HANNAN remarked:

... if they don't have flow, then they are unlikely to have salmon that spawn in them because, naturally, salmon don't go to streams that don't have flow that could hold their spawn, at least in the case of sockeye.

MR. COLLIER suggested creating annual flow is a benefit to habitat.

REPRESENTATIVE HANNAN advised the only method of introducing salmon stock is salmon enhancement via hatcheries and asked whether there is a plan to do so.

MR. COLLIER restated the habitat would be enhanced to create more options for salmon to spawn. Mr. Collier turned attention to tailings and said the tailings facilities are designed for maximum safety (slides 45-47). Slide 48 illustrated a bulk tailings facility with a minimum amount of water, which drains into a containment pond and an embankment [with a slide ratio of] 2:1, with buttresses. The design, construction, and operation of the facility would be certified by the Alaska Dam Safety Program, Division of Mining, Land and Water, DNR (slide 49).

REPRESENTATIVE SPOHNHOLZ inquired as to the importance of the embankment 2:1 ratio.

MR. COLLIER explained the ratio is a height to width ratio and "the better that ratio is the ... less likely it is that you'll have a failure of the facility." In further response to Representative Spohnholz, he gestured to indicate the slope of the embankment.

REPRESENTATIVE HANNAN returned attention to slide 37 and asked how deep the bedrock is beneath the mine site and for the relative location of the tailings dam.

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MR. FUEG described the dam as a valley with the dam across the end. The rendering [on slide 48] shows the component of the dam wall. The depth of the bedrock is not constant and varies from zero to over 50 feet. Overburden will be thickest at the center of the valley; all of the overburden will be excavated prior to placement of rock on "competent" bedrock.

REPRESENTATIVE HANNAN restated her question as to the location of the tailings dam.

MR. FUEG said one embankment is on the north side and one is on the south, shown [in purple] "in a relatively straight area right at the bottom that is the south embankment, and then there is a straight area and that would be the north embankment, the bigger one we showed the rendering of." In response to Representative Tuck, he said the tallest point would be on the north end.

MR. FUEG, in response to Representative Spohnholz, said the blue lines are the boundaries of the watersheds and the primary rivers in the watersheds are lighter blue and labeled (slide 37).

CO-CHAIR TARR asked for the expected life of the storage facility.

MR. FUEG responded both of the tailings facilities are designed for a 20-year life.

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MR. COLLIER continued to pyritic tailings storage that holds PAG tailings. By separating the facilities, the PAG storage facility is smaller and fully lined; at closure, the pyritic tailings will be returned to the mine pit and covered with water to prevent contact with oxygen. He opined the closure plan is a significant environmental enhancement over the previous plan (slides 50-54).

CO-CHAIR TARR asked whether the design of the pyritic tailings dam is specific to conditions in Alaska, such as at the [Hecla Mining Company Greens Creek mine located in Southeast Alaska].

MR. FUEG advised Greens Creek mine uses a dry stack facility. Separating bulk and pyritic tailings is planned in order to address Alaska conditions, such as a lot of water during operations and mine closure. The design will keep bulk tailings in a desired dry state; however, the pyritic tailings are covered with water and lined to prevent contact with ground water. At closure, the pyritic tailings will be put into the mine pit 2,000 feet down in a gravity well that cannot fail, and covered with a pit lake.

REPRESENTATIVE HANNAN asked for the depth of water needed to prevent oxidization.

[2:36:29 PM](#)

MR. FUEG said as little as a few feet.

REPRESENTATIVE HANNAN inquired as to the effect of the oxygen that is found in water, and the problem caused should the water drain away.

MR. FUEG said the [atmospheric] condition everywhere in Alaska and at the mine site is a net positive rainfall.

REPRESENTATIVE HANNAN questioned the effect of climate change to the amount of rainfall in Alaska and whether the risk of acidification remains in perpetuity.

MR. FUEG said "models" for the project indicate an increase in rainfall; importantly, the [location of the tailings] will be below the ground water level.

REPRESENTATIVE HANNAN restated her question as to the perpetuity of acidification.

MR. COLLIER said the tailings must be covered with water in perpetuity.

CO-CHAIR TARR observed Greens Creek mine uses a liner beneath its bulk tailings facility but the Pebble project does not.

MR. FUEG stated using a liner prevents drainage and the project seeks a free-draining facility to prevent the risk of a tailings dam failure.

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MR. COLLIER directed attention to slide 54 which illustrated the pit lake. He said according to the draft EIS, catastrophic failure of the tailings facilities is extremely unlikely and there are no population impacts to fish from the evaluated tailings release scenarios (slide 53-56). Turning to supporting salmon, Mr. Collier said Pebble has completed more than a decade of environmental studies, at a cost of over \$150 million, on wetlands, groundwater, surface hydrology, migration patterns, fish habitat and more (slides 57-60). The sockeye escapement in the mine area is small: 0.08 percent of the South Fork Koktuli

River and North Fork Kaktuli River drainages escapement to Bristol Bay.

REPRESENTATIVE HOPKINS returned attention to slide 60 and expressed his understanding the affected groundwater table is at the surface of the ground; therefore, water would need to be constantly pumped out of the pit.

MR. FUEG acknowledged there are isolated areas where the groundwater comes to the surface, and other areas where the groundwater is deeper. Like other mines, the project will have to dewater by drilling wells around and in the pit, which is then treated to water quality standards and discharged into the rivers.

REPRESENTATIVE HOPKINS surmised the project will need to empty the water table surrounding the mine.

MR. FUEG assured the committee the project has drilling and modeling to assess changing water levels.

MR. COLLIER read from slides 64-72. He stated a significant finding of the draft EIS is that - following 12 years of debate - Pebble will not harm the Bristol Bay fishery. He read from slides 72-75.

[2:45:18 PM](#)

MR. SHIVELY gave a history of his professional experience with the Red Dog mine project. He said [the Pebble project] would benefit the economy and the culture of the region when opportunities come to local residents; in fact, he has seen lives changed and benefits will be statewide (slides 76-78). In the region, the project will increase the Lake and Peninsula Borough budget by two or three times for the benefit of local education. State revenue will depend on the value of the minerals extracted and the mining industry more than pays for itself; further, mining industry tax revenue is third behind oil and gas tax revenue and insurance tax revenue (slides 79 and 80). There is also the benefit of 750-1,000 direct jobs, with an average mining wage of \$100,000 or more (slides 82-83). Mr. Shively noted the draft EIS indicated the project will benefit small communities by providing a transportation system and lower cost power with minimal impact to subsistence resources and no impact to the abundance of resources (slides 84-85). The draft EIS also noted there will be substantial benefits to the overall health of the region and the state due to funds spent by the

project on support services, including benefits to nonprofits (slide 86).

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REPRESENTATIVE RASMUSSEN has heard from her constituents that there is "a declining quality of life in the village." She asked for Pebble Partnership Ltd.'s view on local hiring.

MR. SHIVELY related Cominco and Teck, owners of the Red Dog mine, are Canadian companies and have made a commitment for local hire.

CO-CHAIR TARR pointed out the state does not have credits or incentives [against] mining taxes; however, the state has a three-year tax holiday for mines, thus once a mine is operational, it has three years for cost recovery before any revenue is due to the state, although Lake and Peninsula Borough may collect local revenue at the outset.

MR. SHIVELY stressed the project has helped the [Lake and Peninsula Borough] deal with current impacts; in addition, the project may negotiate a payment in lieu of taxes (PILT) in a manner similar to the Red Dog mine. He pointed out there is no tax holiday for corporate income tax or royalties.

REPRESENTATIVE SPOHNHOLZ asked for detailed information related to the local hire provision.

MR. SHIVELY advised the project has an outline for a workforce development plan; at the Red Dog mine, job training began during the construction phase. He recalled former partners in the project supported educational programs and provided scholarships.

REPRESENTATIVE TUCK asked whether the projected revenue to the Lake and Peninsula Borough is based upon the redesigned project.

MR. SHIVELY indicated yes.

REPRESENTATIVE HOPKINS asked whether there has been support or opposition from local governments and villages.

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MR. SHIVELY said support and opposition is varied. The strongest support comes from those closest to the project due to

the economic benefits garnered during the exploration programs. He acknowledged there is a majority of opposition in the region; however, he recalled last year 150 elders attended a conference and no one expressed a negative comment. The elders have two top priorities: protect subsistence resources and ensure villages survive.

REPRESENTATIVE HOPKINS asked whether any of the governments closest to the project have taken an official or unofficial stance in support of the project.

MR. SHIVELY opined the applicants have not sought support prior to this time.

MR. COLLIER stated the draft EIS indicates a clear path forward and revealed: Alaska's resource projects coexist with fishing; Pebble will use industry's best practices; benefits include increased revenue, employment, and education; there will be no downstream impacts from the pit post closure; there will be no long-term change to the health of the Bristol Bay and Cook Inlet fisheries; Alaska knows how to develop its resources responsibly. He concluded the project is the right mine for the right time (slides 87-96).

REPRESENTATIVE HANNAN expressed her support for a state income tax and asked if Mr. Collier is a resident who would pay a state income tax.

MR. COLLIER said he has been an Alaska resident for six years.

MR. SHIVELY spoke in support of a personal income tax.

REPRESENTATIVE HANNAN asked whether Pebble corporate officers are residents of Alaska.

MR. COLLIER said of seven or eight officers, one is not a resident.

REPRESENTATIVE TUCK inquired as to whether the project would be expanded.

MR. COLLIER said there are no plans for expansion of the 20-year project.

[3:02:11 PM](#)

ADJOURNMENT

The House Resources Standing Committee meeting was recessed at [3:02] p.m. to be reconvened on 3/25/19 at 6:30 p.m. The meeting was reconvened and adjourned on 3/25/19 at 6:30 p.m.