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LEGAL SERVICES

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MEMORANDUM

September 21, 2007

SUBJECT: CSHB 134(), draft version "M": Could the measure be found to violate article VIII, section 13 of the Alaska Constitution (Work Order 25-LS0381\M)

TO: Representative Bryce Edgmon

FROM: Jack Chenoweth
Assistant Revisor

QUESTION ASKED:

Adam Berg has requested our view as to whether sec. 2, CSHB 134(), draft version "M," the principal operative provision of the committee substitute version of the legislation identified as "An Act relating to conservation and protection of wild salmon production in drainages affecting the Bristol Bay Fisheries Reserve," could be found unconstitutional as violative of article VIII, section 13 of the Alaska Constitution.¹ The assertion that the measure's principal operative provision may be found to violate the constitutional provision arises out of the March 2 testimony to the House Special Fisheries Committee by then-Acting Director Dick Mylius of the Division of Mining, Land, and Water:

The water rights program that [the] D[e]partment of] N[atural] R[esources] administers is based on specific guidelines established in Article VIII of the [State] Constitution. There are serious questions of whether the proposed action to outrightly prohibit most appropriation, use or management of water resources violates Article VIII of the Constitution, particularly Section 13. . . .

The section cited by the director in his testimony provides:

¹ Section 2 of the bill draft would, in effect, preclude, with specific, albeit limited, exceptions, withdrawal, obstruction, diversion, or similar claims on the surface or subsurface water from the drainages of the Kvichak, Naknek, Egegik, and Ugashik Rivers, an area estimated to cover some 19 million acres, of which roughly half is state-owned. It does otherwise not make any withdrawals of adjacent land or interests in land from the state public domain.

Water Rights. All surface and subsurface waters reserved to the people for common use, except mineral and medicinal waters, are subject to appropriation. Priority of appropriation shall give prior right. Except for public water supply, an appropriation of water shall be limited to stated purposes and subject to preferences among beneficial uses, concurrent or otherwise, as prescribed by law, and to the general reservation of fish and wildlife.

Director Mylius's testimony questions whether the language of article VIII, section 13, effectively authorizing appropriation of water based on priority of claim, precludes the legislature from setting strict limits on application of the appropriation doctrine in only these four watersheds.²

SHORT ANSWER:

Because, so far as I am able to determine, the question raised by Director Mylius has not been considered by the courts of this state in any more than a passing manner, I cannot now provide you a definitive answer. However, based on research undertaken during the limited time you provided to evaluate this matter, in my judgment it is more likely than not that legislative approval of a measure substantially similar to HB 134 as introduced or as modified in the draft committee substitute -- that is, in a form that circumscribes or eliminates application of the doctrine of prior appropriation of water as to a select set of river drainages -- would be held by the courts of this state to be an infringement on the availability of water rights that is inconsistent with article VIII, section 3, and therefore unconstitutional. The legislation might be upheld against a successful constitutional challenge if the courts eventually determine that the "general reservation" clause of the

² Apparently, this is our second shot at this matter. Our files indicate that we delivered to you the original, or "A," version of the measure eventually introduced as House Bill 134 together with a memo in which there was a passing mention of the relationship between the provisions of the bill draft and the constitutional provision cited. In his January 19 memo, Legislative Counsel Brian Kane wrote, with reference to article VIII, section 13, after quoting the section's text:

Any time water rights, or the ability to withdraw water, are involved, it is useful to keep this section [article VIII, section 13] of the [state] constitution in mind. This bill draft expands the protection already given to the Bristol Bay area by stating that the flow of the water cannot be affected in this area. I do not see this as conflicting with the above constitutional section, but I did want you to be aware that there is a constitutional provision involving water rights.

On review, the differences in text between the "A" draft, the version of the bill as introduced, and the draft committee substitute are immaterial to the discussion in this memo.

section's last sentence has independent authority, but I cannot find that an Alaska court has as yet made that determination.

DISCUSSION:

Specifically citing article VIII, section 13, as the source of authority for the appropriation doctrine, in one case in which the Alaska Supreme Court has spoken, it has summarized the process of appropriation of the state's water resources thusly:

Free flowing waters in Alaska are subject to the appropriation doctrine: water may only be taken, or appropriated, from a stream with permission from the State, but the first person to apply has first priority to the volume of water requested. . . . After successfully appropriating a specific amount of water, the appropriator is entitled to a water right, a full and permanent property right in that quantity of water.

Tulkisarmute Native Community Council v. Heinze, 898 P.2d 935, 940 - 941 (Alaska 1995).³ I have no reason to believe that the stream flows in each of the four rivers

³ The appropriation doctrine set out in the constitutional section cited in the testimony is implemented by AS 46.15, the Alaska Water Use Act. The court has summarized the chapter's effect as follows:

The Alaska Water Use Act, AS 46.15.010 - [46.15].270, governs the appropriation and distribution of water rights in Alaska. *Doyle v. Peabody*, 781 P.2d 957, 960 (Alaska 1989). DNR's regulations elaborate on the statutory requirements. A person must file an application with DNR to obtain a water right. 11 AAC 93.040 (1994). The applicant must provide information such as the specific use proposed for the water, when, where and how much water will be taken and discharged, the maximum amount to be used, and descriptions of any impoundment structures to be used. 11 AAC 93.040(c). After providing notice and an opportunity for others to file objections, DNR will issue a permit to appropriate water if issuance meets the requirements of AS 46.15.080. AS 46.15.133; 11 AAC 93.080-110. DNR may place conditions on the permit which "protect the public interest," by ensuring that a quantity of water will be maintained in the stream and that proposed structures for taking the water are adequate. 11 AAC 93.120(e); AS 46.15.100.

The permit enables the permittee to construct any necessary works and to begin using the water so that he or she can qualify for a certificate of appropriation. See AS 46.15.110 ("A permit may place a time limit for beginning construction and perfecting appropriation."); AS 46.15.120 ("Upon completion of construction of the works and commencement of use of water, the permit holder shall notify the commissioner that the appropriator has perfected the appropriation.").

identified in the bill aren't now "free flowing waters." The language of the section's first sentence prescribes the legal basis for allocation of water use in this state. Given that its language is comprehensive ("All surface and subsurface waters . . .") and specifies within itself the only explicit subject matter exceptions to it ("except mineral and medicinal waters"), the court's decision in *Tulkisarmute*, in my judgment, strongly infers the court's view that the language of the section is unequivocal and that the operation of the appropriatory rights principle it establishes may not, as to select river drainages that are free flowing waters, be substantially cut off by the legislature by statute.⁴

Once the permittee has demonstrated that "the means necessary for the taking of water have been developed and the permit holder is beneficially using the quantity of water to be certificated," he or she will receive a certificate of appropriation of water. 11 AAC 93.130(a)(1); AS 46.15.120. This provides the holder with a full and permanent property right in that quantity of water. The right attaches as of the date of application. . . .

Tulkisarmute Native Community Council, 898 P.2d at 941 - 942. Moreover, because the state constitutional provision doesn't specify with precision how an appropriation is to be accomplished, under the broad language of the constitutional provision, the legislature may consider innovative alternatives, and has done so in its 1980 legislation authorizing reservation of in-stream flow (sec. 7, ch. 84, SLA 1980, adding AS 46.15.145). Under AS 46.15.145(a):

(a) The state, an agency or a political subdivision of the state, an agency of the United States or a person may apply to the commissioner to reserve sufficient water to maintain a specified instream flow or level of water at a specified point on a stream or body of water, or in a specified part of a stream, throughout a year or for specified times, for

- (1) protection of fish and wildlife habitat, migration, and propagation;
- (2) recreation and park purposes;
- (3) navigation and transportation purposes; and
- (4) sanitary and water quality purposes.

⁴ My research disclosed a limited degree of support for this outcome in one court judgment in another jurisdiction whose underlying constitutional provision is not dissimilar to Alaska's. In an early decision, *Larimer County Reservoir Company v. People ex rel. Luthe*, 9 P. 794 (Colo. 1885), the Colorado Supreme Court, considering that state constitution's provision, article XVI, section 6, that read in relevant part:

The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied. Priority of appropriation shall give the better right as between those using the water for the same purpose;

A quick review of the history of this article of the state constitution also indicates the broad application intended to be given the first sentence of section 13.

The language of the corresponding section in the draft reported to the constitutional convention, draft 8A (January 16, 1956), stated that

All waters reserved to the people for common use shall be subject to appropriation. Priority of appropriation shall give prior right. An appropriation of water, except for public water supply, shall be limited to stated purposes and subject to preferences of beneficial uses, concurrent or otherwise, as prescribed by the Legislature, and to the general reservation of fish and wild life.

A related Resources Committee commentary on this text said:

This section provides for the prior appropriation system of water rights generally used in the western states and in Alaska. . . . [T]he concept of appropriation involves filing an application for state quantities of water for stated uses at specific locations. The preservation of a prior appropriation right to water requires continued beneficial use. Concurrent use is recognized to assure maximum utilization. . . . Appropriations are subject to the general reservation of fish and wildlife provided [elsewhere in the proposed article] so that reservoirs shall not exclude fish and wildlife remaining in natural states from coming under the provision of their general reservation to the people.

concluded as follows:

. . . While [under the language of the Colorado constitutional provision] *the legislature cannot prohibit the appropriation or diversion of unappropriated water, for useful purposes, from natural streams upon the public domain*, that body has the power to regulate the manner of effecting such appropriation or diversion. It may, by reasonable and constitutional legislation, designate how the water shall be turned from the stream, or how it shall be stored and preserved. . . .

9 P. at 797 (emphasis added). At a much later date, the Colorado Supreme Court criticized this constitutional provision as establishing "*minimal state control over appropriation of water.*" *People v. Emmert*, 597 P.2d 1025, 1028 at note 2 (Colo. 1979) (emphasis added).

The constitutions of Idaho, Nebraska, and Wyoming also expressly preclude denials of water appropriations in language substantially similar to the Colorado provision but go a step further in that each also adds language to the effect "except when such denial is demanded by the public interest."

Preference among beneficial uses is a basic provision found in the resources codes and constitutions of several of the Western States. . . .

Resources Committee report, pp. 7 and 8.

I was asked to separately address whether the last clause of the third sentence of section 13, the language declaring that "an appropriation of water shall be . . . subject to . . . the general reservation of fish and wildlife," would provide a legally sufficient basis to sustain against challenge legislative action taken to eliminate all other appropriations except as specified in the draft Act. From its history, it seems that the section's reference to "the general reservation of fish and wildlife" may be no more than acknowledging the interrelationship to the common use reservation now set out in article VIII, section 3:

Common Use. Wherever occurring in their natural state, fish, wildlife, and waters are reserved to the people for common use.

However, whether the clause also provides an independent basis sufficient to sustain the legislative action proposed in this measure is not clear.

In his 1967 analysis of Alaska's Water Use Act, AS 46.15, written shortly after its passage and taking effect, University of Wyoming Law College Dean Frank Trelease, an acknowledged water law expert, suggested that "[t]he reservations of sections 3 and 13 [of article VII] are somewhat obscure, but leave no doubt that fish and wildlife are among the most important of the state's interests to be fostered by laws relating to water."⁵ Each of the two sections' reservations, in sections 3 and 13, spoke to the "common use" reservation of the resources. Another commentator has written:

The "general reservation of fish and wildlife" [set out in article VIII, section 13] may be an overriding preference above all uses except public water supply, functioning as a state reservation akin to a *Winters* doctrine "reserved right." See *Winters v. United States*, 207 U.S. 564 [, 52 L.Ed. 340, 28 S.Ct. 207] (1908).⁶ Or . . . this "reservation" may signify nothing more than a caveat that regardless of the valid appropriation of water, the State retains ownership and control of any fish or wildlife that may be present in the appropriated water.

Meacham, "State Survey - Alaska," in *Water and Water Rights*, vol. 6, p. 352.

⁵ Trelease, "Alaska's New Water Use Act," 2 *Land and Water Law Review* (1967) at 12.

⁶ The decision first enunciates the doctrine of federal reserved water rights.

Since the first appearances of these two articles, the Alaska Supreme Court has provided some clarity. It has determined that the "common use" clause serves the purpose of adopting common law trust principles in relation to fish, wildlife, and water resources:

We begin by examining constitutional history to determine the framers' intent in enacting the common use clause. This was a unique provision, not modeled on any other state constitution. Its purpose was anti-monopoly. This purpose was achieved by constitutionalizing common law principles imposing upon the state a public trust duty with regard to the management of fish, wildlife and waters.

The framers' reliance on historic principles regarding state management of wildlife and water resources is evident from a written explanation in the committee materials for the term "reserved to the people for common use." This discussion also highlights an intent to prohibit "exclusive grants or special privilege[s]."

Ancient traditions in property rights have never recognized that a private right and title can be acquired by a private person to wildlife in their natural state or to water in general. The title remained with the sovereign, and in the American system of government with its concept of popular sovereignty this title is reserved to the people or the state on behalf of the people. *The expression "for common use" implies that these resources are not to be subject to exclusive grants or special privilege as was so frequently the case in ancient royal tradition.* Rather rights to use are secured by the general laws of the state. In all English and American legal systems ownership of water cannot be asserted[;] rights acquire only to the use of water. Once wildlife is captured and removed from their [sic] natural state possessory right accrues to the captor, provided that the wildlife was captured in conformity with provisions of law.

Alaska Constitutional Convention Papers, Folder 210, paper prepared by Committee on Resources entitled "Terms" (emphasis added [by the court], except to "use").

Owsichuk v. Guide Licensing & Control Bd., 763 P.2d 488, 493 (Alaska 1988). Further in the opinion, the court said:

In a discussion about fishing in lakes, the Constitutional Convention underscored its intent that the public retain broad access to fish, wildlife and water resources, and that these resources not be the subject of private grants. In floor debates, a question arose about the status of a natural lake falling within the boundaries of someone's private property. The delegates

agreed that the common use clause guaranteed the public's right to use the lake for fishing, although it did not authorize a trespass across the landowner's property to get to the lake. 4 Proceedings of the Alaska Constitutional Convention 2460 (Jan. 17, 1956). The Convention made it clear that only fish in small private ponds may be owned free of the public's right of access. See *id.* at 2460-61; 6 Proceedings of the Alaska Constitutional Convention app. V, at 98 (Commentary on Article on State Lands and Natural Resources, Jan. 16, 1956).

Owsichuk, at 494. The *Owsichuk* court observed that "the drafters of the common use clause apparently intended to constitutionalize historic common law principles governing the sovereign's authority over management of fish, wildlife and water resources." *Id.* Citing four earlier decisions, the court determined that, in the first instance, the common use clause is intended to provide independent protection of the public's access to natural resources and that "the common use clause was intended to engraft in our constitution certain trust principles guaranteeing access to the fish, wildlife and water resources of the state." *Id.*, at 496.

To date, the court has found that the "common use" clause of section 13 sustains broad public access to the three named resources, including water. Whether that section independently supports, and therefore provides constitutional "cover," for legislative action to limit application and operation of the prior appropriation doctrine as to the water in the four rivers named in HB 134 is an outcome that, in my judgment, is not settled.

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Eva King
Oral and Written Testimony
Hearing on House Bill 134

My name is Eva King. I am a year round resident of South Naknek and have been a commercial salmon fisherman since I was ten years old. Four of my sons are now commercial fisherman. I ask that oral and written statements be entered into the record. I am also representing our village government, The South Naknek Village Council – a federally recognized tribe.

In 1990, 18 years ago, processing companies paid us 70 cents per pound for salmon as publicly stated in the Borough Post newspaper of that year.

In 2007, processing companies paid commercial fisherman a low of 40 cents a pound at Ekuk, on the Nushagak River 58 cents, and up to 60 cents a pound here in the Naknek-Kvichak District; pre-1980's fish prices. Some of our leaders are saying our salmon runs are on the rebound, if this is true why is it that many of our fishermen can't afford to purchase their winter fuel?

Fishermen this season were placed on limited catches from 2-6,000 pounds. Some were not allowed to fish at all because our processing companies could not process the salmon because they didn't have the capacity, which they assured the state they had earlier. All of this happens during the peak of the run. Couple this current problem with the pre-1980 salmon prices and not being allowed to deliver your catch, this proposed legislative HB 134 will prohibit natural resource development and only adds to our economic distress. All villages in Bristol Bay except for Dillingham, the regional center, don't have employment opportunities. Dillingham is the headquarters to BBAHC, BBNA, BBEDC and other private enterprises with jobs available here. We are happy for the people of Dillingham who have good job opportunities.

We know your focus is targeted to stop the Pebble Project however your legislation is more far reaching. It would prohibit development on Native Corporation lands and other private lands. All of this without consideration is an illegal taking of rights. Millions and millions of acres of land would be locked up and prohibited from being developed.

Because we lack job opportunities – lack of infrastructure, high energy and utility cost. Your legislation lacks any concern for those of us who reside here year round. But instead want only to take away any potential.

Eva King's Oral and Written Testimony On HB 134
September 26, 2007
Dillingham Middle School
Dillingham, AK

Eva King
Oral and Written Testimony
Hearing on House Bill 134

There is no question our regional economic base must be diversified – we cannot depend on commercial fishing alone anymore. We need local jobs, not government welfare. Your quest strongly appears to satisfy sportsmen, conservation groups, lodge owners; people like Bob Gillam and maybe some of yourselves so as not to disturb your summer playground as proposed in HB 134. Additionally, many who will be testifying in support of HB134 in the next few days are already retired, semi-retired and are not interested in the welfare of younger generations. They are living in the past when commercial fishing provided an annual income. To my knowledge these so-called elders have not presented solutions to our economic dilemma.

It would be nice to have the days of old – when commercial fishing provided families their annual income.

By introducing HB 134, you have successfully divided families, village against village, ethnic groups against one another. You have used subsistence hunting and fishing as your wedge. You have done this so well that many locals embrace your statements as the truth, not knowing your strategy.

If you feel so strongly about Natives keeping hunting and fishing subsistence lifestyles, we insist that your legislation HB 134 be amended to ensure a subsistence priority for Bristol Bay Alaska Natives. If you do this, you would at least publicly state your commitment to the importance of subsistence hunting and fishing for the Bristol Bay Natives.

Subsistence hunting and fishing does not include sportsmen and their organizations. They are the same as any commercial fishermen and should not be included with subsistence.

Rep. Bryce Edgemon in his press release September 20, 2007 Bristol Bay Times, recommended we include pressing issues to this legislative committee for consideration and action.

So here goes. Your committee must stop the outside fish processing companies from robbing us blind by paying us extremely low prices. These

Eva King
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low prices are forcing our resident people to move to urban areas to find other employment instead of staying at home and going on government welfare assistance. We are a proud people and shun the idea of government handouts. We have an immediate need for roads and bridges connecting village to village to increase trade, commerce, health and safety. Our state government through your actions must invite foreign salmon buyers into Bristol Bay. We need competition! Again, we know like the anti-Pebble Project movement, how powerful the salmon processing lobbyists are. And like anything else, it seems what ever is a benefit to resident Alaska's the chances of inviting foreign processors will not happen. Most, if not all Bristol Bay salmon processing companies own salmon farms. Maybe this is part of the reason for our low prices for wild Alaska salmon.

Inviting foreign buyers in for a competitive salmon price can happen if you want it to and are committed to make it happen. So where do you stand on this? Can we depend on you? How soon?

These invitations to foreign buyers should run on five year increments – not an annual basis since it takes time to plan for finance and equipment. With out this invitation for foreign buyers the current fish processing companies will continue to pay us pre-1980 prices. The cost of living from 1980 to 2007 has risen approximately 75%. You can do your own research if you wish, however this number of 75% is conservative. We need immediate help from you – here again is a missed opportunity to help in our economic distress.

Again, for the record I am apposed to HB 134 as it is currently drafted. For me to reconsider my views on HB 134 I am requesting the following:

- 1) Amend HB134 to guarantee subsistence hunting and fishing a priority use for Bristol Bay Natives.
- 2) Begin immediately building roads and bridges in the Bristol Bay region connecting villages to one another for trade, commerce, health and safety. Senator Stevens recommended this at a health forum in Anchorage in August.
- 3) Since HB 134 is an illegal taking of rights with out consideration – we strongly request the legislature and the administration disclose to

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the Alaskan public the monetary cost we as Alaskans would pay to Northern Dynasty, Native Corporations and private land holders as soon as possible.

As an example, excluding Northern Dynasty's claim, Native and other private land holder's, amount to several million acres of land that would be prohibited from development, because of your legislation; HB 134 and its companion Senate Bill 67.

When can we receive a report of the potential monetary cost this type of legislation will cause?

There have been statements of reports by reputable people that Alaskans that the State doesn't have enough money in our state permanent fund portfolio to cover all cost relating to HB 134. In fact, the portfolio would fall short to cover the total cost.

Is one of your solutions to raise taxes or institute taxes to cover these shortfalls? Your legislation HB 134 and its companion Senate Bill 67 will cause numerous lawsuits. So how much is our state willing to endure?

I wonder as should you, how would the late Jay Hammond feel about paying for an illegal taking of rights knowing there is a high cost that could destroy his legacy of the Permanent Fund and then some?

Believe me; your political quest and development prohibitions carry a terrible high cost. And if your legislation miraculously passes there will not be enough money combining all of our state coffers to pay for your mistakes.

My village of South Naknek does not have many employment opportunities, as I reported before in the last hearings. More than two-thirds of our village population has already moved away to find jobs and we are currently losing two more households. Because of a lack of employment opportunities and people moving, our local school has been closed for several years now. This has torn the heart out of our community.

Eva King
Oral and Written Testimony
Hearing on House Bill 134

Now all of our school children are flown to Naknek to attend school daily. You have no idea of the danger and the emotional stress this causes the school children and parents as we are a maritime community with wind most of the time. Our airport is in extremely bad condition, we have complained for years to everyone in the state government to bring the airport up to safety standards. Our airport was rebuilt several years ago. However it is in worst condition now than what it was before it was rebuilt. Now we have less length than what we started with and our new cross-wind is hardly useable with many sections sinking more than three feet. We urge each one of you to visit our airport and come to your own conclusions.

With bad weather our children do not fly, so we sometimes boat the children to school, or drive them in sub-zero weather if the river is frozen. We have even gone so far as to find a charter and personally pay for them to get them home when they are weathered in at Naknek.

South Naknek is the only community in the United States with a flying school bus. After describing the current airport conditions would you subject your child to this horrible kind of danger?

For your information there is a plan to build a bridge to connect South Naknek to the Naknek - King Salmon Highway on the north side of the river. This bridge, once built would solve many of our problems and more importantly provide safe travel for our school children. This is our current plan however many years ago there was another plan to build a bridge across the Newhalen River connecting Newhalen-Iliamna and Nondalton. Because of politics this bridge was never built. I pray that this will not be our fate too. You know well who stopped the Newhalen River - Nondalton Bridge, I need not mention his name.

It would be welcomed by all residents of South Naknek for you to put your energy into our plight and needs as much as you have put in to HB 134. This would be a more positive endeavor. The potential cost for a successful passage of HB 134 will not leave any money left to build any infrastructure anywhere in the state of Alaska.

Eva King
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If not for high negative emotions and negative political strategies Alaska and Alaskans should welcome industries in who want to invest for the benefit of all. I am praying that the majority of our State Legislature is still prudent and reasonable and will let the process for development work before making judgments and decisions.

Alaska has the highest standards for environmentally sound resource development. Politics and negative emotions have always been grounds for making the poorest and costliest decisions – oppose HB134 and its companion Senate bill.

I must add that I am not receiving a salary, nor have I ever, from Northern Dynasty. Further I am not receiving \$300,000 + or any consulting fees either. You are welcome to review my tax returns if you wish. Shame on those folks and organizations that have lied only to think they would gain public support for their blatant and damaging lies. Northern Dynasty has always been above board and open. I urge each of you to ask those who testify for HB 134 who is paying their way. Fair is fair, right?

Finally, as a point of information Northern Dynasty has hired more local residents than all salmon processing companies and sportsmen operations within the past few years combined. Considering salmon processing companies have been around since at least the late 1800's and sportsmen operations since at least the 1950's. A pretty good track record for Northern Dynasty isn't it?

My name is Sam Fortier. I am testifying on behalf of Alaska Peninsula Corporation, Newhalen Tribal Council, King Salmon Tribe, and Twin Hills Native Corporation, all of whom oppose HB 134. I also have been requested to speak for 20 individuals who were intimidated by the threat of investigation for speaking in opposition to HB 134. I have also been delegated by the Alaska Federation of Natives Litigation and Legislative Affairs Committee to inform you that AFN has recently adopted a resolution opposing HB 134.

We are opposed to HB 134 because it will radically curtail private water appropriation rights and private property uses in most of Bristol Bay.

We are opposed to HB 134 because it will radically and unconstitutionally change the existing regime under Alaska law regarding resource use and consumption, so that virtually all forms of future economic development in Bristol Bay will be prohibited.¹ In addition to not addressing extraordinary situations, such as drought, that may effect villages and cities, the bill would effectively prohibit any new water-intensive industries or businesses. ~~It would prohibit any alternate energy projects that are water derivative, including hydroelectric and geothermal projects.~~ These impacts are not confined to state owned lands, but will extensively impact privately held lands, including Native corporation lands.

We are opposed to the criminalization of formerly lawful uses of private property by Section 2, part 1 of HB 134. This section prohibits:

- withdrawing
- obstructing
- injecting
- pumping, either temporarily or permanently

"any subsurface or surface water in drainages supporting salmon or any water hydrologically interrelated or connected" to those drainages in the Nushagak, Kvichak, Naknek, Egegik, and Ugashik watersheds. The sweeping prohibition against previously allowable uses of water is assuredly unconstitutional. Appropriation of water is guaranteed under Article VIII, § 13, Alaska Constitution.²

¹ H.B. 134 refers to the Bristol Bay Fisheries Reserve, which became law in 1972 and is codified as part of the Alaska Lands Act, at Alaska Stat. 38.05.140(f), as its precedent. The Reserve was created to prohibit oil drilling in state waters absent future legislation. H.B. 134's findings assert that, just as the Seventh Legislature was justified in closing the Bay to oil drilling without legislative approval, those same considerations now warrant a further extension of the protections to all waters within the "drainage systems that connect to the surface water of Bristol Bay." HB 134, Proposed Findings. The proposed findings, however, are based on different facts than what faced Bristol Bay in 1972, and the Reserve legislation only prohibited oil and gas activity on state submerged lands and shore lands. By contrast, HB 134 appears to apply to uplands, both state and private.

² Art. VIII, § 13 provides in part, "All surface and subsurface waters reserved to the people for common use, except mineral and medicinal waters, are subject to appropriation." (my emphasis). Obstructing and polluting salmon streams is already prohibited under Alaska Stat. 16.10.010.

We are opposed to the bill because virtually of the aquifers in the Bristol Bay watershed are "hydrologically interconnected or related to" drainages. This bill would effect private water wells and other forms of use, on private lands.

We are opposed to the bill because it has a profoundly disproportionate and adverse effect on Native Corporations, whose mission it is to provide economic opportunities to their shareholders now and for future generations.

We are opposed to the bill because it amounts to a taking without compensation in violation of Art. VIII, § 16 of the Alaska Constitution.³

We are opposed to the bill because it directly interferes with the riparian rights of Surface estate owners, including the right to beneficial uses of water adjacent to and beneath their properties.⁴

We are opposed to HB 134 because it directly interferes with any hydrological based form of alternate energy. The proposed language forbids any development that would result in pumping or withdrawing geothermal energy sources, such as steam, that is "hydrologically interrelated or connected" to a salmon stream drainage would be off-limits.

We are opposed to HB 134, because salmon streams are already protected under existing law, as contained in Alaska Stat. 16.10.010. HB 134, however, strips other regulatory agencies, such as the Department of Environmental Conservation, from deciding on a case by case basis, whether to permit or license hydroelectric power, or to permit water use for civic, domestic, irrigation, manufacturing, mining, "or other purposes tending to develop the natural resources of the state," as allowed under Alaska Stat. 16.10.015.⁵

We are opposed to the bill because it prohibits and punishes previously lawful conduct with no fair warning. The bill is silent on the criteria used to determine such complicated terms as interrelatedness and interconnectedness. Nor are any definitions supplied for either of these terms.

³ Art. VIII, § 16 provides "No person shall be involuntarily divested of his right to the use of waters, his interests in lands, or improvements affecting either, except for a superior beneficial use of public purpose and then only with just compensation and by operation of law."

⁴ *Wernberg v. State*, 516 P.2d 1191 (Alaska 1973), reh. den. 519 P.2d 801 (Alaska 1974).

⁵ Art. VIII, § 1, Alaska Constitution states that "the policy of the State [is] to encourage ...the development of its resources by making the available for the maximum use consistent with public policy." There has been no finding that the draconian measures suggested in HB 134 are consistent with public policy, or the least restrictive alternative under the circumstances.

The law will extend to "any portion of a river, stream, lake, bog, tributary, or any other water body, including the beds of water bodies, in drainages supporting salmon."⁶ The ambiguous phrase, "otherwise adversely affecting," is so broad as to render any use not permitted under § 1, even something so mundane as traveling across a swamp on an ATV, a criminal act. It would most assuredly halt any oil and gas or mineral exploration or development on Native lands. ~~The bill would prohibit filling boggy lands for the purpose of airport construction, road building, and new businesses.~~

We are opposed to the bill because it is broadly and patently unfair. The grandfathering of existing industries and the exclusion of any new industries or businesses would have a significant and negative impact on economic growth and orderly development in Bristol Bay, virtually guaranteeing that it will remain a captive colony of fishing lodges and fish processors. In this manner, the bill would also appear to violate every Alaskan's right to uniform application of laws and regulations guaranteed under Art. VIII, §17 of the Alaska Constitution.⁷

Locking up the resources on Native lands, as this bill would do, will also affect 80,000 Alaska Native shareholders throughout Alaska, 11 other Regional Corporations and 200+ village corporations statewide. Those individuals and corporations rely upon resource revenue sharing under the Alaska Native Claims Settlement Act. HB 134's prohibitions will directly and inalterably impact BBNC's ability to share resource revenues.

HB 134 is bad for Bristol Bay, it is bad for Alaska, and it is disastrous for Village corporations.

⁶ As noted, existing law permits certain uses, upon application and approval, of water from salmon streams. Alaska Stat. 16.05.015. HB 134 prohibits uses that the law presently allows in all "hydrologically interrelated or connected" surface and ground water. Other laws presently permit wetlands mitigation, and utilization of certain wetlands. Under HB 134, such uses would be illegal.

⁷ Art. VIII, § 17 states, "Laws and regulations governing the use or disposal of natural resources shall apply equally to all persons similarly situated with reference to the subject matter and purpose to be served by the law or regulation."

Written testimony regarding HB 134
by Gregory Anelon, Jr of Newhalen, Alaska. PO Box 246,
Newhalen, Alaska 99606

Honored guests and Representatives, I would like to take this time to welcome you all to Newhalen and to thank you for coming and giving the people who live here the opportunity to comment on HB 134. I am sorry that I cannot be here personally to welcome you and to testify on this important legislation. This written testimony will have to do. I would also like to state for the record, that there was no evidence posted of this meeting in either community.

I am presenting my testimony as a resident of this area and not in the capacity of Mayor of Newhalen. The City of Newhalen has not made an official stance on this legislation. I am personally against HB 134 and these are my concerns.

I worry that the people will not have the opportunities to work so that they can support their families. In the past we have relied on commercial fishing to buy heating oil to get us through the long, cold winter months. People trapped to provide meat and furs to purchase other items to survive as well. People have traditionally worked in the schools, the tribal or city governments. Outsiders own and operate most of the lodges still to this day. Today, commercial fishing cannot support a family through the winter as it once did. Also, in earlier years of the permit system, Newhalen, Iliamna and Kokhanok had about 40 set and driftnet permits. Now there are about 20. Due to this decline, the three villages have lost about 50% of their permits. Rarely do these permits come back into local ownership. Commercial fishing is not an option for most young people to obtain as a source of seasonal employment because the permit holders already have their immediate families working for them as a part of their fishing crew.

7

I feel the Lake Iliamna region has been unfairly excluded from the Community Development Quota (CDQ) program even though we rely upon commercial fishing in Bristol Bay as a source of our income. Our villages migrate to Bristol Bay to participate in the commercial fishery. The CDQ program provides coastal villages with necessary funds for their residents to enhance their current fishing operations. The CDQ program provides the coastal villages with grants in the amount of hundreds of thousands of dollars to fund local projects. The CDQ program should be offered to the residents of the Lake Iliamna region because we are stewards of the largest sockeye spawning grounds in the world.

Employment opportunities within the school, tribal or city governments are currently filled and new positions only come about once a person retires. There is a need to provide new job opportunities for the people who live here in the Lake Iliamna region.

I worry that the culture of the people will disappear. But I conclude that the culture of the people is forever changing. When my parents were young they lived off the land. When they did not catch anything, they starved. They harvested fish for winter use and for their dogs. They utilized the resources of the land and they heated their homes with wood. They had dog teams to use as their transportation during the winter months. They were able to entertain themselves by hosting and attending local dances. These are examples of their culture.

Now I will share the culture in which I know. I too grew up with dog teams, but not as a mode of transportation, but rather a sporting event used in local dog races and/or winter carnivals.

My food was obtained from the land when possible. If a hunt wasn't successful, we had the opportunity of going to a store, thus we were never hungry.

As a young boy, my family harvested fish by the thousands for our dog teams and for ourselves to eat throughout the winter.

Our family home was heated with stove oil which was purchased with our summer fishing income.

From the time I was 6 years old until I completed college, my time was mainly spent inside a school building setting. After school and on weekend; I played outside, hunted and fished for my recreational pleasure, it was not out of necessity.

I needed an ATV, snow machine, car/truck, boat and motor to hunt and fish. However, when given the opportunity to dance, it didn't matter if it was a local band or disco 8-Tracks, I enjoyed music just the same. (But please don't ask me to dance disco today!) These are examples from my culture.

Today I have three children. Their culture is similar to my own, but still it is their culture and it is forever evolving. Like myself my own children rely on ATVs, snow

machines, cars, planes and outboard motors for their transportation. Our homes today are heated by baseboard heat furnaces, Monitors and Toyo-stoves which all operate on stove oil.

We eat store bought food items that are quick and easy to prepare. We shop at Costco, Sam's Club and Carrs, among others that we frequent while in Anchorage. My family like most other families here, harvest fish in the hundreds for our personal winter consumption; nothing like the thousands that my parents had to prepare.

We all rely on electricity to run our computers, internet, Dishnetwork cable TV, video games and to operate the many other electrical gadgets that fill our homes.

Our electricity is bought from INNEC through their generators and from their run-of-the-river hydroplant in the Tazima River.

Thus I conclude that this younger generation, including my own children, will more than ever, need a strong cash

economy to maintain their culture that they know and rely upon today.

I am against HB 134 because my children need a strong cash economy to survive. To sustain a strong economy base in our area we need to build and expand. I feel HB 134 will be adding additional red tape to the development of this region.

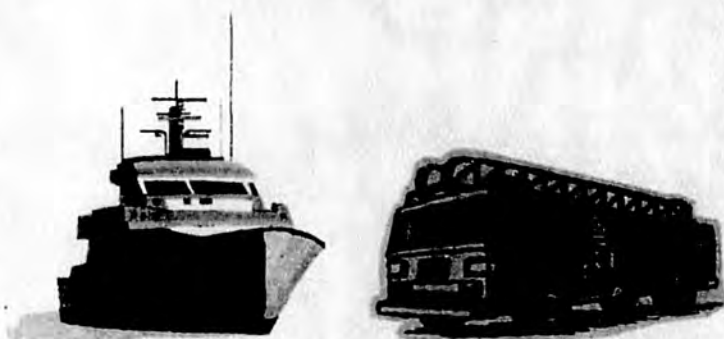
I support the following recommendations:

1. Review and change the current law or regulations by including language placing larger penalties on those people or corporations that discharge into any fresh water system that flows into Bristol Bay. Don't take the easy way out by creating a state refuge encompassing the whole Bristol Bay.
2. Reopen federal Magnuson Stevens act to include communities that can prove they migrate within the 50 nautical miles of the Bering Sea so that they can participate in the CDQ program.

3. Provide funds to INNEC for their run-of-the-river hydroplant indebtedness which is approximately \$3 million dollars.

4. Reintroduce the state income tax so that we can receive some money from the Lower 48 people who come up and reap the harvest and benefits of the great State of Alaska.

Again thanks for the opportunity of being able to comment on this important legislation that will have dire effects on the Lake Iliamna communities.



**MARINE SAFETY INSTRUCTOR~EMT~VETT INSTRUCTOR~ EMT-III/ACLS/PALS~
AHA CPR INSTRUCTOR~EMP FIRST AID INSTRUCTOR~ONGUARD FIRE ATTACK
INSTRUCTOR~ MEDEVAC ESCORT INSTRUCTOR**

RON BOWERS
P.O. BOX 6
DILLINGHAM, ALASKA 99576
907-842-4186
Email: ronmarieiris@yahoo.com

To: Testimony HB#134

Dillingham, AK. Wednesday September 25, 2007

Good morning members of the House Fisheries committee and welcome to Dillingham and Bristol Bay. I'm Ron Bowers and have been a local resident for over 24 years. My wife is Yupik Eskimo and a lifelong resident of this region. Subsistence, land and water use issues are very important to our family and most all my in-laws and neighbors. Those who are trying to protect our local fisheries and the subsistence lifestyle are to be commended. We in Bristol Bay are blessed with resources like few other places in this world. As a former candidate for House District#37, I heard the concerns and fears of locals about protecting our fisheries and subsistence resources, to the fullest extent possible.

However as I read and reread my friend Representative Bryce Edgemon's HB #134, I am fully persuaded that it continues to be a very bad piece of legislation. HB#134 is a knee jerk reaction to the coming economic opportunities and resource development, now occurring in our long, economically depressed region. HB#134 seems to be based more on fear and short on facts.

HB#134 will only serve to drive businesses away from this region and cause greater economic hardships. This is in a region where a gallon of milk cost almost \$8 dollars. Here in Dillingham gasoline is nearly \$5 dollars and in some local villages, well over \$5 dollars a gallon. Even in Dillingham, the flagship of economic opportunity for our region, most citizens are hard pressed. In just the past week I have been informed of 4 more families that are leaving town, due to financial reasons. Our local school population is down, well over 100 students in the past three years. In some of this region's communities, schools have been closed or are on the verge of being mothballed, due to population decline.

HB#134 will make it virtually impossible for most new businesses or even current, locally owned businesses to function in our region, except if that company is a fish processor. While one sentence in HB#134 seems to allow for oil & gas exploration and production in Bristol Bay, I question if such an endeavor can occur if this bill becomes law. This piece of legislation could force all local gravel pit operators to cease washing gravel. This would eliminate any local cement production and shut down almost all our region's construction projects. Even the popular family run, Saturday market in

Dillingham is threatened by HB#134. The hard working Herrman family irrigates their local vegetable farm with surface water found on their property. Under provisions of HB#134, this family business could be fined up to one million dollars a day, for simply irrigating their flowers and vegetables. Dillingham residents would lose one more business and a great source of healthy and less expensive produce.

HB#134 is so ridiculous that a Bristol Bay resident could even be fined up to \$100,000 dollars per day for diverting floodwaters from their home during Spring break-up.

Finally almost all that HB#134 seems to address is already covered by current regulations and/ or agencies. Even the controversial proposed Pebble Mine must hurdle at least 65 permits to ever begin production.

Yes Representatives Edgemon and Ramras, I have read HB#134 and I cannot believe its narrow sightedness and the damage it could wreak on Bristol Bay.

I respectfully ask that the Honorable House Fisheries committee put this bill to rest.

Sincerely,
Ron Bowers

Hello I'm MARK HERRMANN

I'm Thankfull for the opportunity to let my voice be heard.

In Regard to HB134 protection of Salmon Spawning I'm adamantly opposed to this Bill as it is currently proposed, for the following Reasons.

Our family has operated a small farm near Warehouse MT. for the past 20 years. We try to operate in a responsible manner with minimal soil inputs & conservative growing practices. We use water to wash, process & irrigate crops. We are several miles from the nearest salmon streams, But as this bill is currently written we would be in violation.

This bill would effectively put us out of business.

We support the concept of this bill for protection of the fisheries, but this bill in its current form will not encourage ^{responsible} economic diversity & development in Bristol Bay.

Thank You

Mark Herrmann
Warehouse MT Farm
P.O. Box 612
Dillingham, AK. 99576
(907) - 842-7150



Alaska State Legislature

Please enter into the record my testimony to the House Fisheries Committee
committee name
committee on HB134 - Protection of Salmon Spawning dated _____
bill/subject

I am Maxine Wassilie, a member of the Newhalen tribal Council. I have two boys, 2 & 4 yrs old. I do not support this HB134. Why should anyone tell us ~~that~~ we can't go pass creeks or go on the water to get our berries or to get our fish. Yes maybe if it was worked out were it doesn't affect our people with going on their own land to hunt or get wood to heat their house, I would support this, because we do need our fish and what other animals that we do get from the water or creeks, But as for what it states now I really DO NOT support this Bill, and hope there is another way to help our waters stay safe other than a Refuge.

Signed: Maxine Wassilie
Testifier
My self
Representing (Optional)
P.O. Box 84 Newhalen AK 99661
Address
907-571-1728
Phone No.

FAX 235-4008



Alaska State Legislature

Please enter into the record my testimony to the House Fisheries Committee
committee name
committee on HB 134 - Protection of Salmon Spawning dated 9.24.07
bill/subject

My name is Joanne Wassillie, I work for Newhalen Tribal Council as the administrator. First of all I would like to welcome you to Newhalen. As you can see the people of Newhalen provided snacks that consist of our subsistence food. I care very much for our area and land. I do not think that HB 134 will be good for my family and grandkids. It would put too much restriction on our hunting, subsistence and the way we travel.

My husband, Raymond, my boys, Ray, Eric, Jackie, Thomas and daughter Shanelle use our land to gather and hunt. Every summer my family and mom, sister and cousins put up our subsistence fish. Every spring we go bird hunting and travel up to the mountains at Upper Talarik. We have been doing this since our boys were born. We also built a cabin on my mom's native allotment. If this bill go thru, how will this affect us to use our building and land. It will not work for my family. I am totally against this.

If the coalitions, renewable resource groups and everyone that is trying to implement this refuge they should be helping us fight for our fishing price. This day and age a family cannot live on 60 cents a pound. You hear the media, they are saying we produce the most fish. Yea we did but who got the money. It seems the native people are always fighting each other while the people who are paying the bill are just sitting back and smiling.

Signed: _____

Testifier

Self

Representing (Optional)

Box 53 Newhalen AK 99606

Address

907-571-1941

Phone No.

FAX 235-4008



Alaska State Legislature

Please enter into the record my testimony to the House Fisheries Committee
committee name
committee on HB 134 - Protection of Salmon Spawning dated 9-24-07
bill/subject

My name is Sophie Anelon, I work for Newhalen Tribal as Social Services.

I care very much for our area and land. I do not think that HB 134 will be good for my family. It would put too much restriction on our hunting, berry picking, subsistence and the way we travel.

Every Summer my family and cousins put up our subsistence fish, and pick berries. Every spring we go bird hunting and travel up to the mountains at Upper Talarik. If this bill goes thru how will this affect us to use our building and land. It will not work for my family. I am totally against this.

This day a family cannot live on 60 cents a pound.

Signed: Sophie Anelon
Testifier
Self
Representing (Optional)
Newhalen AK 99606
Address
571-1317
Phone No.

FAX 235-4008

SEP-18-2007 TUE 10:33 AM Kodiak LIO

FAX NO. 9074865264

P. 02



Alaska State Legislature

Newhalen Tribal 571-1537
Fax

Please enter into the record my testimony to the House Fisheries Committee
committee name

Protection of
committed on HB 134 - Salmon Spawning dated _____
bill/subject

My name is Wassillie Wassillie Medically Retired Coast Guardsman also a
Uppik Eskimo and depend on subsistence to provide me w/ food, exercise, and
enjoying my well-being. This bill that is introduced by Sen. Ramas will hurt
me in more ways than one and being a Vietnam Era Veteran I will adamantly
oppose this bill or any bill that interferes w/ my way of life or my
well-being. Before any bill can pass it has to be signed off by the highest
official of the State of Alaska. So I want to make my plea to that
person to not recognize ^{for} bill because it will be unconditional
and will in fact jeopardize my civil rights. In the end there's got to
be amendments to protect me as a citizen, member of a tribal unit, and
an aboriginal w/ long-standing history in this state and should have certain
unalienable rights as to the wording of any bill that will affect me, my
way of life and certainly my well-being. Surely, I will oppose any
entity, who will be held responsible, that would tread on my civil
rights. ~~This~~ this bill is to stop the Pebble Mine. The residents of the
area has no choice but to oppose this bill because the area being affected
is a hard hit area. Not every which way possible both by the State
and Corporations priorities and because we are a small area our rights
have truly been treaded upon and should be answered.

Signed:

Wassillie Wassillie

Testifier

Concerned Citizen

Representing (Optional)

P.O. Box 33 Newhalen, AK 99606

Address

907-571-1267

Phone No.



Alaska State Legislature

Please enter into the record my testimony to the House Fisheries Committee
committee name
committee on HB 134 - Protection of Salmon Spawning dated 9-25-07
bill/subject

I Clark E. Bellota of Newhalen, AK
am not for this Bill, HB 134

Signed: Clark E. Bellota
Testifier
Self
Representing (Optional)
Box 170, Newhalen, AK 99606
Address
(907) 571-1700
Phone No.

FAX 235-4008



Alaska State Legislature

Please enter into the record my testimony to the House Fisheries Committee
committee name
committee on HB 134 - Protection of Salmon Spawning dated 9/24/07
bill/subject

I do not support HB 134. How are we
suppose to live off the land and
stay warm if this refudge happens.
Plus, the outrageous fine that
are listed, who can afford that.
Oh, I knew Rep. Ramras could.
Once again I do not support HB134

Signed: Anna Ramont
Testifier
My self
Representing (Optional)
Box 16 Newhalen 99606
Address
(907) 571-1556
Phone No.

FAX 235-4008



Reply to:

4155 Tudor Centre Drive
Suite #104
Anchorage, Alaska 99508

Telephone: (907) 561-4487
Fax: (907) 562-4945
Toll-free from within Alaska: (800) 478-4487

September 21, 2007

The Hon. Representative Paul Seaton
Chair, House Fisheries Committee
Alaska State Legislature
House of Representatives
345 W Sterling Highway, Suite 102-B
Homer, AK 99603

&

The Hon. Representative Craig Johnson
Co-Chair, House Resources Committee
Alaska State Legislature
House of Representatives
716 W 4th Ave., Suite 604
Anchorage, AK 99501-2133

&

The Hon. Representative Carl Gatto
Co-Chair, House Resources Committee
Alaska State Legislature
House of Representatives
600 E. Railroad Ave.
Wasilla, AK 99654

Re: HB 134

Dear Mr. Chairpersons:

We sincerely regret that, due to scheduling complications, we are unable to personally appear before you and your respective committees to share our thoughts and concerns regarding HB 134. Also and as the ANCSA corporation for the village of Nondalton, it would have been our honor to be present and amongst our neighboring villages to welcome you to the lake region.

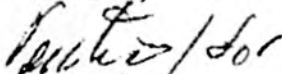
To begin and in the interests of maintaining our objectivity and clarity of thinking, we wish to state that the Board of Directors of Kijik Corporation does not support, oppose nor are we neutral on the topic of the Pebble project. We do not view said project as a popularity contest. The Pebble project represents a serious undertaking in our region and our task is to remain alert to any potential opportunity or threat to our subsistence

resources that the project may present. We note that the adoption of even a *neutral* position would imply that, at some future point, we would either support or oppose the project. At this juncture, Kijik sees no merit in viewing the Pebble project as an "all or nothing" proposition that ultimately requires either our full support or vehement opposition. To our knowledge, the Pebble project is still in its exploratory, planning and engineering phase and too little is known to make an informed determination regarding project impacts.

With specific regard to HB 134, Kijik does not see how the defining of penalty levels results in the protection of our fisheries resources. We note from other natural resource arenas that more affirmative methods for the protection of salmon streams and water quality are applied. In particular, we draw your attention to the State and federal statutes as well as the regulations of the regulatory agencies that address riparian zone management, fish stream blockages, spawning habitat protection, storm water discharge, etc. all of which correlate with actual operating risks of industry. We do not see how HB 134 ties to a specifically known operating risk of the proposed Pebble project or how HB 134 mitigates that risk. Therefore we are left to conclude that HB 134 does nothing more than assume a guarded position against an undefined threat.

We thank you for the opportunity to comment and respectfully request that our foregoing concerns be read into the record at the Newhalen hearing.

Yours truly,



Betty Chilcott
President & Chairperson
Kijik Corporation

To: State Representatives from The House Fisheries & House Resources
From: Robert M. Wassily
Date: 09-26-07

I support the HB 134 in concept, I hunt ducks, geese, seal, belugas, caribou, moose, porcupine, ptarmigan and rabbits to support my family and some of our elders here in Clarks Point, we gather all berries off of the land, I've fished all my life from when I was 7 years old with my dad on the boat and on the beach with my mom, so with that in my mine we all live from the sea, and land, if the pebble mine comes we will have nothing to live off of, cause that would make a big devastation to our way of life to subsistence off our water ways and the land that we feed off of. I strongly oppose to the pebble mine very strongly in my heart and soul, cause that to me is just a short term project and we live here all year long, I feel like we are being raped of our land and waters if the pebble mine goes through, so I'm hoping the pebble mining be stopped.

I work here at the Clarks Point Village Council under the EPA/IGAP as assistant for the program, I've worked with the students at the Clarks Point School, we do alot of projects and utilize with what we have from trees to bushes and all the plastic bags and with what ever we could get a hold of, I've work with the students from Quality water on macroinvertebrates to test to see if we have them and we do, that started me to let the students learn what is important to our land, water, air, that lead me to let the students learn how the pebble mining would hurt not only the animals of our land and our water ways and the communitys around the pebble mining, the students did some drawing and stories on how it will affect our lands and animals, the students did a very nice job of doing this.

Robert Wassily did a presentation to the school children last fall in August about the Pebble Mine Project. Here are pictures and written comments by the students of Clarks Point. The Environmental Office would like to thank all the students for all their beautiful pictures and concerns.



PEBBLE MINE OPPOSED BY CLARKS POINT STUDENTS

Ladonya George - age 10 5th grade



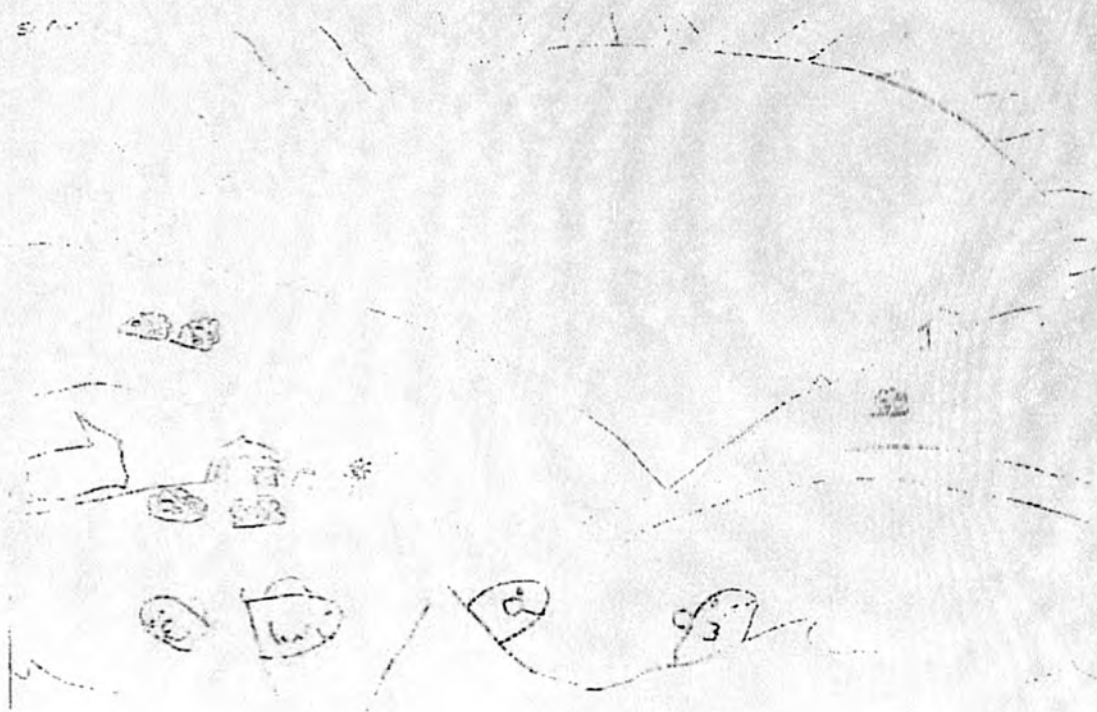
If you got a Pebble Mine, you will kill all of our animals and you will make us move out of pretty Clarks Point. What if we were going to make a Pebble Mine to your country, will you like that? Probably no! So, please do not make a Pebble Mine, please. It will destroy the land, the animals, and the fish. Please do not make a Pebble Mine. We are the fishers.

Jacinto George - age 8

2nd grade



Please don't make a Pebble Mine, cause it's going to hurt all of us.



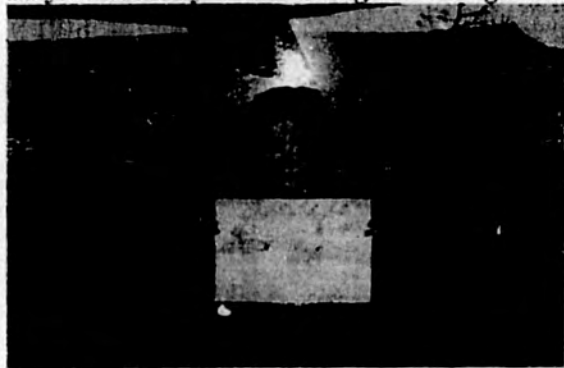
Sara Coleman - age 6

1st grade



You people don't Pebble Mine, that is bad, even you people won't have food. So please don't Pebble Mine, it will hurt the animals.

Kaylee Wassily Walker - age 8 3rd grade



There is birds, mountains, grass, the sun and clouds. Moose, porcupines, foxes, fish, belugas, otters, beavers, caribou, ducks, little smelts, reindeer and bears.



Kayla Wassily Walker - age 8 3rd grade



Pebble Mine kill the fish, birds, ducks, moose, foxes, trees, bears, smelts, porcupine, dogs and geese. Don't make the Pebble Mine, please, it will be a big hole.

Mining Pebbles

Kathleen

5/09/06

What I think about the Mining Pebbles I think it is so stupid because we wont have anything to hunt because they will scare them away. When I go out hunting I fell so happy because I am out with my dad and brother and I don't want to stop hunting.

And we wont fish because stuff will get into the water they say the have something to stop it, but they don't. I love fishing and I wouldn't want anything to stop us from fishing.

And our berries I love going out with my mom to go get berries. When my mom and I go out we will stay out there for a long time because we want to get a lot berries and spend time together.

I love doing all this stuff and I wouldn't want that to stop because of some stupid Mining Pebbles. If I have kids I would like to raise them here and show them what my dad and uncles showed me.

When I heard that they where going to do that I was thinking wow man what about all the animals and what about hunting and fishing and why are they doing this that is so mean they are going to whip out our habitat. And why do they need to do this because of the money they are getting. If that is then they are so low lower then anything on Earth.

They are distroying the Earth and they are distroying our home town and we can't let the do this.

Kathleen Wassily - age 13

8th grade



Nadine

Pebble mining

9/20/06

I am 13 years old and - all my life while growing up, my family taught all 7 of us how to eat our native subsistence foods. Every night my parents have gave us a delicious native snack before we go to bed. Akutak, boiled moose or caribou, the real seal oil, dried fish or boiled fish, muktuk, beluga, also rice and onions. A delicacy to us so much even there grand kids are there just to be able to eat our subsistence foods. We all get together all the time and enjoy what we have always eaten.

If they do this pebble mine it will destroy our moose, caribou, seals, and beluga such as our subsistence. Not only that will it rune it will rune our water. I would not want that to happen because I fish with my mom and dad also my family. I also would not want that to happen because I love spending time with my family. Allot of other kids go fishing with there family and allot of the kids like that. Allot of people in this village live off subsistence some of us like it that way. We would not be able to do that if they do this pebble mining. So if they do this pebble mine people won't be able to subsistence hunt any more.

Nadine Wassily - age 13 8th grade



Chris Rabunde

Fishers and processors are more concerned about quality now more than ever and are working together to improve it.

Brailer bag limits are imposed by processors

Refrigeration systems are more common now than ever on boats

The recent development of marketing associations, are in search of better uses of, and expanding the markets for our fish.

High operating costs and lack of infrastructure in the region are the current real hindrance to global prosperity for Wild Bristol Bay Salmon.

But a greater threat to it looms on the horizon. Proposed mineral exploitation at the head waters of the two greatest watersheds in the region **will** negatively affect it.

Putting into jeopardy, the health and livelihoods of all its residents, present and future.

I ask you to listen to the testimony you have heard throughout the region, and comply with the wishes of the majority of us who live here and will be affected by it.

Be responsible stewards and partners in the use of the rivers in this region, support the locals and protect our water for the future.

Don't let the promise of quick money from big business veto the ideals of those who make our lives here.

Thank you.

Since humans arrived in this area, there has been a single life blood that has sustained this region.

The **water**, running from large glacially carved lakes down the rivers and into Bristol Bay.

This source of wealth is unlike any other left in the world. As pure and natural now, as it ever was.

These watersheds support millions of examples of an economic resource that has returned annually for thousands of years. **Salmon**

I come here today, to ask you to look into the future. Consider generations of Alaskans that will inhabit this area, but have not been born yet and for you to protect these watersheds for the long term and their use

It is no secret the economy that is supported by the fisheries here, have seen its good times and bad.

I will point out that the return of sockeye to the Nushagak River in the last two years; have been among the largest runs in recorded history.

This shows the resource is healthy, and with proper management, it can be sustained indefinitely.

The problems facing the salmon resources are varied. But these are being actively addressed.

The truth about farmed salmon has come out. It is an inferior product and the market appears to be moving away from it.

Processors are adding value to our wild product by filleting more and canning less.

To: State Representatives from the House Fisheries and House Resource Committee
From: Emily Olson, Clarks Point Village Council Environmental Coordinator

I support HB134. I come from a family of four generations of fisherwomen. Fishing was the only source of income for more than a decade. Smoked and salted salmon is part of my diet. During the hard times all we had to do was cook a pot of rice and eat fish. The salmon industry have provided higher education for many of our leaders. Our Governor fished in this river. So you see, I am very sensitive when it comes to salmon. It built all the villages here in Bristol Bay. What other resource can....the history of salmon is more than 100 years. Mining is not a natural renewable resource. The Pebble Mine will be short term. Salmon have sustained our people.

The Nushagak River is also a habitat for pike, whitefish, and trout. Tourists pay big bucks to catch their fish, whether it is salmon, pike, whitefish or trout. Lodges provide employment and revenue to the local communities.

Another issue that have been overlooked is belugas. Nushagak River is a breeding ground for belugas. Each spring I see the birthing right in front of my home. Belugas tell us when the fish and smelts are in abundance. Isn't the Belugas listed in the Endangered Species Act? Thank you.

Emily Olson
9/24/7007

To: State Representatives from the House of Fishers and House Resource Committee
From: Lawrence Olson, Clarks Point Village Council BBEDC Liaison

I support HB134. I am a commercial fisherman and a subsistence hunter in this region. We rely on these natural resources to sustain our natural lifestyle of living as I know it. My parents, grandparents and ancestors relied on these resources as did many others in the region. One mistake would be devastating to the natural resources. We cannot not afford this mistake.

Without the fishing industry Bristol Bay Economic Development Corporation, (BBEDC) would not exist. BBEDC provides employment for local people on the high sea processors, Office Internship, Salmon Camp for youths, Vessel Internship, scholarships, Voc-Tec Training, and ABE?GED.

Lawrence Olson
9/24/2007

To: State Representatives from The House Fisheries & House Resource
From: Joseph T. Wassily
Date: 09-26-07

I support HB 134 in concept, I've been a fisherman since I was 8 years old, I hunt moose, caribou, ducks, geese, and live off of the land, get berries for the family, I strongly support our subsistence way of life, because all of my life I've lived off of the land to feed my family and elders. I also seal hunt, subsistence fishing for smelts, pike, rainbows, trout, and red fish and king salmon also to put up in the smoke house. I strongly oppose the pebble mine because if it goes through it may ruin our fishing and water ways and our subsistence of way of life.

Norman N Anderson
P.O.Box 864
Dillingham Alaska 99576
September 26 2007

I support house bill 134, And appreciate you all traveling away from home and family to listen to my reasons why. I am a commercial fisherman, as are my two sons, who together we own and operate our commercial fishing operation, as was my father who taught me, and as was my mother, who supported all four of her children off the salmon we respect this day. As I have learned from our elders, I taught my sons how to respect the land and waters of our region. Our regions history began because of our unique water quality, the status of our hydrology creates the perfect combination to enhance and support our Wild Salmon, *and* quantity of fish. All five specie exist because of the mixture of Fresh and salt water, both are exceptionally clean. Gramma Nicolet of Naknek Alaska told me once that any interruption in our clean waters in our area will forever change our lifestyle. I like and use the scientific phrase an bright young lady relayed to me, without sound geology we cannot have sound biology. This is what Gramma Nicolet was telling me when I was about 6 years old beyond Libbyville in Naknek as we hunted ducks. I do support development in Bristol Bay, I know we need jobs, we are experiencing an out migration of our residents, schools are being impacted. Villages are hurting because of the high price of fuel. But look around you, we are a strong people, for years we have fought off invading industries that have sought riches the live beneath our land and waters. The struggle is what gives us our strength. We are not experiencing any spiritual breakdown. We live a subsistence life style. The meager take to sustain as Webster defines it. We are careful not to disturb the tundra, as life depends on it. No we do not eat the spiders and mice, but do depend on the birds and fur bearing animals that do. Again we do rely on our

unique hydrology. The spring run off carries down hill what ever the upper watershed has to offer, if health threatening chemicals are amongst the ingredients, then too we will see the after affects in our diets. Picture yourself down stream of a sewer lagoon. I apologize for the graphic. For generations the native people have used the land. Not until the western civilizations came to stay do we see the beginning of scars on our land, all under the auspices of progress, Mineral and Hydro-carbon are not progress and they only line the pockets of large scale companies. Remember we must all do what ever we can to save this big village we call earth. So again I support saving our fragile waters in Bristol Bay. I support House Bill 134. Thank you for your time and have a safe journey home.

Proposed Amendment to HB 134

In Sec. 2, within the new AS 16.10.015, add a new subsection (b)(5) to read:

(5) otherwise permitted uses occurring on lands owned by corporations organized pursuant to 43 U.S.C 1601 et seq. (Alaska Native Claims Settlement Act) or on restricted Native allotment or restricted Native townsite land.

RALPH ANDERSEN

Shelley Woods

2695 English 102

March 16, 2007

Essay 3 Final Draft

Pebble Mine Opposition

The untouched environment of Bristol Bay in southwest Alaska will be put in jeopardy by the mining company Northern Dynasty if a proposal for the Pebble Mine is accepted. They will mine for gold, copper and molybdenum by using cyanide and other toxins to extract these precious metals from the earth at the cost of the environment of this area. In order to prevent irreversible damage to the environment and renewable natural resources in Bristol Bay the State of Alaska and its residents ought to oppose the Pebble Mine.

Bristol Bay is located in Southwest Alaska and provides areas that are prime habitat for many big game animals, marine life and migratory birds. The lifeblood of the Bristol Bay region is the yearly migration of five Pacific salmon species. The residents depend on the salmon for subsistence use, tourist income and commercial fishing. About 50 million salmon swim into Bristol Bay to spawn in the area's pristine lakes and rivers. The map below shows the proposed mine site in red and the network of streams, lakes and rivers that are downstream from the proposed site ("Alaska's Pebble Gold Mine" 18). The Newhalen River, Lake Iliamna, the Koktuli River, the Mulchatna River, the Nushagak River, to name a few, will be affected along with countless streams and ponds which salmon use for spawning and the small salmon need to feed and grow.



Every living thing in the region, including humans, could be harmed if this mine proposal is approved. Northern Dynasty is a Canadian mining scout company that puts forth the mine proposals. This company goes into areas and searches for products to be mined. They drill cores, take samples and determine how much precious metal is available. If it is a good prospect that can be sold, the company puts forth a proposal to the owner of the land. In this case the State of Alaska owns the land that the proposal is aimed at and they have the power to make the decision as to whether mining in this area will occur or not ("Alaska's Pebble Gold Mine" 20).

The current proposal outlines the method Northern Dynasty, or the company that buys the rights to mine here, will use as the heap-leach cyanide process. This is a crude and inexpensive process which is piling soil and rock and using cyanide to leach the gold from the pile. The

byproducts of the leaching process will be held in a small lake near the mine site and neutralized ("Alaska's Pebble Gold Mine" 20).

In cold climates cyanide is not always able to be neutralized as is proposed. This would lead to an environmental disaster if the water from this small lake would leak out into the water table. An owner of a lodge on the Nushagak River depends on tourists that are willing to spend \$6000 or more for a week of fishing in the Bristol Bay region. People come out to this area because it is remote and pristine (Palmer 67). Any leakage of toxic byproducts would lead to an economic disaster for the entire region.

Since salmon is a key part of the culture of the native people and a major food source, there is a great amount of opposition in the communities surrounding the proposed mine area. The first village downstream from the proposed mine site is New Stuyahok (pronounced stew-yah-hawk). This village has been active in the opposition of the mine site. The president of the village tribal council, Lucy Weedman, made the following statement, "I hope it (Pebble Mine) never goes through, because our way of life will change. Everybody on this river, we're subsistence users, and rely on our rivers and habitat. It's not possible at all for that mine to be built without contaminating our river. I've not heard of a mine that could be built without contaminating the habitat." (Clymer A3).

Not only is salmon a major food source for local residents but it provides a multi-million dollar market. The Pebble Mine is said to have a lifespan of 40 to 60 years, producing \$10 billion in gold alone (Palmer 67). This might seem like a lot of money, but considering how much income is spread across the entire region and it's thousand or so residents, the cost of salmon and other natural renewable resources outweighs a few billion dollars. This provides the State the option to choose quick money or to keep the Bristol Bay environment and economy safe.

Another aspect of the mine that could wreak havoc on wildlife is a 100 mile road that will span between the more developed area of Alaska and the proposed Pebble Mine site. This highway will carry supplies, workers and the resulting gold, copper and molybdenum from the region to larger ports so it can be exported and processed. This road runs right through the range of the Mulchatna caribou herd whose numbers range from 85,000 to 120,000 ("Alaska's Pebble Mine" 21). A major road in the range of a herd this size has the potential to block access to important food sources and birthing areas. This could decimate an important piece in the food chain and a staple food for the natives.

On top of environmental effects, an influx in residents due to a mine would create a repeat of the gold rush. The environment was put on a back burner so that people from the west coast states could come in and pan for gold and sell it, only to leave Alaska with their gold money. Also, highly populated urban areas such as Juneau, Anchorage and Fairbanks were created because of the Yukon gold rush (Heacox 22). A large urban city could spring up in Bristol Bay and it would negatively affect the culture of the natives, the economy, which is based on natural resources, and the fragile environment which was not made to withstand thousands of humans and our wastes.

Increasing the population of the area, introducing toxins, building roads through "the last frontier" and wreaking havoc on natural areas is being actively sought after by Northern Dynasty. The company states, in support of the mine, that environmentally sound practices are being put to practice. Bruce Jenkins, the chief operating officer for Northern Dynasty, is surprised that the project is being opposed. He stated that the project can be completed with success without risk to the salmon and the environment. Northern Dynasty will also do everything in their power to clean up the environment if damage was done or if a spill was to

happen. Furthermore, the project will bring much needed jobs and money to a region that is supported by government funding (Clymer A3). Commercial salmon fishing does not bring in as much profit as it did in the past. A fisherman gets around 50 cents per pound for sockeye salmon and the cost of fuel is around five dollars per gallon. This uneven balance of income and expenses can be outweighed by a world class mine which produces jobs and a steady income. Money is hard to argue with and that is why this is such a hot issue in Alaska, and around the country.

Following suit, Alaskans can combat this proposed mine as the Mexican National Ecology Institute did. This institute acts in a similar fashion as the Environmental Protection Agency in the United States. The institute is given the responsibility to control the natural areas of the country and make sure all endangered species and keystone species are not being harmed. A proposition was rejected that would expand a salt mine in the Baja region. This proposal would have made Mexico one of the largest exporters of salt in the world. The Ecological Institute rejected the proposal because the area that the salt mine would have expanded to is the most pristine of only four bays used by California gray whales breed and give birth before heading back to Alaska (Darling 13). Alaskans can follow suit, ignoring economic growth and taking into account the importance of a pristine environment.

Like Mexico has done, the State of Alaska can create a nature reserve to recognize the importance of the lakes, streams and rivers used by salmon and other fish species, caribou, moose, and many other animals that are important to the ecology of the Bristol Bay area. This would give the Environmental Protection Agency the ability to come in and protect this fragile environment if it were to be threatened by mining or any other harmful activities.

Not only is the environment in danger, the native people of the region who depend on salmon as a food source is at risk. A group called the International Indian Treaty Council recognized that mining puts Alaskans at risk and they filed a complaint to the United Nations Special Rapporteur on the Right to Food. This complaint was created to combat mines, similar to the Pebble Mine, that produce harmful levels of toxins in foods that are necessary for native people to survive. This is interpreted as a human rights violation which requires action by the U.N. (Salamando 26).

If the Pebble Mine proposition is accepted by the State of Alaska there are several things that Alaskans in opposition to the mine can do. There is an environment and people that have co-existed for thousands of years without interruption and money should not put this harmony in jeopardy. Basic human rights are on the line, along with an economy based on the cultivation of salmon and a natural area that is pristine. The State of Alaska has a moral obligation to the environment and the natives of the area to take a stance of opposition to the Pebble Mine to save a culture, an economy and pristine environmental areas. The Bristol Bay area cannot be destroyed for any price.

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To: Whom it concern's

Subject: Wind blown micro-fine toxic dust's from the Pebble Mine project and other open-pit mine's within the State of Alaska

Very little has been said and almost never even mentioned about the micro-fine toxic dust particle's that will be wind-blown out of the Pebble mine project and all other open-pit mine's anywhere within the State of Alaska. Yet, these very fine particle's of toxic dust can, over time, be very deadly to all of the fish and game subsistence resource's within the area of the mine and beyond.

This toxic dust will be mostly caused by the super-heavy equipment driving over the toxic gravel's within that open-pit mine. Once these super-fine dust particle's are "kicked-up" into the air column, the prevailing wind's will scatter it far and wide. The strength of those wind's will determine just how far that dust is spread.

It is physically impossible to contain all of that wind borne toxic dust blowing out of the open-pit area. Not 24/7 x 52 week's x 30 year's. There is absolutely no way to contain all of those toxic material's once it get's into the air column.

With strong west wind's, it would pollute Iliamna lake itself. Strong north wind's will push that toxic cloud south toward's the Kvichak river. Strong east wind's will push those toxic material's into the Koktuli and Mulchatna river drainage's. South wind's will push that stuff north toward's Nondalton and the Six mile lake area. This area is at time's, subject too the wind's from the tail-end of typhoon's. These wind's can reach the 70 to 80 MPH range.

Tribal leader's from one village up north that is close to a open-pit mine, report that the ground water around that village is now too contaminated to drink. They have too haul all of their drinking water from a different water source that is over a mile away from that village.

The problem of wind-blown toxic dust must be addressed because, given enough time, it is just as deadly too our fish and game subsistence resource's as a toxic ground-water leak. A ground-water toxic leak is just faster in it's deadly effect's. Wind-blown toxic dust must be considered for every open-pit mine within the entire State of Alaska.

Sincerely,

Adolph J. Roehl, Sr.
Adolph J. Roehl, Sr.

Short Bio: Adolph Roehl, Sr. is a life-long resident of the Bristol Bay area. He has been involved with commercial salmon within Bristol Bay for almost 60 year's. Mr. Roehl is also a semi-retired electrician. He is a Member Chief of the Curyung Tribal Council and Vice-Chair of the Quayyassiq Walrus Commission. Mr. Roehl is also a member commissioner of the Bristol Bay Marine Mammal Commission.

Footnote: One Pebble mine project drill worker told a group of tribal leader's in Nondalton two year's ago, "that some of the test drill site's turned into artesian well's". TO MY KNOWLEDGE, no one has tested the water from those well's or even documented where it is flowing. Since the Pebble mine project started their test drilling, OUR CARIBOU HERD'S HAVE BEEN IN A VERY SHARP DECLINE. No one know's if possibly our caribou herd's have been drinking water from those well's.

**Public Testimony
House Bill 134
Dillingham, Alaska
September 26, 2007**

Thank you for this opportunity to speak to you and welcome to Dillingham. My name is Billy Maines. My mailing address is P.O. Box 297, Dillingham, Alaska 99576. I am here to speak to you in favor of and request your support for HB 134. I am here today to testify as an individual, as a concerned resident of Dillingham and Bristol Bay who is very worried about the health and future of our salmon and water purity.

We all know how big and diverse our great state is. Our state is divided by regions and each region of the state brings something different to the table. For example: The North Slope has its oil and gas; The Southeast has its timber and tourism; and Bristol Bay, well, we are known for FISH. Wherever you travel throughout the world and you mention you're from Bristol Bay, the response almost immediately is FISH.

I am here today to talk to you about concerns of my fish and water. When fish are born, a process starts – a process that tells and shows this fish where they come from, a place they will leave and they will return to. Encoding – geneses – whatever you want to label it – is the process that tells the fish this is where you come from and one day you will need to come back to and give birth to your offspring - to continue the cycle of life.

Our fish have been here long before my birth and hopefully they will be here long after my death. They have been providing for the residents of Alaska not to mention the world long before the need or desire to wear jewelry. Influences and/or introductions have an affect on the environment. If you look around the world you can see and hear about affects of some influence or introduction. "Global Warming" "Limiting the number of children or pets a person may have is an issue" "Farm fish versus Wild fish versus Organic" Some of these influences or introductions we have some control over, others we don't.

The State of Alaska has spent time and money promoting itself to entice folks to come and visit. The last Frontier, the abundant fish and wildlife, the rich cultures, clean and pristine air and water are just some of the reasons for visiting Alaska. In the same venue, Alaska and a number of individuals have spent time and money on promoting our Wild Salmon. I have come to believe that I as an individual may not have control over the world market price of our salmon, but as an individual I do have some control over the number of salmon I catch, how I care for them and how I use them. I also know I have this opportunity to voice my concerns over maintaining the current and future status and stature of our fish. FRESH, CLEAN,

WILD, PRISTINE – this is what our consumers expect and want. We are movers and shakers in a Global economy. Consumer expectations and perceptions are key to the success or failure of any consumable product. Mad Cow disease hurt the beef industry; Bird Flu makes people stop and think about chicken, pheasant, ducks, geese, etc; remember the on-going battle of farmed salmon versus wild salmon and now throw the organic label into the mix. Just for a second think about what would happen if there was the hint of a potential introduction or influence of a pollutant into the spawning and rearing waters of fish. If the fish were able to survive within those waters, would you consider eating them?

The Bristol Bay region is a free flowing water rich region, both above ground and under ground. This is evident just by seeing throughout our area the vast amount and varied amount of fish and wildlife we have. Water is the key to life. Our own bodies needs and is composed of 75% water. The Nushagak Mulchatna Watershed hosts the water needs and nutrients for the record returns of salmon in the Nushagak fishing district and the billion dollar industry of the Bering Sea. One of the primary sources of food for my family is the Chinook. Kings are now coming back to the Nushagak. I can not put into words or find the right adjectives that would fully describe to you my feelings or needs for that king salmon. It goes directly to the essence of life.

The Koktuli River is important to Northern Dynasty and their Pebble project. They have a water rights application on file. They propose to draw water from both the North and South Fork of the Koktuli. In many if not all their presentations concerning the Koktuli, they shown a portion of the South Fork they say goes dry. The Koktuli River flows into the Mulchatna which flows into the Nushagak. The Koktuli is also a major king spawning river. According to records, the Koktuli itself is responsible for at least 25% of the Nushagak kings. If Northern Dynasty is so sensitive to the environment and believes in a no fish loss policy, then why are they proposing taking water that is critical for the environment and habitat of the fish? I support and would like you recommend HB 134. Again thank you for your time and coming out to see us in Dillingham.

Good morning distinguished members of the Alaskan Government, Bristol Bay residents, and Dillingham Wolverines. We represent the students of Dillingham High School.

Wiinga atqa ayapek
Aataka Gareth Nelson Aanaka Jackie Bond
Yurtellruna Fairbanks a-mi
Anglillruna Curyurmi
Curyurmiungu-nga

My name is Heidi Andrews my fathers name is James, my mothers name is Vera, I was born, raised and live in the community of Dillingham.

We as the future Bristol Bay subsistence users, commercial fishermen, and residents of the watershed are opposed to Northern Dynasty's Pebble Mine and are in support of the concept of House Bill 134.

Mines are notoriously harmful to the environment. In fact, all open pit mines throughout history have been unsuccessful environmentally and have impacted the areas in negative ways, many being abandoned and left to decay. To extract the gold from the hard rock, the mine must use cyanide. The use of cyanide is harmful to the environment and the subsistence way of life. If cyanide were to leach into the aquifer and eventually the water table, it would absolutely ruin the fisheries; commercial, sport, and subsistence. Our people have been fishing this system for thousands of years. How can mining permits be issued if there is even the slightest chance of ruining our way of life? You must ask yourself, what is more important, a people who have been living unaided for thousands of years off the land and all of it's resources, or a mine that could create a few thousand jobs for fifty years and possibly ruin our culture? Whom do you support? The people of Alaska or a Canadian Mining company? Who elected you into office? Who do you represent?

In Dillingham every year we see thousands of people who come into our community, spend money, and have a great time catching sockeye salmon from the largest salmon producing water system in the world. If the system is wiped out, so is our tourism industry, and eventually our village and our way of life.

At this moment in history, the fish swim up stream every year, and every year we catch enough to make it through the winter, every year since the beginning of time. If the pebble mine were to be, life as we know it would cease to exist.

Yupik closing

Testimony of Russell Nelson
9/26/07

Thank you Representatives for coming to Dillingham to hear our concerns on House Bill 134.

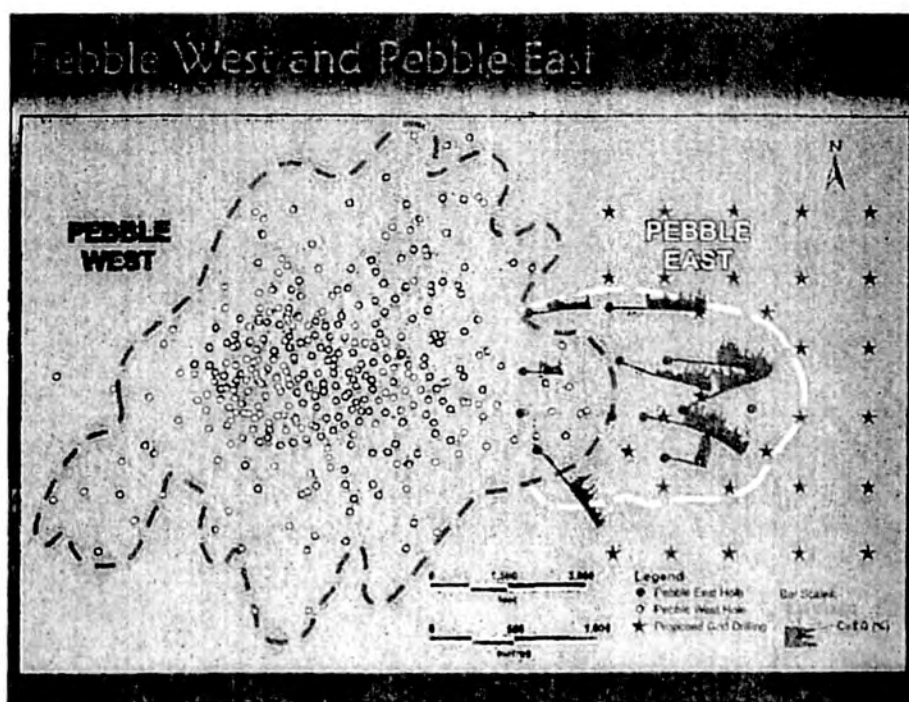
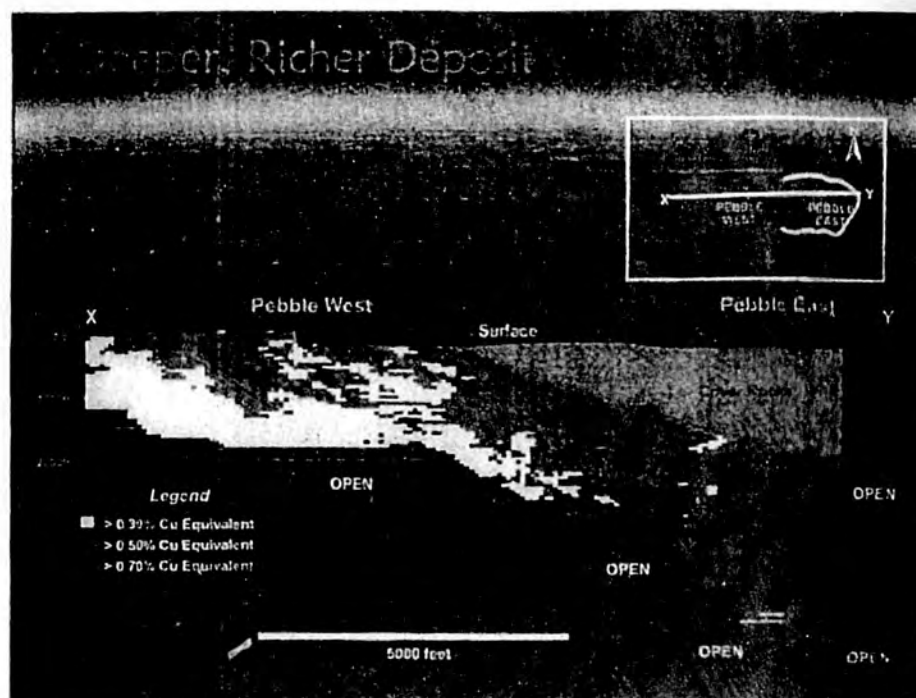
I believe that the Bristol Bay watershed needs protection for the sake of our salmon economy and lifestyle. My biggest fear is we would trade a long term renewable economy for a short term non-renewable economy that has the potential of destroying not only the salmon populations that this community depends on but also the tourism that has been built up here over the past several decades.

The only concern that I have with this bill is, that I would like to make sure that we can still continue to develop gravel pits, rock quarries, ~~and roads~~ *& Powerlines* between the villages and towns as necessary when the people in the communities of Bristol Bay require them.

While you are here I hope you will take time to look at our schools and keep in mind that Research shows a Facility condition may have a stronger effect on students performance than the influences of family background, socioeconomic status, school attendance and behavior combined. Well designed facilities send a powerful message to kids about the importance a community places on education.

Again Thank you for coming to Dillingham and listening listening

Submitted by Rick Halford





Alaska State Legislature

Please enter into the record my testimony to the House Fisheries Committee
COMMITTEE NAME
committee on 134, dated 9/26/07
BILL / SUBJECT TODAY'S DATE

I am in support of H.B.134, being born & raised in Dillingham, commercial fishermen & subsistence user we cannot afford to lose our renewable resource.

Signed: Wassiliia Bennis Wassiliia Bennis
TESTIFIER (Signed, PRINTED NAME)
self
REPRESENTING
Box 406 Dillingham, AK
ADDRESS
(907) 846-5926
PHONE NO.

Copy ★
For:
Representative
Bryce Edgmon

Sept. 26, 2007
Helen M. Chythlook
Box 1392
Dillingham, AK 99576

①

I am representing myself, but do have some comments for the Qayassig Walrus Commission and the Bristol Bay Marine Mammal Council I work for. Although what I say does not currently reflect what their stance on this HB134 Bill is.

I am an Aleknagik Traditional Council member. I have commercially fished all my life til recently. Some personal health problems have prevented me from participating in the seasonal fishery. Although, I stay with the majority of the Bristol Bay and the Alaska Peninsula heavily rely on our year-round traditional activities of harvesting, gathering for our food resources which include mainly in the Nushagak area -

Helen Chythlak

(21)

salmon, or "sayag, nega" in the Yup'ik Eskimo language. Our late father, Tom Chythlak, taught us to practice our traditional way of life, which includes Native traditional values and customs of treating the land, the sea, the water, and the air we breathe in with utmost respect, like walking into a church with reverence. One, because the lands, the earth, and the environments our traditional Native ancestors or ciurllaq's walked on were sacred traditional areas where they used to live on. Without pure water, the marine and fresh ~~water~~ water food resources will die because they will stop being nourished by water to grow, produce, and give themselves to us to sustain us. We need to continue to protect our lands, the lakes, the rivers and the oceans ecosystem we gather and harvest our traditional food resources.

Helen Chythial

③

Please reference the attached
2 documents I supplied for
you, a letter to Governor Sarah
Paulin, dated March 13, 2007,
and a memo dated August 22, 2007
of some of the concerns of the (QWC)
Qayassig Waters Commission I work
for - #1. The QWC Commissioners
would like to be involved with
any environmental issues that will
affect their traditional way of life.
Including - having agencies work
with them in conducting water quality
^{test} monitoring of the commercial (erring)
Salmon gillnet fishery waters of Tugash,
Nishagik, Nakulh-Kuichak, Eyegik
and Ugashik Districts to establish
a baseline. Please refer to attached
correspondence for further details.
I support Representative Edgcomb's draft
work HB 134, as long as our traditional
way of life will continue to be
protected with no restrictions, and to
continue to give us the freedom to

Adam Chipping
gather and harvest our

(4)

Salmon, marine mammals, moose,
Caribou, herring, herring roe, clams,
waterfowl, bird eggs, medicinal and
edible berries in pure air and
pure water and a pure environment
for generations to come.

Quynes!

FILE

Qayassiq Walrus Commission
c/o: Bristol Bay Native Association
P.O. Box 310
Dillingham, AK 99576
Phone: 907-842-5257
Fax: 907-842-5932
QWC Chair Phone: 907-493-5003

9/26/07
Submitted by
Helen Anythol
QWC Staff

March 13, 2007

The Honorable Governor Sarah Palin
Office of the Governor
State of Alaska
P.O. Box 110001
Juneau, AK 99811-0001

Dear Honorable Governor Palin:

On September 1, 2007 I attended and chaired the Qayassiq Walrus Commission's (QWC) Pre-Hunt Meeting in Dillingham. The QWC Commissioners from nine communities and QWC Hunt Captains attended the meeting as well as state and federal agencies and local participants.

The QWC Commissioners would like to be involved with any environmental issues that will affect their traditional way of life. They want their marine, land, and edible food resources protected and do not want, for example, Pebble Mine to damage the salmon habitats and the marine mammal environment. These are their traditional foods and they do not want them to get contaminated from toxic contaminants that occur from mines depositing waste in streams. The mineral toxic waste deposited into streams can flow into other river systems and waterways.

The QWC Commissioners want to be involved in any contaminant water sampling projects and recommended state or federal agencies conducting water samples for contaminants to get samples from the Nushagak, Togiak Bay and any Bristol Bay commercial salmon fishing waters. They want water samples collected before the salmon fishing season starts and during the commercial fishing season. This will establish a contaminants baseline for the marine ecosystem resources harvested as traditional foods throughout the year.

Another water sample testing recommendation by one of the QWC Hunt Captain's is to have agencies conduct water sample testing before the annual seasonal commercial herring fishing in the Kulukak Bay and Metervik Bay area. Salmon, seabirds, and marine mammals habitat is in those areas and this is also an important traditional food harvest area for the Togiak, Twin Hills, and the Nushagak Bay area residents. Conducting water samples for contaminants before the herring fishing and after the herring fishing ends is recommended. If funding allows, conducting water samples throughout the summer season in these areas would be beneficial for the traditional and scientific needs of both the commercial and subsistence users. The QWC Commissioners would like to be participants in local, state, or federal agencies working on

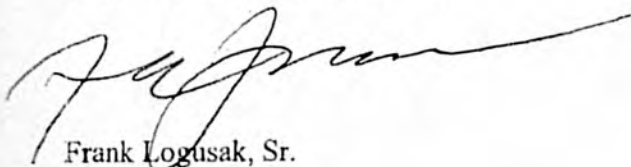
Bristol Bay environmental issues. The marine mammals are part of the environment and the ocean waters are their habitat. The QWC Commissioners want to be involved in local environmental contaminant monitor projects as cooperators, if possible.

The QWC Commissioners have mentioned their concerns to some of the state and federal agencies during their meetings, but no recommendations or volunteer to assist QWC has been done. On behalf of the QWC, we are approaching the State starting in the 2007 commercial herring and salmon gillnet fishing season, if some water samples can be taken in the Togiak herring fishery, and in the Bristol Bay commercial fishing waters. The projected water sampling collections requested is to take samples during the 2007 spring Togiak herring season, during the summer seasonal commercial salmon fishing season, and after the fishing season closes which usually is by mid-August in the Bristol Bay area. The spring seasonal Togiak herring commercial fishing season usually starts sometime in May of each year, depending on whether the ice has melted and the herring have arrived in the Togiak Bay, Kulukak Bay, and Metervik Bay area. The main waters that the QWC Commissioners expressed their concerns were in the following commercial salmon fishing districts: Togiak, Nushagak, Naknek, Kvichak, Egegik, Ugashik, and the main river tributaries that go into freshwater streams and lakes. If at all possible, the QWC would like to request the State and the Legislature to come up with funds to accomplish the collection of water samples in the Bristol Bay area commercial salmon and herring fishing waters.

I will be looking forward in hearing from you.

Sincerely,

Qayassiq Walrus Commission



Frank Logusak, Sr.
QWC Chairman

cc QWC Commissioners
QWC Hunt Captains
Ralph Andersen, Chief Executive Officer, Bristol Bay Native Association
✓ Senator Lyman Hoffman
Representative Bryce Edgmon



BRISTOL BAY NATIVE ASSOCIATION

PO Box 310
Dillingham, Alaska 99576-0310
Tel: (907) 842-5257
Fax: (907) 842-5932

Memorandum

To: Hjalmer Olsen, Sr., President, Bristol Bay Native Corporation
Luki Akelkok, Sr., President, Nushagak Mulchatna Watershed Council
Bobby Andrew, Nunamta Aulukestai Council
Ralph Andersen, BBNA Chief Executive Officer

From: Helen M. Chythlook, BBNA Marine Mammal Coordinator

Date: August 22, 2007

Re: Traditional Subsistence Harvest Concerns from New Stuyahok
for harvesting Red salmon, moose, caribou, berries, ducks, beavers, Trapping Fur-
Bearing Animals For Traditional Handicrafts, and Other Traditional Food
Resources In The Swan River and Koktuli River Areas

I work for the Bristol Bay Marine Mammal Council (BBMMC) and the Qayassiq Walrus Commission (QWC), as well as for the Bristol Bay Native Association (BBNA) Marine Mammal Program. Since I was raised in a Yupik Eskimo environment with parents that practiced year-round traditional activities including fishing, hunting, and gathering foods from the land, the lake waters, river tributaries, and from the coastal marine environment, I also deal with any traditional food harvest concerns from the Bristol Bay and the Alaska Peninsula communities. I was taught that everything from the land, the fresh water lakes and river tributaries, as well as from the marine ecosystem are given to us by Our Creator. We were taught to share with widowed families, elders who couldn't go out harvesting traditional food resources of our catch or wild edible plants gathered. These Yupik Eskimo traditions are still practiced today by the people of Bristol Bay and the Alaska Peninsula.

~~Timothy Wanhola~~ A, Qayassiq Walrus Commissioner from New Stuyahok called the BBNA Marine Mammal Program today, and would like the concerns mentioned to be brought up by BBNC, BBNA, to appropriate watershed councils, agencies and to anyone who will do something about protecting and continuing the Alaska Native Yupik Eskimo traditional way of life. Since the Pebble Mine have conducted exploratory development on the proposed mine site, there have been a substantial decrease down to little or nothing of the traditional food resources hunted, fished, edible plants gathered (berries, medicinal plants, and edible greens), ducks, geese, moose, caribou, and others not mentioned. For the last two years, ~~Timothy Wanhola~~ and other upriver Nushagak Watershed communities have traveled to their annual traditional sites to

harvest spawned out sockeye (red) salmon in the Swan River and Kaktuli River areas. Both years, the New Stuyahok salmon harvestors have observed zero (0) spawned out red salmon in the Kaktuli River and the Swan River areas. Other species have declined from both rivers including rainbow trout, dolly varden, moose, caribou, as well as ducks, and geese traditionally harvested.

Recently, some Bristol Bay residents participated on a water quality monitoring sample collection trip from the headwaters of the Kaktuli, the Swan River down to the end of the Nushagak River. It was indicated that no sockeye 'red' salmon were observed on both of the Kaktuli and Swan River areas by the Bristol Bay participants. There is concern from Timothy Wonhola that something is going on in the upper Nushagak-Mulchatna watershed areas since the proposed Pebble Mine exploration started two years ago. He mentioned the land animals, fur bearing animals, and marine mammals will become scarce next.

I am recommending all of the organizations cooperatively work on these issues of concern of why the traditional food resources are becoming scarce in the Swan River, and the Kaktuli River areas. The organizations need to resolve this issue to continue the preservation of our traditional way of life. This includes harvesting fish, moose, caribou, ducks, geese, marine mammals, fur bearing animals, shellfish, wild edible plants, clams, herring, and other traditional foods from the freshwater and watershed river tributaries and from the marine ecosystem.

cc: Molly Chythlook, BBNA Natural Resource Director
Timothy Wonhola, QWC Commissioner, New Stuyahok
Susan Flensburg, BBNA Environmental Program Manager
Frank Woods III, BBNA Subsistence Coordinator
Theodore Krieg, Division of Subsistence, ADF&G-Dillingham



Alaska State Legislature

Fisheries &

Please enter into the record my testimony to the

House Resources Committee

COMMITTEE NAME

committee on

draft work

HB 137

BILL / SUBJECT

, dated

Sept. 26, 2007

TODAY'S DATE

Signed:

Helen M. Chythlook (Helen M. Chythlook)

TESTIFIER (Signed, PRINTED NAME)

Self

REPRESENTING

P.O. Box 1392, Dillingham, AK 99578

ADDRESS

(Kusko) 907-842-5257 x 370

PHONE NO.

Public Opinion Message

Please contact your local Legislative Information Office (LIO) to send POMs.
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From: Please **PRINT** the information below. This form must be signed by the sender.

Mr. / Ms. / Mrs.	First name	M.I.	Last name	Jr. / Sr. / III
	Rachel		Muir	
Group affiliation (if applicable)				Daytime telephone number
Mailing address				Zip code
PO Box 1395, Dillingham AK				99576
Residence (street) address if different from mailing address				Zip code
100 Creekside Lane Dillingham AK				99576
Email address		Signature		Date
jrmuir@nushtel.net		Rachel Muir		9/26/07

To: Put a ☒ in the appropriate box(es).

Committees		House members		Senate members	
☐ H or S	Community & Regional Affairs (cra)	☐ Anderson (ade)	☐ Kelly (kel)	☐ Bunde (bun)	
☐	Finance (fin)	☐ Berkowitz (ber)	☐ Kerttula (ker)	☐ Cowdery (coy)	
☐	Health, Ed., & Social Services (hes)	☐ Chenault (che)	☐ Kohring (koh)	☐ Davis (dab)	
☐	Judiciary (jud)	☐ Cissna (cis)	☐ Kott (kot)	☐ Dyson (dys)	
☐	Labor & Commerce (l&c)	☐ Coghill (cog)	☐ Ledoux (leu)	☐ Ellis (eli)	
☐	Resources (res)	☐ Crawford (crf)	☐ Lynn (lyn)	☐ Elton (elt)	
☐	Rules (rls)	☐ Croft (cro)	☐ McGuire (mcg)	☐ French (fre)	
☐	State Affairs (sta)	☐ Dahstrom (dal)	☐ Meyer (mey)	☐ Green (gre)	
☐	Transportation (tra)	☐ Elkins (eln)	☐ Moses (mos)	☐ Guess (gue)	
☐	Other:	☐ Foster (fos)	☐ Neuman (neu)	☐ Hoffman (hof)	
☐	Other:	☐ Gara (gar)	☐ Olson (oli)	☐ Huggins (hug)	
		☐ Gardner (gas)	☐ Ramras (rar)	☐ Kookesh (kos)	
		☐ Gatto (gat)	☐ Rokeberg (rok)	☐ Olson (ols)	
		☐ Gruenberg (gru)	☐ Salmon (sae)	☐ Seekins (sek)	
		☐ Guttenberg (glt)	☐ Samuels (sal)	☐ Stedman (smn)	
		☐ Harris (har)	☐ Seaton (san)	☐ B. Stevens (ste)	
		☐ Hawker (haw)	☐ Stoltze (stz)	☐ G. Stevens (stg)	
		☐ Holm (hol)	☐ Thomas (thm)	☐ Theriault (thr)	
		☐ Joule (jou)	☐ Weyhrauch (weh)	☐ Wagoner (wag)	
		☐ Kapsner (kap)	☐ Wilson (wis)	☐ Wilken (wik)	

Subject: Fill out the boxes below OR enter a Subject.

HB or SB	Bill number	and check one:	☐ Support	☐ Oppose	☐ Amend	OR	enter a general Subject (LIO staff may modify):
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Message: Your **PRINTED** message cannot exceed 50 words or contain any vulgar language.

I	have	only	lived	in	5
Dillingham	for	fifteen	years,	but	10
living	in	a	place	pristine	15
enough	to	support	wild	Salmon	20
habitat	is	an	honor	and,	25
globally,	is	becoming	a	rare	30
privilege.	I	support	measures	such	35
as	House	Bill	134	to	40
restore	protection	of	the	Natreshed	45
of	Bristol	Ray.			50

Public Opinion Message

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This form must be completely filled out. You may phone, fax, or deliver your POM to any LIO.

From: Please **PRINT** the information below. This form **must be signed** by the sender.

Mr. / Ms. / Mrs.	First name	M.I.	Last name	Jr. / Sr. / III
Mr.	John	M	Muir	
Group affiliation (if applicable)				Daytime telephone number
				907-842-2116
Mailing address				Zip code
PO Box 1345, Dillingham, AK 92				99576
Residence (street) address if different from mailing address				Zip code
160 Creekside Ln, Dillingham, AK				99576
Email address			Signature	Date
johnmuir38@yahoo.com			<i>[Signature]</i>	9/24/05

To: Put a ☒ in the appropriate box(es).

Committees		House members		Senate members	
☐ H or S	Community & Regional Affairs (cra)	☐ Anderson (ade)	☐ Kelly (kel)	☐ Bunde (bun)	
☐	Finance (fin)	☐ Berkowitz (ber)	☐ Kerttula (ker)	☐ Cowdery (coy)	
☒	Health, Ed., & Social Services (hes)	☐ Chenault (che)	☐ Kohring (koh)	☐ Davis (dab)	
☐	Judiciary (jud)	☐ Cissna (cis)	☐ Kott (kot)	☐ Dyson (dys)	
☐	Labor & Commerce (l&c)	☐ Coghill (cog)	☐ Ledoux (leu)	☐ Ellis (eli)	
☒	Resources (res)	☐ Crawford (crf)	☐ Lynn (lyn)	☐ Elton (elt)	
☐	Rules (rls)	☐ Croft (cro)	☐ McGuire (mcg)	☐ French (fre)	
☐	State Affairs (sta)	☐ Dahlstrom (dal)	☐ Meyer (mey)	☐ Green (gre)	
☐	Transportation (tra)	☐ Elkins (eln)	☐ Moses (mos)	☐ Guess (gue)	
☒	Other: Fisheries	☐ Foster (fos)	☐ Neuman (neu)	☐ Hoffman (hof)	
☐	Other:	☐ Gara (gar)	☐ Olson (oll)	☐ Huggins (hug)	
		☐ Gardner (gas)	☐ Ramras (rar)	☐ Kookesh (kos)	
		☐ Galto (gal)	☐ Rokeberg (rok)	☐ Olson (ols)	
		☐ Gruenberg (gru)	☐ Salmon (sae)	☐ Seekins (sek)	
		☐ Gutenberg (gtt)	☐ Samuels (sal)	☐ Stedman (smn)	
		☐ Harris (har)	☐ Seaton (san)	☐ B. Stevens (ste)	
		☐ Hawker (haw)	☐ Stoltze (stz)	☐ G. Stevens (stg)	
		☐ Holm (hol)	☐ Thomas (thm)	☐ Theriault (thr)	
		☐ Joule (jou)	☐ Weyhrauch (weh)	☐ Wagoner (wag)	
		☐ Kapsner (kap)	☐ Wilson (wis)	☐ Wilken (wik)	

Subject: Fill out the boxes below OR enter a Subject.

HB or SB	Bill number	and check one:	☒ Support	OR enter a general Subject (LIO staff may modify):
HB	134	☐ Oppose		
		☐ Amend		

Message: Your **PRINTED** message cannot exceed 50 words or contain any vulgar language.

I	have	spent	fifteen	years	5
in	Bristol	Bay.	I	grew	10
up	in	Minnesota	and	witnessed	15
the	scars,	both	physically	and	20
metaphorically,	that	come	with	large	25
scale.	mineral	extraction.	Bristol	Bay	30
Fisheries	need	additional	protection	from	35
the	potential	detrimental	effects	of	40
large	scale	mining.			45
					50

John B. Branson
Lake Clark
Dort Alsworth, AK 99653

9-24-07

Dear Rep. Seaton,

I believe the Bristol Bay watershed needs to be protected from hard rock mining. The healthy salmon fishery should be protected until such time as it becomes extinct — God forbid.

I hope you will continue to provide leadership in the preservation of the Bristol Bay watershed for future generations of Americans. And thank you for your efforts to protect the fisheries. Sincerely,
John Brans

It is no accident that the very first legislative acts of the Murkowski administration were to rework the Alaska Coastal Management Program and to move fish and game's habitat division into the Department of Natural Resources. These moves were made under the mantle of streamlining. In the world of coastal management, their effect was to disenfranchise local districts.

The original ACMP was designed to give local governments and districts a way to comment on development in their regions and to have these comments integrated into state and federal law – districts would have policies that reflected local priorities, and those policies gave local comments legal heft. That is to say, comments tied to these policies were backed up by statute and regulation.

The Murkowski ACMP eliminated that connection and pulled the ACMP authorities back into the state agencies. Local districts could still comment, but they would, in effect, have no more local policies to base their comments on and, hence, no statutory tie-in. This is how the Murkowski administration disenfranchised the local districts.

Rep Edgemon's bill is predicated on the notion that the watersheds feeding into the Bristol Bay Fisheries Reserve are inadequately protected.

As we went through the ACMP revision and the Habitat division move, we were assured that the fundamental statutes and regulations the agencies work under remained intact and, consequently, environmental protection was uncompromised.

While this is true to an extent – agency statutes and regulations are intact – the Habitat division in particular has lost the hooks that local policies gave them to hang their project stipulations on. What Habitat has to work with henceforth remains to be seen, in my experience, but one thing is certain – local concerns will not be so well represented.

Does this mean Habitat, and the other agencies, are inadequate to the task of regulating a Pebble Mine? I call your attention to the Kuipers Report. This a systematic, peer-reviewed study that examines the accuracy of Environmental Impact Statements written for a sampling of mining operations. The findings show that EIS's failed to predict water-quality impacts in a significant percentage of these studies.

The shortcomings boil down to testing for acid-rock drainage. Bottom line -- there is no test that adequately foretells how different bodies of waste rock will behave over time. There are a variety of tests – collectively called kinetic bench tests – and all of their shortcomings involve lack of time to adequately assess how different ores behave.

I have not found any part of the DEC regulations that even mention these tests. This is the sort of thing we would like to have policies on. But you know what? We can't. The state tells us every area we want to address with our policies is covered by the various agencies -- yet the state has nothing on this. So, no, it does not appear to us that the watershed is adequately protected. Thank you for coming to the region to hear our concerns.

Andrew deValpine

BBCRSA

My name is Alice Ruby and I am speaking to you now as the Mayor of the City of Dillingham. Welcome to Dillingham Again. Thank you for coming here and allowing us to speak to you in person

We understand that you flew over the Nushagak and Kivchak drainages during the past couple of days. So you are somewhat familiar with the geography of our area. The water body that flows past our community is the mouth of the Nushagak River – the Mulchatna River flow into the Nushagak and literally past our front door.

Dillingham is a first class city. We are located outside of the Lake and Pen Borough boundaries and we are a part of the unorganized borough. Our municipal boundaries extend about 11 miles north and about 6 miles west. They generally follow the shores of the Nushagak and Wood Rivers.

We have about a \$10 million annual municipal budget. Of that, about \$5 million is the School district and \$5 million is city operations. Our city contributed \$1.3 million to the City school district for FY 08 – that is an increase from about \$1.1 in FY07 and \$1.2 in FY06 – please note that our school contribution is almost twice what is required by law.

We are a permanent population of about 2500 people. But at any time you will see hundreds and sometimes thousands more people moving through our community. During the summer months, hundreds of people flow through for commercial fishing – fishermen, crewmembers, processing labor force and the fishing support industry. Fortunate or unfortunate, a large percentage of those people are from outside of our region – from around the state and around the nation.

We are a transition and transportation hub for the Togiak National Wildlife refuge, the Wood Tikchik State Park and the Nushagak/Mulchatna Watershed. During the spring, summer and fall, we see hundreds of people flow through our community in route to the 50# lodges and dozens of temporary sport fishing and hunting camps in those areas. A client will pay from a few hundred to over \$5,000 per week to visit one of those sites.

We support our city through a 13 mill property tax, a 6 percent sales tax, a 10 percent bed & alcohol tax and a variety of user fees via our dock, harbor, landfill, water & sewer and others.

In about 2 months our voters will be presented with a proposition for a \$15 million G.O. Bond to renovate our schools. We expect to take advantage of the state's debt reimbursement program and we expect to be able to repay the bond by holding tight to our current level of service.

We choose to tax ourselves fairly heavily; especially relative to other communities within our region. We do so because we want to maintain and grow our infrastructure and ultimately the community that we have.

It's no secret to any resident in our community that we're struggling. We are an economy in recovery. Our cost of living is high from everyday groceries to our energy.

Our economy and ultimately the community's tax base is critically dependent upon our renewable resources – that is our fish, game and the habitat that sustains us. Whether it is commercial fishing, commercial recreation, private recreation or subsistence activities. We choose to grow our economy based on the resources that surround us – we have chosen to make an effort to enhance our fishing industry and our recreational industry.

Anything that happens in the headwaters of the Nushagak/Mulchatna Rivers will have an affect on our community. It will affect our social as well as our economic well being and our future. That is why the City of Dillingham has taken a position of "Fish First". Any activity that threatens the water quality of the river is of great concern to our community. We must protect those renewable resources and we must protect the river that feeds us.

HB 134 represents the protections that are needed for the river bodies that feed our community and the economy that we are continuing to try to grow. We strongly urge your support. *Added during delivery of testimony. I listened with interest to some of the suggestions for modifying the bill. We agree that there is probably room for some modifications to the bill. The exemptions could be broadened to include community development. Though the council hasn't given direction, I believe that the suggestion that the prohibited activities could be based on size or magnitude has some potential for clarifying. I don't believe the council would support exclusion of land by ownership status because it is the water column that is being addressed. All lands whether federal, state, private or trust lands (such as allotments) should be considered; otherwise excluding parcels in a patchwork pattern would probably defeat the purpose of the bill.*

Thank you again for coming to Dillingham.

Terry Hoefflerle\
P.O. Box 825
Dillingham, Alaska 99576
Nonnie@nushtel.net

Testimony on HB134
Dillingham, AK September 26,2007

I am the fourth son of Henry and Anne Hoefflerle, and was born and raised in the Gogebic Mining District on the south shore of Lake Superior. For 35 years I have been a subsistence and sport hunter and fisherman in Western Alaska. During that time I have been a commercial fisherman, educator, and bureaucrat.

In my testimony today I want to support protection of wild salmon and clean water and prohibit threats to these. In doing so, if time permits, I intend to:

Encourage combining HB134 and SB67. Ideas in bills are not mutually exclusive and complement each other

Address problems with Exclusions and Prohibitions in HB134 which might lead to an exhaustive list of exceptions (needs to be rewritten).

Prohibitions of:

Specific operations that "use or generate" cyanide, sulfuric acid, or other toxic reagents.

Prohibit large scale industrial and commercial use, all others exempt.

Shortcomings of our management regime to address these issues.

Put it in ADF&G like SB67 does, not DNR/DEC. DNR is set up to expedite and encourage mining permits, as though these are the highest and best use of our resources.

More stringent standards.

Speak to the urgency of taking legislative action now.

A.

I want to express my concern about proposals to operate massive mines in the headwaters of our rivers. This is an exceptional, fragile environment which demands exceptional measures of us to protect it. I **speak in favor of HB134, or some combination of 134 with SB67** as measures beyond the current regulatory regime that should be enacted.

Multinational resource extraction companies are **not charitable organizations**. As profit making corporations, law requires of them a **fiduciary responsibility to the bottom line**. If the citizens of Alaska want a mining company to do anything that would diminish its profits, including often costly environmental safeguards, it is our responsibility to make and enforce laws demanding those things. **Our current regulatory regime is woefully inadequate.** *Alaska Statutes that address Mining and Water Quality take up 2 whole pages.*

We are not talking about mom and pop gold panning or placer mining. It is **not likely that anyone will see either a nugget or a flake of gold from the type of mining operations** contemplated here. The ore concentrate carried away from the mine site represents only a tiny fraction of the earth that must be dug up. The remainder is waste rock & tailings. **Hundreds of millions of tons of those tailings will be toxic** and need to be safeguarded forever. Northern Dynasty Mines (NDM) proposes nothing different from low grade metallic sulfide mines that have already failed. NDM simply proposes a greater scale – to accommodate as much as 8.2 billion tons of waste.

B.

I have heard two spurious claims repeated by opponents to HB134: 1, A mine can be developed safely here, and 2. Alaska has some of the most stringent mining laws in the world. These are patently false.

The chemical nature and location of the rock at the mine site makes the release of sulfuric acid and toxic copper into waters a virtual certainty. According to a recent survey, the governmental success rate in permitting, so as to prevent such contamination, has been demonstrated to be exceptionally poor – a 93% failure rate, nationwide*. There are reasons for such dismal results: One of the most prominent reasons is shortcomings in public policy.

(Kuipers, et al 2006 Comprison if Preducted and Actual Water Quality at Hard Rock Mines: The reliability of predictions in Environmental Impact Statements)

DNR, faced with a massive failure rate at similar mines around the country, **in much more arid climates**, is not credible in its claim that its permitting process will work when others have failed. This is why it is so important for the Legislature to enact legislation **now** that conserves the Bristol Bay drainages and establishes processes and standards that protect those drainages. Doing so is the only way to serve the public and protect Alaskan's interests in the natural resources that belong to them.

There are many (including our Governor) who **advocate letting the permitting process take its course. This approach presupposes that our permitting process indeed adequately protects those precious resources.** Experience, and a review of applicable law shows that it does not.

- The permitting process gives Alaskans no say until the decisions are made, by the fox told to guard the henhouse (paid permitting staff, DEC and DNR heads who have ties to the industry).
- Existing law and regulatory regime regarding mining and water are at a par with oil protocols in place prior to Prudhoe Bay and Exxon Valdez. Two pages in Statute. (2 pages)
- The current process places the interest of large multinational corporations above the needs of the people of Alaska.

This begs the question: **"Can the mining companies point to a single similar open pit mine that did not significantly pollute water and destroy land?"**

Mining companies have claimed in the press that they can develop mega mines in Bristol Bay without hurting the environment. Let's take them at their word and add to the permit process the requirement of Wisconsin's 1997 Act 171 which demands that any company mining in sulfite bearing rock

(www.dnr.state.wi.us/org/esscience/crandon/review/moratorium.htm)

provide examples of a mining operation in the U.S. or Canada that have not resulted in significant environmental pollution. The law includes specific qualifying criteria that must be satisfied in order for the example site, or sites, to be considered. The mining company must submit documentation from groundwater/surface water monitoring that includes data showing that:

- (1) An example mine has been *closed* for 10 years without the pollution of groundwater or surface water from acid drainage at the tailings site or at the mine site or from the release of heavy metals; and
- (2) An example mine has *operated* for 10 years without the pollution of groundwater or surface water from acid drainage at the tailings site or at the mine site or from the release of heavy metals.

OR make the prohibitions in HB134 more specific...

1. Prohibit: a. use or generation of cyanide, sulfuric acid, or toxic or acidic ore processing or reagents; b. storage or disposal of industrial waste, mining waste rock or overburden, mining processing or beneficiation products or byproducts, tailings, or chemically processed ore or waste, and c. withdrawal, appropriation, obstruction, channeling, injection, pollution or alteration, on either a temporary or permanent basis, any surface or subsurface water hydrologically interrelated or connected to waters in the area covered by the bill.
2. No state agency shall issue a permit or authorization for prohibited activities or that would have potential to create acid mine or acid rock drainage into surface or groundwater. For mining sulfide minerals or ores, both the mining area and affected area, including all facilities, shall be reclaimed and remediated to achieve a naturally self-sustaining ecosystem appropriate for the area that does not require long-term or perpetual care, including treatment, and the areas shall be returned as expeditiously as possible to the ecological conditions that approximate premining conditions.
3. Any permit, lease, compatibility determination or authorization for facilities related to mining sulfide minerals or ores in the protection area shall be subject to a public notice and comment period after which the agency shall respond to

comments in writing and with scientific or technical justification for the agency's position

Louie Flora

From: Maureen Knutsen [maureen.knutsen@gmail.com]
Sent: Monday, October 01, 2007 4:08 PM
To: Rep. Bryce Edgmon; Rep. Paul Seaton; Rep. Gabrielle LeDoux; Rep. Carl Gatto; Rep. Kyle Johansen; Rep. Lindsey Holmes; Rep. Vic Kohring@legis.state.ak.us; Rep. Bob Roses; Rep. David Guttenberg; Rep. Scott Kawasaki; Rep. Craig Johnson; Rep. Peggy Wilson
Subject: Bristol Bay watershed protections
Follow Up Flag: Follow up
Flag Status: Blue

Thank you, Resources & Fisheries Committee members, for holding public hearings in Bristol Bay on H.B. 134. I testified in Naknek that I am in favor of the greatest level of protection possible for our salmon spawning waters and habitat.

Whether we can achieve that with a reworked version of H.B. 134 or by other means, I feel it is imperative that we do this ASAP. Please give this issue the highest priority.

It may be a better strategy to take measures such as moving the Habitat Division back under the jurisdiction of ADF&G and restoring the regulations requiring no mixing zones in salmon spawning streams.

I am a resident subsistence fisherperson and have been commercial fishing with my husband on our boat since 1978. My husband was born in Bristol Bay and has been fishing and subsisting here his whole life. I speak for both of us when I say that we are depending on our representatives in Juneau to help us protect our amazing renewable salmon resource from reckless and short-sighted development.

Thank you for whatever you can do to help us preserve our way of life.

Maureen Knutsen
P.O. Box 134
Naknek, AK 99633
907-246-6675
maureen.knutsen@gmail.com

9-26-07 HB 134 Hearing Dillingham

Testimony by Dan Dunaway

Good morning and thank you for coming to Bristol Bay.

I am Dan Dunaway, born and raised Alaskan, educated at UAF.

For 14 years I was a Fish and Game fisheries biologist in Bristol Bay conducting research and management in the Bristol Bay and Lower Kuskokwim sport fisheries.

Now I am retired and live in Dillingham with my wife and 2 young sons. I am an alternate member of the Nushagak Fish and Game advisory committee and a member of the Bristol Bay Advisory Council for the Federal Subsistence program. I am also a member of the RRC.

I am a subsistence and sport user of local resources.

Today I speak only for myself.

I support HB 134 in its general intent. We must protect the water and fish habitat in the Bristol Bay area. The fish populations dependent on pristine waters of our area are critical to the subsistence users as well as world renowned to the sport and commercial fisheries. I believe the Bristol Bay WILD, NATURALLY PROPAGATED fish adds significantly to the value and prestige of all Alaska's fisheries, like Cadillac adds prestige to GM automobiles. Since 1990 trout management has been guided by the South West Alaska Rainbow Trout Management Plan that specifically precludes enhancement and artificial propagation. A survey conducted prior to implementing the plan found people don't come here to catch hatchery fish, they want wild natural salmon and trout.

Support for this and other bills comes from a fear that environmental protections were greatly diminished under Governor Murkowski. As yet Governor Palin has refused to restore the Habitat Division to Fish and Game, and allowed the Commissioner of DNR to belittle environmentally concerned Alaskans. We are no longer certain the State has the most rigorous and effective environmental standards or the will to enforce them.

We acknowledge this bill needs improvement. Changes to this bill should include provisions for small to moderate scale water uses, especially for environmentally sound commercial operations such as the local farmer Mark Herman. I don't want to see small environmentally sound economic development discouraged. I also suggest through this bill or by resurrecting older bills we should make instream flow reservations for all waters in Bristol Bay prior to allowing large industrial water use.

I have met a number of people who can afford to fish anywhere in the world who say Bristol Bay is the best, their favorite place to come world wide. Many more, especially European anglers told me - take care of what you have, protect it, there are fewer and fewer places like this. This area is a valuable resource as it is and could become more rare than gold in the future.

Thank you

Dan Dunaway, PO Box 1490, Dillingham, Alaska 99576, 907-842-2636 mwdnt@nushtel.com

Louie Flora

From: Izetta Chambers [izetta@email.arizona.edu]
Sent: Tuesday, September 25, 2007 1:18 PM
To: Rep. Bryce Edgmon; Rep. Paul Seaton; Rep. Carl Gatto; Rep. Craig Johnson
Subject: Testimony on HB 134
Follow Up Flag: Follow up
Flag Status: Blue

Dear Alaska State Representatives:

I am writing to express my support for HB 134, protection of salmon spawning. I am a resident of Naknek, Alaska, where I grew up and still consider home. I am currently a law student, and will be graduating in May 2008. I intend to come back home to Alaska, where I have maintained my residency and where my family lives. Additionally, my family and I started our own seafood company, Naknek Family Fisheries, where I participate in the management during the summer salmon season.

We must uphold the duties outlined in the Alaska constitution by protecting our precious Bristol Bay watershed. Our fishery resources are valuable, both in terms of annual return from the commercial fisheries, the economic contributions fisheries provide to a subsistence lifestyle, and the benefits that will accrue to future generations of Alaska residents from these resources.

The Pebble Mine threatens not only the quality of the water in the Bristol Bay watershed, but also the quantity of water available for salmon spawning. These risks are unjustified, given the long-term impacts of mining compared to the long-term benefits of renewable natural salmon runs. Many mining proponents claim that there are laws in place to remedy or prevent any kind of impacts of mining. They want to try to convince us that we can have our cake and eat it too. The bottom line is that mining and fish cannot co-exist. Science has proven that these fisheries populations are particularly sensitive to copper in the water, well above the legal threshold allowed in the waters as runoff or emissions from mining operations. Short term exposure to miniscule amounts of copper severely impairs the ability of salmon to navigate, thereby reducing their survival and reproduction. Current state and federal water quality standards which regulate the Bristol Bay Fisheries Reserve do not adequately protect fish from mining impacts. This is particularly true since 2003, when Alaska's long-term ban on mining zones was removed.

Recent studies have shown that despite promises of clean operations during the permitting process, a high percentage of mines in the US exceed both surface and groundwater quality standards. One need only look to the legacy of hard-rock mining in the U.S. to understand that mining is not compatible with maintaining sustainable and healthy habitat for fisheries. For example, over 12,000 miles of rivers and streams in the United States are polluted by mining operations. This is not the type of neighbor we should be allowing to move into our pristine Bristol Bay region.

My family and I depend upon the fisheries resources for subsistence and commercial uses. My grandfather fished the waters of Bristol Bay in a sailboat, prior to the introduction of diesel engines in Bristol Bay. I would be so heartbroken if my children were not able to participate in this family tradition, a tradition that stems from history and our heritage as Alaska Natives from this amazing region.

Please don't allow these bullies (Northern Dynasty and their paid supporters) to muscle you into thinking that they have some right to mine these lands. These are state lands and the mining companies thus far only

have a right to explore these lands. There has not been granted any substantive rights to mine. Please don't let threats of personal lawsuits or suits against the state scare you into voting against this important legislation to protect our salmon spawning streams. There can be no Fifth Amendment taking until a permit or some other form of property right has been granted and taken away.

In terms of the issue of bribery by local officials or leaders in the region, I wish to share with you my experience. I wrote an email to a journalist this spring in relation to the Pebble Mine. This was not meant for publication (nor was it published), but the email was seen by others. Several members of the Angasan family (most of whom were either paid employees, had received "per diem" from Northern Dynasty, or free trips from them) contacted me via their attorney, Sam Fortier. As you know, Sam Fortier is also the attorney for Alaska Peninsula Corporation, whose board is largely dominated by several members of the Angasan family (Trefon, Ralph, Mary Jane Nielsen). Mr. Fortier wrote me a letter on behalf of these individuals (and others) demanding an immediate retraction of my statements (which were either all true or based solely on my opinion of their character(s)), or they would sue me for libel. In response to this libel threat, I wrote a letter affirming my right to free speech, highlighting the public nature of the Pebble Mine debate, and their role(s) as leaders of public or tribal organizations. I never received a response to my letter. However, I did feel that my ability to discuss this issue has been stymied, and that these people were trying to "bully" me personally with this idle threat. I share this story not to paint these people in a bad light, but to emphasize the coercive and threatening environment that surrounds Northern Dynasty and some of their supporters. Don't get me wrong - I support local hire. However, what I don't support is paying people to stifle debate on an issue that is of utmost importance not only to our generation, but for future generations as well.

I applaud your efforts to get testimony from within the region and I commend Rep. Ramras' bold attempts to get to the bottom of the bribery and undue influence allegations. This is an important debate and people need to be able to express themselves freely and in a public way. I don't believe that having people from the Justice Department or from the Attorney General's office in any way will stifle the debate. On the contrary, I think that those residents who may feel intimidated by Northern Dynasty or their proponents will feel safer giving their testimony with these officials present.

Thank you for listening to the local people and I hope that you will see that we really don't want the Pebble Mine in our backyards and polluting both our salmon streams and the image of our salmon as a wild, healthy, and sustainable food product.

IZETTA CHAMBERS
J.D. CANDIDATE, CLASS OF 2008
UNIVERSITY OF ARIZONA ROGERS COLLEGE OF LAW
IZETTA@EMAIL.ARIZONA.EDU
(520) 780-7545

Representative Paul Seaton
House Fisheries Chair
345 W. Sterling Hwy
Ste 102-B
Homer, AK 99603

Box 12
King Salmon, AK 99613

September 25, 2007

Dear Representative Seaton,

I am writing to express my concern about the proposed Pebble Mine project located north of Lake Iliamna and within the Nushagak and Kvichak watersheds in Bristol Bay. I am concerned about the negative impact such a large mine would have on the natural environment, animals, and lifestyles of the village people who reside in the watersheds. I have toured the mine site and I have read the documentation on the mine and attended EIS and mining classes to better educate myself on the potential impact of the mine.

The salmon resource has helped to sustain a large share of the Bristol Bay population for thousands of years and in turn, salmon are sustained by unpolluted free flowing waters. Bristol Bay is home to the largest spawning run of sockeye salmon in the world. Over 70% of the Bristol Bay economy revolves around this renewable salmon fishery. The fishery includes the canneries, tender boaters, set netters, sport fishery, subsistence fishery and all the related businesses. Disrupting this delicate balance by developing 'the largest copper/gold mine in North America' is shortsighted and inconsiderate of the long-term needs of the indigenous people. Nor does it protect the requirements of an unpolluted freshwater/saltwater ecosystem and its estuaries to provide quality habitat for salmon to spawn and for wildlife such as caribou to eat, calve and migrate over large open undeveloped wild country.

I am asking you to address these specific concerns when considering the mine's long-term impact on the land and the people:

- What environmental and social impact would the Pebble Mine have on the Bristol Bay Fisheries Reserve as created by the Alaska State Legislature in 1972?
- How much and where will all the surface and ground water come from to be utilized within the mining process?
- What impact will the surface and ground water diversions have on the spawning runs of salmon in the Kaktuli and Upper Talarik Creeks and the entire Nushagak and Kvichak watersheds?
- What guarantees do we have that the mining processes used (surface and subsurface rock extraction, rock pulverization, and chemical extraction of metals) will not cause pollution into the surface and subsurface waters or affect the air quality?
- Who will be on site to monitor mining activities to ensure that water quality is maintained?

- How will pulverized chemically reactive rocks be contained in an air tight environment for perpetuity, and who is going to take care of the above site in perpetuity and assure all environmental quality standards continue to be followed?
- What disruption will the mine have on caribou migrations and on other large animal populations such as moose, wolverine or wolves?
- What disruption will a major road built into the heart of the Bristol Bay wilderness have on the ecosystem and the lifestyles of the village people?
- What disruption will a large power line running to the mine site have on the ecosystem and the lifestyles of the village people?
- What disruption will the mine have on the sport fishing and hunting lodges and individuals who work for these companies?
- How will the subsistence and partial subsistence lifestyles of the Bristol Bay Native populations be affected by such a large scale mine?
- Are the concerns of the individuals throughout America, who expects the State of Alaska to honor their commitment to protect the public land, water, fish and wildlife from degradation and major negative man-made impacts, being considered?

Though the mine is presently providing some economic benefits to the Bristol Bay people, most of these benefits go to highly educated engineers and professionals who do not live in the Bristol Bay area. It may be a falsity to portray that over 100 high paying jobs will be made available for over 30 years to the people most affected by the mine. Because of seasonal subsistence lifestyle preferences, skill level, and historic employment data that shows otherwise, the higher paying jobs may very likely fall to only a very limited number of Bristol Bay residents over time. And at the same time the Bristol Bay Area will experience very negative environmental and social impacts caused by the mine. Mining has been shown to be a boom and bust industry. If we take care of the needs of the salmon, we will sustain jobs and feed Bristol Bay residents for thousands of years into the future.

Documentation already shows that large-scale mining throughout the world has a very poor track record for both environmental and social health concerns. One example of a polluted mine is the Britannia Mine in British Columbia. Reported to have once been 'the largest copper mine in the British Empire', operating from 1904-1974, the Britannia Mine left a toxic water drainage legacy that is now being cleaned up with public funds costing over \$1M/year in operating costs. Can we really expect anything different from the Pebble Mine?

The estuaries of Bristol Bay have the potential to be designated as a National Estuarine Research Reserve by the National Oceanic and Atmospheric Administration. This designation would help to provide added protection, research and education to this threatened critical resource area. Your support of this potential designation would help to ensure protection of the Bristol Bay watersheds for long-term and future generations. I would also like to give my

support for HB 134 "Protection of Salmon Spawning", SB 67 "An Act establishing the Jay Hammond State Game Refuge" and HB 74 "An Act prohibiting mixing zones in freshwater spawning waters".

I offer these comments with respect to you and your position as House Fisheries Chair and as a caretaker of the Alaskan environment and the Alaskan people. And I ask you to help find answers to the questions above and to vote against moving forward with the Pebble Mine or any other large hard rock industrial mine in that region for reasons that are very obvious.

Thank you for giving me this opportunity to comment. I look forward to your reply.

Michael Kroenke

CC Representative Bryce Edgmon, Bristol Bay Representative
Representative Carl Gatto, House Resources Co-Chair
Representative Craig Johnson, Resources Co-Chair

Becky Savo
P.O. Box 109
Naknek, Alaska 99633

9/25/07

I support the protection of the waterways, spawning grounds and the environment surrounding Bristol Bay and the Bering Sea.

In 1962 my father Walt Cothran went to work as a quality control inspector for Alaska Packers Association. I was six years old then. My father traveled throughout the state but primarily spent his summers immersed in the world's largest salmon fishery, Bristol Bay. As a child I was unaware of where these places were, Egegik, Diamond E, Naknek, NN, Diamond J, Diamond O, Diamond M, Ugashik, Clarks Point, the list goes on. The dinner table conversation was always about the size of the run, the price of fish, the arrival of scows and the quality of the pack. As a child it was a delight. We roller-skated in the large warehouses amongst pallets of shiny cans of salmon. We rode on flat cars behind the forklifts as they ran back empty from the warehouse to the scow for another load of salmon. Soon the semi trucks would rumble by my house for days as the labeled cans of salmon went to market. This was Blaine Washington, a town that was employed by Alaska Packers and Bristol Bay Salmon.

When I turned 18, I went to Chignik, Alaska to process salmon. I then continued in South Naknek and Egegik working my way from patching table (snipping salmon bones off the tops of cans before the lid goes on) to the can shop, egg house, store and finally the warm kitchen. I put myself through college. I left school with no student loan debt, as the Bristol Bay Fishery again supported me.

The knowledge of the fishing industry landed me a job with Dakota Fisheries in Washington where I managed a fleet of fishing vessels that fished in the Bering Sea. For 8 years this water way again supported my needs. I continued on in life and guess what, I married a fisherman? He began fishing with his family as a young child and our children began fishing with him. We have four children, two now in college. The Bristol Bay fishery continues to support my family. As small children my kid's subsistence fished, a great family activity. My sons are now commercial fishermen. Alex fishes with his dad John Savo, and Scotty has his own fishing operation. My son's also make extra money stripping and hanging nets used in the fishery. My two daughters work for the Port of Bristol Bay, which handles the "pack" as it leave Bristol Bay. Is it ironic that those shiny cans are now supporting my daughters?

What is my point? Three generations have had good lives because of this resource. We are proof that this is a renewable resource. I now have grandchildren that will be subsistence fishing with me. That makes generation four. I really cannot imagine how any other industry could have sustained a family for three generations soon to be four. I am told that we need jobs in our region, we have jobs, we work in the fishing industry! Please help us protect and sustain this renewable resource. Protect our watersheds.

Nunamta Aulukestai "Care takers of Our Lands"
Bristol Bay, Alaska Sept. 2007

Legislative Information Packet Contents - Please find enclosed:

- Cover Letter from the Board of Directors of Nunamta Aulukestai
- Resolutions from Nunamta Member Tribal Councils
- Position Paper from United Fishermen of Alaska
- Map - Distribution of Sockeye Salmon in North America
- Map- Distribution of Salmon populations within proposed Pebble Mine Site
- Background information on Causes for Concern
- Sustainability and Bristol Bay Salmon Fisheries
- Effects of Copper on Salmon
- Biological, Technical, and Legal Questions and Answers about proposed Pebble Mine

Nunamta Aulukestai
"Caretakers of our Lands"
P.O. Box 98
Dillingham, Alaska 99576

September 24, 2007

Rep. Paul Seaton
Rep. Gabrielle LeDoux
Rep. Bryce Edgmon
Rep. Peggy Wilson
Rep. Carl Gatto
Rep. Craig Johnson

Rep. Lindsey Holmes
Rep. Scott Kawasaki
Rep. Bob Roses
Rep. Kyle Johansen
Rep. Wes Keller

Dear State Representative,

It is an honor to welcome you to the Bristol Bay Region, the largest wild stock salmon capital of the world. We at Nunamta Aulukestai "Caretakers of our Lands" wish to commend you on your willingness to hear from the hearts and minds of locals living within the watershed. We hope that over the next several days you will hear, see, and experience enough local sentiment to support you in backing legislation that will help our region obtain the protection it needs and deserves to ensure the long-term viability of our fisheries and subsistence resources.

Many of the Village Corporations whom we represent have passed resolutions to oppose the Pebble Mine and support legislation, like HB 134, that will help protect our culture and the current uses of our life sustaining renewable resources.

Protective legislation is fundamentally important to our efforts to protect the Bristol Bay watershed from the kind of industrial development that would threaten our lives and subsistence based culture as we know it, and most importantly for our future generations. You have the opportunity to be on the forefront of this effort by passing a bill that will help us raise standards of fish, wildlife, and habitat protection in our area.

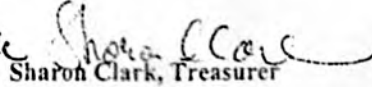
Over the next several days you will hear the truths of the people to whom this region matters most and we implore you to take action based upon the information and perspective that you gain from these hearings.

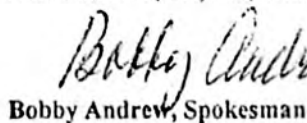
Thank you again for all of your attention to the extremely urgent matter of protecting Bristol Bay!

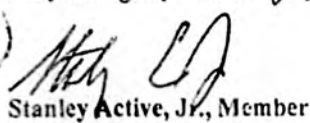
Sincerely,

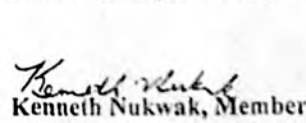

Luki Akerkok, Sr., President

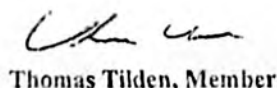

Sally Gumbekpuk, Secretary,


Sharon Clark, Treasurer


Bobby Andrew, Spokesman


Stanley Active, Jr., Member


Kenneth Nukwak, Member


Thomas Tilden, Member

UFA Opposes the Pebble Mine

By Bruce Wallace, UFA Environmental Chair, and Chip Treinen

United Fishermen of Alaska (UFA), a trade association including 36 Alaska commercial fishing organizations representing the interests of commercial fishermen throughout the state, has a keen interest in maintaining environmental quality that allows for sustainable production, harvest and marketing of Alaska's fishery resources. While any planned development that has potential effects on water quality and aquatic resources justifies UFA's attention, the risks associated with large scale mining developments such as the Pebble Mine prospect in Alaska's Bristol Bay watershed are of particular concern.

Recognizing that the Bristol Bay region's salmon resources typically account for more than a quarter of the state's ex-vessel salmon value, and are integral to an economy that provides for fishermen, tenders, processing, support businesses, communities and families as well as net positive contributions to the State's General Fund, it is critically important for the commercial fishing in-

dustry to assure that other industrial development does not disrupt or degrade the area's fishing economy. While the permitting process for the Pebble Mine is only in its beginning stages and operational plans not yet fully determined, the historic record and general understanding of mining operations indicates that established commercial fisheries will be jeopardized from not only the mine itself, but also the collateral development associated with operation and construction. Consequently, UFA strongly opposes development of the Pebble Mine.

Realizing that Northern Dynasty and other associated mining concerns are likely to continue to pursue their proprietary interests through the regulatory permitting process as well as through administrative and political influence, UFA will pursue any and all opportunities to ensure that proposed actions will neither degrade the productive habitat in the region or cause harm to the fisheries of the region.

Bristol Bay

Stronghold for
Sockeye Salmon

Map produced by:

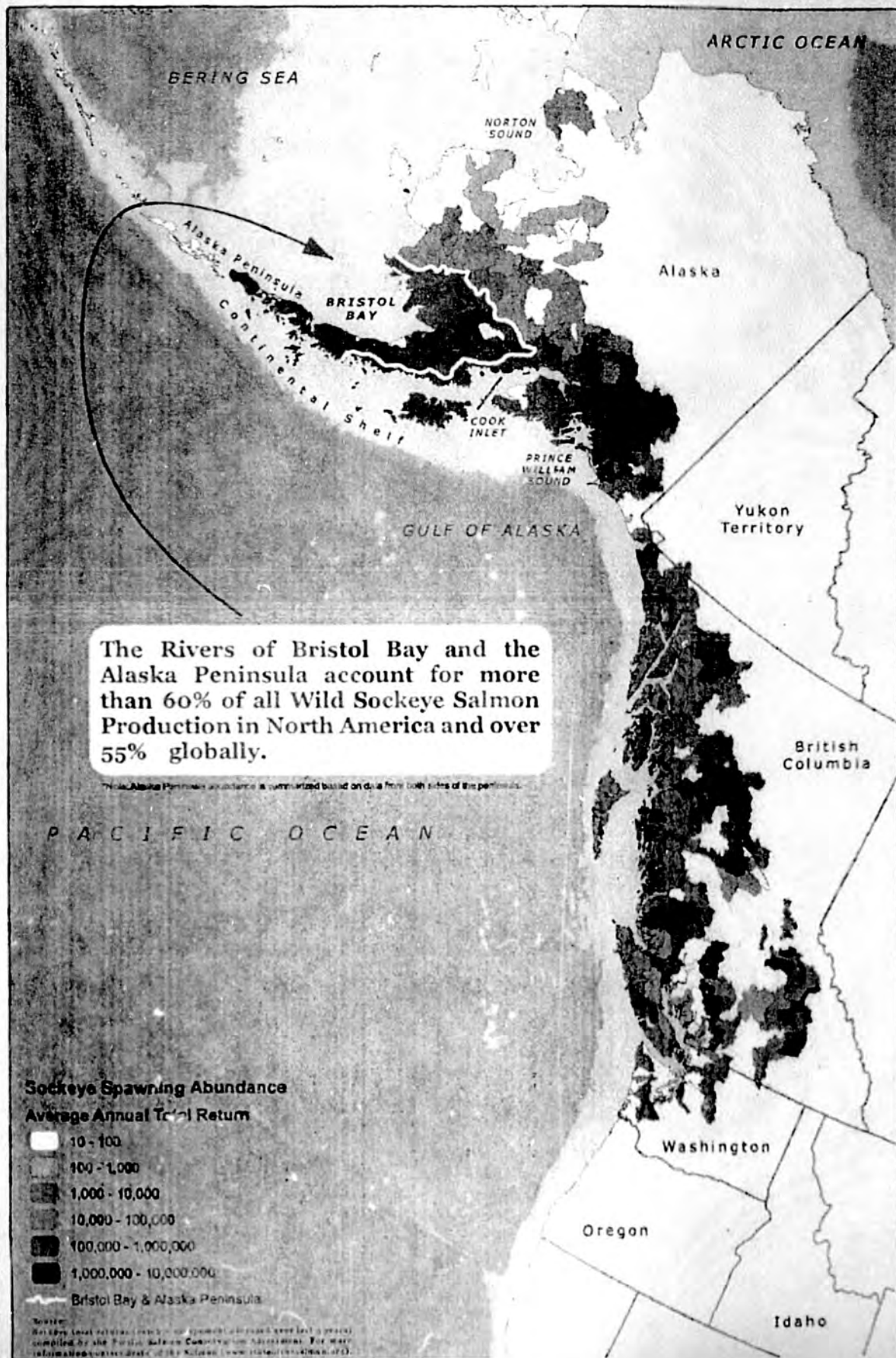
STATE OF THE SALMON

THE STATE OF ALASKA THE STATE OF BRITISH COLUMBIA THE STATE OF WASHINGTON

State of the Salmon
is a joint program of
Ecotrust and WSC



ecotrust





True
North

The Proposed Pebble Mine

Relationship to Observed Salmon Populations

Legend



Salmon Observations, 2004-2006

- Chinook
- Chum
- Coho
- Sockeye

This map portrays the relationship between the proposed Pebble Mine and local salmon populations. Fish data depicts the distribution, abundance, and variety of species, and was supplied by the Alaska Department of Fish and Game.

Data Source

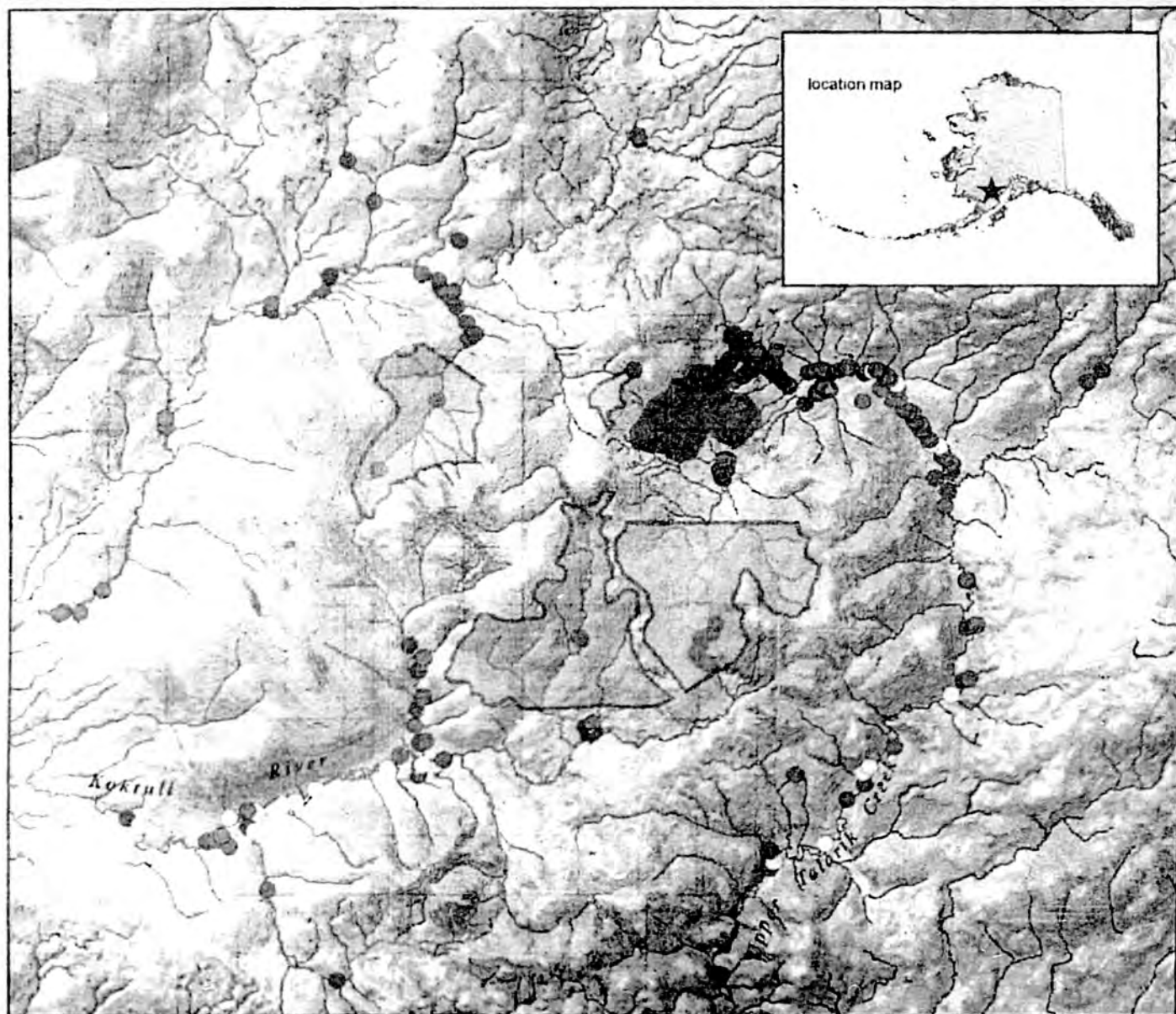
Fish Fisheries report in reference to Permit No. SF-2004-114 and Amendment No. SF-2004-114-A-1, from HDR Alaska, Inc. to Alaska Department of Fish and Game, Division of Sport Fish, dated November 23, 2004.

Report of collecting activities for the Pebble Project in reference to Permit No. SF-2005-049, from HDR Alaska, Inc. to Alaska Department of Fish and Game, Division of Sport Fish, dated October 25, 2005.

Report of collecting activities for the Pebble Project in reference to Permit No. SF-2006-057, from HDR Alaska, Inc. to Alaska Department of Fish and Game, Division of Sport Fish, dated February 2, 2007.

Pebble Mine Project: The following files were downloaded from <http://www.dnr.state.ak.us/mining/large/pebble/> as of February 5, 2007.

Pebble Project Initial Application for Certificate of Approval to Construct a Dam
Tailings Impoundment A - Figures
Tailings Impoundment G - Figures



0 0.5 1 2 3 4 5 Miles

February 23, 2007
fish_distribution_salmon.mxd
Coordinate System: UTM, Zone 5, NAD27, CM -165.5

Due to more than 1,000 square miles of additional mining claims staked on state lands near Pebble and the Bureau of Land Management's stated intentions to open well over 1 million acres of currently closed lands in Bristol Bay to mineral development,³ the proposed Pebble Mine could become a relatively small part of an enormous mining district in Southwest Alaska's Bristol Bay Watershed. The proposed Pebble Mine and Bristol Bay Mining District have met with strong, diverse opposition in recent months.⁴ This document highlights some of the scientifically sound reasons for this opposition.

Bristol Bay: A Powerful Economic Engine

Bristol Bay is home to the world's largest commercial sockeye salmon fishery.⁵ The 2005 ex-vessel value of all salmon species in Bristol Bay was \$93,121,351.⁶ Sportfishing also plays a major role in the Bristol Bay economy and in 2005, an estimated \$61 million was spent in Alaska on Bristol Bay fishing trips.⁷ The Bristol Bay Wild Salmon Ecosystems provided 5,540 Full Time Equivalent jobs in 2005.⁸

Table 5. Total Full Time Equivalent (FTE) Employment in Alaska Dependent on Bristol Bay Wild Salmon Ecosystems, 2005

Sector	Alaska Residents			Nonresidents	Total FTE jobs
	Local residents	Non-local residents	Total Alaska		
Commercial fishing	689	667	1,357	1,172	2,529
Commercial processing	465	449	914	796	1,710
Sport fishing	288	435	723	123	846
Sport hunting	60	105	165	2	167
Wildlife viewing / tourism	82	139	222	17	239
Subsistence	14	34	49	0	49
Total FTE jobs	1598	1829	3,430	2,110	5,540

Source: Duffield, John, D. Patterson and C. Neher. "Revised Final Report, Economics of Wild Salmon Watersheds: Bristol Bay, Alaska." Department of Mathematical Sciences, The University of Montana, Missoula, MT 59812. February 2007.

The Mining Industry's Failure to Pay Its Fair Share

In 2005 state revenue from the mining industry in Alaska was approximately 0.7% of the value of the mined resource and an additional 1% was paid to municipalities. The oil and gas industry provides revenue equivalent to 20% of total production value to the state and an additional 2% is paid by the industry to municipalities.⁹

³ U.S. Bureau of Land Management. "Draft Bay Resource Management Plan/Environmental Impact Statement." September 2006. Accessed March 2, 2007 via <http://www.blm.gov/ak/ado/BayRMP01.html>

⁴ Kozick, Dorothy. "As Pebble's copper and gold resources expand, so does the war against the U.S. mega-project." *MineWeb*. February 27, 2007. Accessed on March 2, 2007 via http://www.mineweb.net/american_notes/639207.htm

⁵ Alaska Department of Fish and Game, Division of Sportfish, Research and Technical Services. "Fishery Management Report No. 06-37. Annual Management Report 2005 Bristol Bay Area." June 2006. Accessed March 2, 2007 via <http://www.af.adfg.state.ak.us/FedAidPDFs/Fmr06-37.pdf>

⁶ Alaska Department of Fish and Game, Division of Commercial Fisheries. "2005 Bristol Bay Salmon Fishery Season Summary" Accessed March 2, 2007 via <http://www.af.adfg.state.ak.us/rv/rion2/finfish/salmon/bbay/vrbpos05.php>

⁷ Duffield, John, D. Patterson and C. Neher. "Revised Final Report, Economics of Wild Salmon Watersheds: Bristol Bay, Alaska." Department of Mathematical Sciences, The University of Montana, Missoula, MT 59812. February 2007.

⁸ Duffield, John, D. Patterson and C. Neher. "Revised Final Report, Economics of Wild Salmon Watersheds: Bristol Bay, Alaska." Department of Mathematical Sciences, The University of Montana, Missoula, MT 59812. February 2007.

⁹ Seaton, Paul. "Mining Production Tax and License Taxes - Royalties Sponsor Statement for House Bill 418." February 17, 2006 accessed on March 2, 2007 via http://www.akrepublicans.org/seaton24/spst/seat_hb418.php

The mining industry's failure to pay its constitutionally required share for Alaska's resources has been criticized by Governor Wally Hickel and late Governor Jay Hammond. Consider the following statement by the late Governor Hammond regarding the mining industry's failure to pay its fair share for Alaska's resources.

Today Alaska is faced with three mega projects that should be required to conform to all four criteria cited above: a gas pipeline; drilling in ANWR; and what could be the world's largest open pit gold mine north of Lake Iliamna, Alaska's largest body of pristine fresh water and spawning grounds for the world's largest run of wild red salmon... Cost of providing and maintaining required infrastructure, state services, environmental studies and mitigation, plus monitoring and enforcement of protective regulations, will no doubt be astronomical. Not only should these costs be absorbed by developers, some profits should go into the state's Permanent Fund to provide every Alaskan with a discernible benefit, just as does part of the state's oil wealth. Will it? Not as of now. Our severance tax on gold is zero!

-Governor Jay Hammond in the Anchorage Daily News¹⁰

Pebble Mine Permit Applications Already Submitted

In September 2006, Northern Dynasty Mines submitted more than 1,900 pages of permit applications and mine plans to the Alaska Department of Natural Resources.¹¹ These plans show, among other things, a proposal by Northern Dynasty Mines...

- To develop an open pit mine nearly 2 miles in diameter and approximately 1,500 feet deep;¹²
- To build some of the largest earthen dams in the world in a seismically active area at the headwaters of the Koktuli River;¹³
- To withdraw more than 70 million gallons of water per day, nearly three times the amount of water used in Anchorage, from the Koktuli and Upper Talarik watersheds.¹⁴

The largest of these dams would be more than 700 feet tall and 4.3 miles long; both higher and wider than the Three Gorges Dam in China.¹⁵ Tailings storage described in these permit applications would destroy more than 10 square miles of habitat in the Koktuli and Upper Talarik Creek watersheds and would directly destroying salmon and trout habitat.

Threats to Habitat and the Alaska Wild Salmon Brand

The proposed Pebble Mine threatens the well-being and economic value of the Bristol Bay fishery due to the strong likelihood that the proposed mine and related infrastructure will directly

¹⁰ Hammond, Jay. "Resource use must benefit everyone" Anchorage Daily News. December 19, 2004.

¹¹ Alaska Department of Natural Resources, Division of Mining Land and Water. "Pebble Project." Accessed on March 2, 2007 via <http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/index.htm>

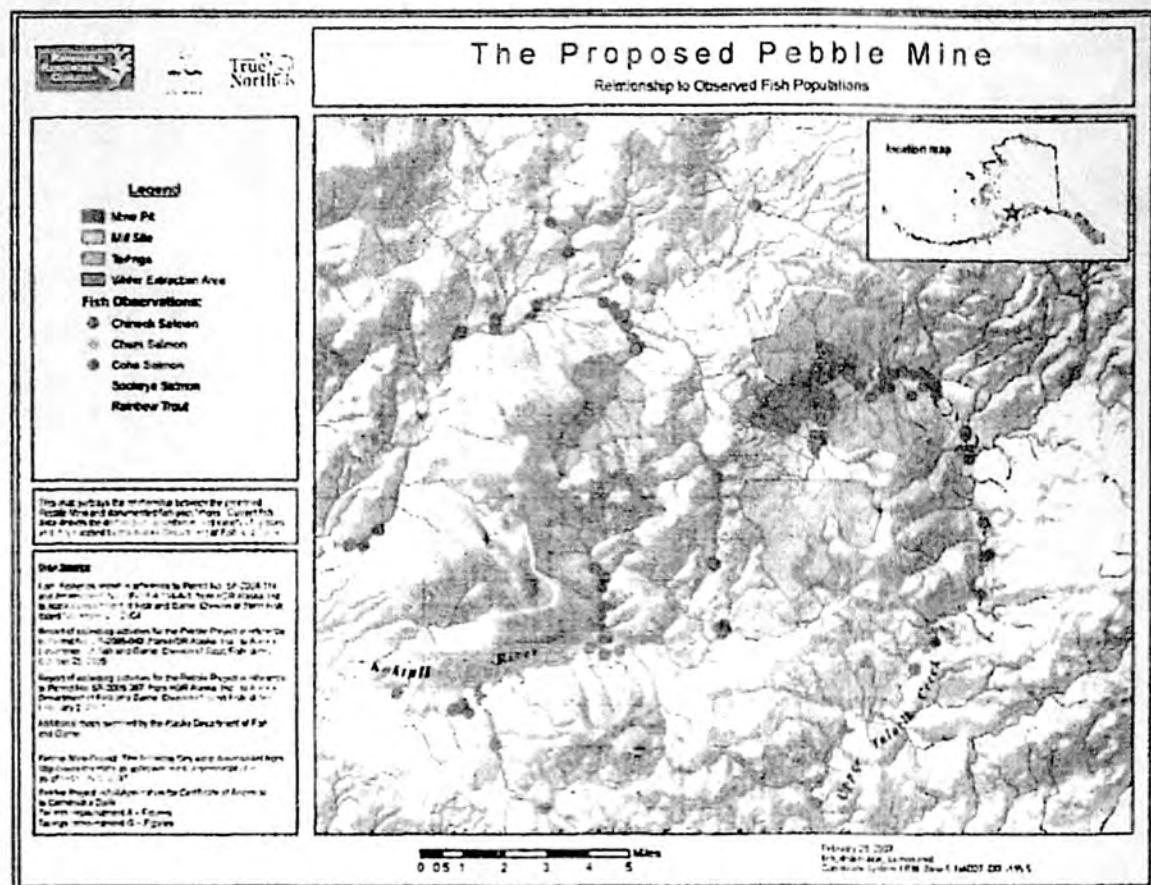
¹² Alaska Department of Natural Resources, Division of Mining Land and Water. "Pebble Project." Accessed on March 2, 2007 via <http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/index.htm>

¹³ Alaska Department of Natural Resources, Division of Mining Land and Water. "Pebble Project." Accessed on March 2, 2007 via <http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/index.htm>

¹⁴ Alaska Department of Natural Resources, Division of Mining Land and Water. "Pebble Project." Accessed on March 2, 2007 via <http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/index.htm>

¹⁵ Alaska Department of Natural Resources, Division of Mining Land and Water. "Pebble Project." Accessed on March 2, 2007 via <http://www.dnr.state.ak.us/mlw/mining/largemine/pebble/index.htm>

destroy, dewater and pollute salmon habitat at and near the proposed mine site. The figure below combines ADF&G salmon and trout data with Pebble Mine plans submitted by Northern Dynasty in September 2006 to show the potential for direct habitat destruction and dewatering related to the proposed Pebble Mine. A larger version of this image is appended to this document.



Pebble proponent Northern Dynasty has acknowledged some of the risks associated with its proposal. The following statement comes from a recent annual report the company provided to shareholders.

Unexpected environmental damage from spills, accidents and severe acts of nature such as earthquakes are risks which may not be fully insurable and if catastrophic could mean the total loss of shareholders' equity.¹⁶

These risks are compounded by the following statement, also made by Northern Dynasty in the same annual report.

¹⁶ Northern Dynasty Minerals. "2004 Annual Report." U.S. SEC. Washington, DC. 20549 Form 20-F. June 30, 2004
<http://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00003151>

*Northern Dynasty's Management May Not Be Subject to U.S. Legal Process. As Canadian citizens and residents certain of Northern Dynasty's directors and officers may not subject themselves to U.S. legal proceedings, so that recovery on judgments issued by U.S. courts may be difficult or impossible.*¹⁷

While some people argue that the existing permitting process will guarantee protection of water quality and fish habitat in Bristol Bay, this is false. In a first-of-its-kind scientific study of large mine permitting in the U.S. published in December 2006, Jim Kuipers and Ann Maest, Ph.D. reached the following conclusions.

Do predicted water quality impacts match reality?

The answer, in short, is no. The Comparison Report reveals:

- *100 percent of mines predicted compliance with water quality standards before operations began (assuming pre-operations water quality was in compliance).*
- *76 percent of mines studied in detail exceeded water quality standards due to mining activity.*
- *Mitigation measures predicted to prevent water quality exceedances failed at 64 percent of the mines studied in detail.*¹⁸

A summary of this report is appended to this document as is recent testimony on the inadequacies of the existing permitting process by Lance Trasky former ADF&G Habitat Division Supervisor for Bristol Bay.

In addition to the direct threat to habitat, the proposed Pebble Mine threatens the Alaska Wild Salmon brand, according to commercial fishing industry leaders. Consider the following statement from David Harsila, President of the Alaska Independent Fisherman's Marketing Association, the largest group of commercial fishermen in Bristol Bay.

*The proposed Pebble Mine and other potential mining activity on state and federal lands in Bristol Bay poses a grave threat to pure water, Wild Alaska Salmon and the tens of thousands of jobs they sustain. As you know, tens of thousands of existing Alaskan jobs depend upon the purity of our renewable and sustainable salmon fishery and the integrity of its spawning habitat. These jobs also depend upon a continued strong, positive public perception of our Wild Alaska Salmon brand. The proposed open-pit Pebble Mine, and the more than 1,000 square miles of additional mining claims staked throughout Bristol Bay's headwaters, pose an enormous threat to salmon habitat, fish populations and the Wild Alaska Salmon brand.*¹⁹

This Fact Sheet Updated March 2, 2007

¹⁷ Northern Dynasty Minerals. "2004 Annual Report." U.S. SEC. Washington, DC. 20549 Form 20-F. June 30, 2004
<http://www.sedag.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00007151>

¹⁸ Septoff, Alan. "Predicting Water Quality Problems at Hardrock Mines: A Failure of Good Science, Oversight and Good Practice." Earthworks. December 2006.

¹⁹ Harsila, David. Letter to Alaska Governor Frank Murkowski. December 12, 2005

Summary of: Copper: Effects on Freshwater Food Chains and Salmon A literature review

Highlights of a published scientific literature review of potential effects of increasing copper to salmon and their freshwater food chains.

Dr. Carol Ann Woody
Fisheries Research and Consulting

Sources of Copper

Copper occurs naturally in the environment at low levels. High levels are recorded for regions where hard rock and coal mining, smelting and refining occur and in areas near industrial and municipal waste sites.

The proposed Pebble mine would be a large-scale copper-gold-molybdenum mine with characteristics similar to other mines that increased copper and other pollutants harmful to fish in the surrounding environment and waters. The proposed Pebble site has sulfide rock that when exposed to air and water creates acid that can increase copper and other harmful pollutant concentrations downstream. Rain, which is acidic, can also mobilize and wash copper and other metals into salmon habitat from mining regions.

Copper and Salmon

While copper is a necessary trace element for all living organisms, hundreds of studies show that copper in small amounts can be lethal and have many sub-lethal effects that increase mortality rates and decrease fish survival and production. Salmon and their food sources can have a very low tolerance for this pollutant. The harmful effects of long-term, low-level exposure to copper may be difficult to detect compared to mass fish kills caused by a single toxic spill.

Copper can:

1. Impair a salmon's sense of smell.
Salmon use their keen sense of smell to identify predators, prey, kin, and mates. Mixing up any of these relationships could be detrimental or fatal to salmon.
2. Interfere with normal salmon migration.
If salmon cannot smell, or if the chemical signature changes in streams where salmon hatch, then fish will likely stray to and spawn in non-natal habitats to which they are not adapted. This could cause lower salmon survival and reduce the biodiversity that supports Bristol Bay fisheries.
3. Impair a salmon's ability to fight disease.
 - a. Copper is a biological stress agent which depresses immune system function. Fish, like humans, tend to get sick when stressed.
 - b. Copper can impair salmon's breathing and brain function.
 - c. Copper also disrupts osmoregulation in salmon, the process by which cells maintain fluid and electrolyte balance with their surroundings. This can stress salmon and make them more susceptible to disease.
4. Impair salmon's ability to sense vibrations in the water which helps them avoid predators.

5. Change salmon's enzyme activity, blood chemistry and metabolism, which can cause death and impair reproduction.
6. Delay or accelerate natural hatch rates, which can reduce salmon survival rates.
7. Kill or harm salmon food sources, including algae, zooplankton, aquatic insects and fish.

Copper and Other Toxins

Numerous elements, in addition to copper, such as zinc, cadmium, mercury, iron, lead, aluminum, and selenium are released at hard rock mining sites in a unique cocktail. The combined effect of exposure to copper and other metals, such as zinc, can be more deadly than exposure to copper alone.

1. Studies of the effects of these chemical cocktails show depressed immune systems in rainbow trout and other fish.
2. Federal and State water quality limits for metals do not take these effects into account.

Alaska's Water Quality Regulations, Copper and Salmon

The State of Alaska's water quality standard for protection of freshwater species, including salmon, is 9 micrograms of copper per liter or parts per billion (ppb). This is roughly equal to ¼ teaspoon in a 40,000 gallon swimming pool. The human drinking water standard for copper is 144 times higher than the level allowed for salmon, at 1,300 ppb. [Alaska Department of Environmental Conservation 18 AAC 2006.]

Harmful and even deadly effects of dissolved copper are documented throughout the food chain, from salmon to algae, at lower copper concentrations than the State of Alaska allows in waterways. For example:

1. Some algae, at the base of the salmon food chain, are harmed at 1/9th the level of copper allowed by the State of Alaska. Declines in algae translate to less food for sockeye.
2. Zooplankton, aquatic insects and other salmon prey are harmed within 48 hours at copper concentrations 1/3rd the allowed level.
3. Many species of freshwater plants and animals die within 96 hours at waterborne copper concentrations starting at just over ½ the allowed level. Studies have found that sensitive species of mollusks, crustaceans and fish can die at 1/26th the allowed level.
4. An increase of copper less than 1/3rd the allowed levels interferes with a juvenile coho's ability to smell. King salmon avoided waters with copper levels 1/12th the allowed level.

The State of Alaska uses a formula to calculate acceptable copper pollution levels that doesn't take into account many factors that affect toxicity to salmon, including age, size, and reproductive condition of fish, and water quality measures like temperature, pH, salinity, and dissolved particle concentrations.

This summary fact sheet is based on a paper prepared by Dr. Carol Ann Woody, founder of Fisheries Research and Consulting. Dr. Woody has a PhD in Fisheries Science from the University of Washington and over 20 years of Alaskan experience including 14 years researching salmon in both the Kvichak and Kasilof River watersheds of Alaska. She served as a technical expert for the US Geological Survey to other federal agencies for both the Galore Creek and Pebble mines and their implications to aquatic resources. She has published more than 25 scientific papers on salmon and a recent book on advances in sockeye salmon research. Dr. Woody is a past-President of the Alaska Chapter of the American Fisheries Society and currently serves on the Environmental Concerns Committee. She is adjunct faculty at the University of Alaska, Fairbanks, and the University of Idaho, Moscow.

**Sustainability of Bristol Bay Salmon Fisheries
&
Important Questions to Consider While on the ground in Bristol Bay**

Provided to House Fisheries & House Resources Committee members for the purpose of providing background information on Bristol Bay fisheries by Nunamta Aulukestai¹
Sept.24, 2007

- Commercial fisheries have harvested wild salmon from Bristol Bay for over a century and current catches are as high as during any time period in the past.
- Bristol Bay salmon catches have been sustainable for over a century despite substantial shifts in climate in western Alaska during this time period.
- The relative contributions of salmon from each of the major rivers in the Bristol Bay region have waxed and waned in response to the changing environment. The contributions of fish from rivers that were especially productive during certain decades were replaced by other rivers when their populations became less productive.
- Thus, the long-term sustainability of Bristol Bay fisheries derives from the diversity of habitats and associated salmon populations in this region.
- This effect of salmon biodiversity on fishery sustainability is analogous to a 'portfolio effect' in the stock market: while single 'hot' stocks may be very productive during short time periods, diverse stock portfolios nearly always outperform simple ones over the long term. Bristol Bay is one of the few places on Earth where its salmon habitat portfolio remains intact.
- Industrial development of the pristine watersheds of Bristol Bay represents a potentially serious risk to salmon in this region because it threatens to erode the diversity of habitats and salmon populations that have been critical for fishery sustainability.
- Although Bristol Bay is mostly known for the fact that it is the world's largest sockeye fishery, it also supports one of the largest Chinook (king salmon) fisheries in the world, and it is also home to many important species that rely on the seasonal pulse of salmon resources for their own sustenance (e.g., brown bears, rainbow trout; both of which support an enormous tourism industry)

¹ This document was compiled with technical support from Dr. Daniel Schindler at the University of Washington Fisheries Research Institute.

Key questions to ask about salmon habitat:

- 1) Where will the water come from that is needed to operate the mine? Will water need to be pirated from other watersheds beyond the proposed Pebble Mine footprint?

(it remains unclear where the water that is needed to operate the mine and treat the tailings will come from. It is also unclear whether the watershed that the Pebble Mine would be situated within has enough water to support the mine. It is actually unlikely)

- 2) What are the spin-off environmental effects of the supporting infrastructure for the mine? Roads and their associated dust, increased access, effects on hydrology are likely to all have important effects on natural ecosystems of this region.
- 3) What exactly is meant by 'no net loss' of salmon habitat? The current landscape of salmon habitat was generated by thousands of years of natural erosion processes that followed after the last glaciation. It is unclear that engineers will be able to create similarly productive habitats.
- 4) Where will the water come from to support such newly created habitats?
- 5) Heavy metal mining has a horrible environmental history – especially with respect to proper treatment and storage of wastes and tailings. Why will the Pebble Mine be any different?
- 6) How long will it take for environmental effects of the mine to be expressed?

(environmental effects of hard rock mining are often expressed decades after a mine has begun operation. By this time, the mining company has often finished their exploitation and moved on.

Thus, how will Pebble guarantee the environmental precautions it claims it will be taking?

BIOLOGICAL, TECHNICAL AND LEGAL QUESTIONS AND ANSWERS ABOUT PEBBLE MINE

Compiled for the House Fisheries and Resources Committees
by Nunamta Aulukestai - Caretakers of Our Lands¹
September 2007

BIOLOGICAL QUESTIONS AND ANSWERS

1. Is sulfuric acid, copper and fish a recipe for disaster?

Yes. The chemical nature and location of the rock at the proposed Pebble Mine site makes the release of sulfuric acid and toxic copper into waters a virtual certainty. That is why the project is so controversial.

Pebble is a low grade metallic sulfide deposit containing copper, gold and molybdenum. The deposit is located at groundwater, in a wet climate, where the groundwater flows through permeable soils to feed surface waters in the Bristol Bay drainages, the most productive salmon habitat and fisheries in the world.

Sulfides are chemically reactive. Exposing the sulfides to air and water creates sulfuric acid, which dissolves copper (and other heavy metals) into solution where it is highly toxic to fish, particularly salmon. Mining, milling and processing the ore exponentially increases the rate of exposure of sulfur to air and water, and exponentially increases the amount of sulfuric acid generated. The mine walls,² the wastes, and the dust will generate sulfuric acid. A recent study of metallic sulfide mines permitted in recent years in the U.S. found that a whopping 85% of these mines polluted surface water and an astronomical 93% polluted ground water, despite that fact that at the time of permitting, fully 89% of the environmental documents predicted that the mines would not do so.³ The Pebble Mine is virtually certain to create acid mine drainage that puts metals toxic to fish into water.

¹ Nunamta acknowledges the assistance of Dr. Daniel Schindler, fisheries professor, University of Washington; Dr. Carol Ann Woody, Fisheries Research Consultant, formerly USGS Pebble Team; Lance Trasky, ADF&G retired, Supervisor, ADF&G Habitat Division, Habitat Biologist; Geoffrey Y. Parker, Attorney for Trout Unlimited and Nondalton Tribe; Victoria Clark, Trustees for Alaska.

² The mine itself, whether by open pit or underground block caving, is likely to fill with water, be acidic, and require permanent care and treatment.

³ Kuipers, J.R., Maest, A.S., MacHardy, K.A., and Lawson, G., *Comparison of Predicted and Actual Water Quality at Hard Rock Mines: The reliability of predictions in Environmental Impact Statements* (2006). Although 100 percent of the environmental impact statements examined by the report predicted that the mines would be able to comply with water quality standards, in actuality:

- 76% of the mines polluted ground or surface water in excess of water quality standards;
- 60% of mines polluted surface water severely enough to exceed water quality standards;

Pebble is purported to contain about 0.6% desirable metals. If developed, it will yield about 8.15 billion tons of wastes – including reactive sulfide wastes and toxic agents such as cyanide used in processing – that will be left forever on public land, with the abandoned mine.

Thus, six factors make Pebble controversial: (1) it is a metallic sulfide deposit; (2) it is located at groundwater; (3) it will yield a tremendous amount of waste containing sulfur; (4) such mines are virtually certain to create sulfuric acid, that dissolves copper and other heavy metals into solution, and which is highly likely to pollute groundwater and surface water, where the dissolved metals are toxic to fish; (5) the area is in the heart of the most productive salmon habitat and fisheries in the world; and (6) the governmental success rate in permitting, so as to prevent such contamination, has been demonstrated to be exceptionally poor – a 93% failure rate.

2. How does copper affect fish?

Although copper in trace amounts is important for growth and reproduction in all living organisms, copper is extremely toxic to aquatic organisms and causes irreversible harm at concentrations just over that required for growth and reproduction. Lethal and sublethal effects are well documented. Sublethal effects on salmon include: (1) impairment of sense of smell (olfaction); (2) interference with migration; (3) impairment of ability to fight disease (immune response); (4) difficulty breathing; (5) disruption of ability to osmoregulate (move between salt and fresh water); (6) impairment of ability to sense vibrations via their lateral line canals (a sensory system that helps fish avoid predators); (7) impairment of brain function; (8) alteration of enzyme activity, blood chemistry and metabolism; and (9) alteration of natural hatch rates.⁴

TECHNICAL QUESTIONS AND ANSWERS

3. What does Northern Dynasty propose? Answer: Huge dams and toxic tailings facilities that must contain waste forever in an active earthquake zone.

Northern Dynasty Mines (NDM) proposes nothing different from low grade metallic sulfide mines that have already failed. NDM simply proposes a greater scale – to accommodate as much as 8.2 billion tons of waste.

-
- 52% of mines polluted ground water severely enough to exceed water quality standards;
 - 73% of mines exceeded surface water quality standards despite predicting that mitigation would result in compliance;
 - 77% of mines that exceeded groundwater quality incorrectly predicted that mitigation to correct problems would result in compliance;
 - When the permitting agency tried to get the mine operator to fix the problems, the fixes failed 75% of the time; and
 - Of the mines analyzed that polluted ground and surface water, 63% released toxic metals such as lead, mercury, cadmium, copper, nickel, or zinc; 58% released arsenic and sulfates; and 53% released cyanide.

⁴ See Woody, C. A., Ph.D. *Copper: Effects on Freshwater Food Chains and Salmon: A literature review*, submitted to the House Fisheries Committee.

As at other large mines of metallic sulfides, NDM proposes to separate the reactive, sulfur-bearing tailings (3-5 percent), from the non-reactive "bulk" tailings (95-97 percent). The reactive tailings, and the reactive waste rock that is not of high enough metal content to process, will have to be stored under water forever in huge tailings storage facilities. These will have to be maintained forever. The allegedly non-reactive "bulk" wastes after processing will be the texture of silt or sand, and will be discharged to form what Northern Dynasty calls "beaches" around the reactive tailings storage facilities.

NDM has proposed to build five dams, to create two mammoth toxic tailings lakes to store the reactive sulfur-bearing wastes plus toxic materials used in ore processing, such as cyanide or xanthates. The lakes would cover more than 10 square miles according to NDM's applications to DNR filed in 2006. The dams would be as high as 740 feet and grow to over four miles long. They would be larger, in these respects, than the Three Gorges Dam in China that is often said to be the largest dam in the world. The risk of over-topping during storm events and due to snow melt is substantial due to the relatively wet climate compared to such mines in arid parts of the western United States.

These two tailings impoundments would contain about 2.5 billion tons of waste. Given the amount of waste -- 8.2 billion tons -- one can expect more dams containing more waste.

All of this would occur in an area susceptible to large earthquakes, much like the magnitude 7.9 earthquake which occurred on November 3, 2002, on a previously unrecognized splay fault south on the Denali fault system. NDM proposes dams engineered to a magnitude 7.8 seismic event, which is smaller than the quake that occurred in 2002 on the Denali Fault. Because the dams must last forever, larger seismic events are a statistical certainty.

4. Is Northern Dynasty's "no net loss of fish" policy an empty promise?

Yes. Northern Dynasty's "no net loss" policy applies only to the habitats destroyed by building the mine, rather than to the greater and more complex events that occur, such as lethal and sublethal effects originating from acid mine drainage as discussed above.

Salmon memorize or "imprint" a complex map of chemical smells as they migrate from natal freshwaters to saltwater. When the fish return to natal habitats to spawn, they follow their noses using this memorized map. This behavior, called "homing," isolates breeding populations in space and time and results in genetic divergence and population-specific adaptations among local populations. If salmon cannot smell, or if the chemical signature of a salmon's natal stream changes, then fish will likely stray to and spawn in non-natal habitats, which generally reduces spawning success. Alteration of natural adaptive behaviors such as homing, migration and spawning due to water pollution can reduce wild salmon survival and change basic population structure.

For salmon, a healthy population structure is positively associated with genetic diversity and resilience to disturbance such that large, highly structured populations have high genetic diversity and probability of persistence. In contrast, small, unstructured and randomly-mating populations are vulnerable to inbreeding, demographic stochasticity (e.g. randomly induced mutation), genetic drift and thus, reduced evolutionary potential, and increased probability of extinction. Thus, potential changes in population structure due to increased salmon straying

arising from acid mine drainage have huge implications for sustainable fisheries, for which, probability of persistence is determined, in part, by genetic integrity and biodiversity of stocks.

Northern Dynasty's "no net loss" policy will be a source of endless dispute involving NDM, governmental agencies and the public. While loss of fish production from building the mine is a straightforward matter, the more complex and greater losses will be matters of dispute due to other variables, such as harvest, natural variation in freshwater and saltwater survival rates, climate change, etc. Thus, NDM's "no net loss" policy is an empty promise.

LEGAL QUESTIONS AND ANSWERS

5. Does the state permitting process and standards protect the public and the fish when authorizing a large project like the Pebble Mine?

No. To authorize Pebble Mine, various state permits will be required. For example, DNR is likely to issue – (1) dam authorization and construction permits under AS 46.17; (2) authorizations to appropriate water under the Water Use Act, AS 46.15; (3) surface land lease permits under AS 38.05.255; (4) Anadromous Fish Act and Fishways Act permits under AS 41.14.870 and AS 41.14.840;⁵ and (5) permits necessary for rights-of-way or easements under AS 38.05.850. DNR also determines whether these and other state permits are consistent with the Alaska Coastal Management Plan (ACMP).⁶

Although DNR claims that its so-called "large mine permitting process" protects the public interest, *no statute establishes this so-called process, and DNR has not adopted any regulations specific to this so-called process.* Instead, under AS 27.05.010, DNR is simply the State's lead agency for most matters involving mining in Alaska. DNR created the process to coordinate permits for large mines. DNR did so by undertaking a personnel action that established a job position for a "large mine coordinator" who works with state agency staff and the mining company to expedite permitting and implement *pre-existing* statutes and regulations.⁷ So, one must look at both how the process is expedited and the pre-existing statutes.

⁵ The Anadromous Fish Act, AS 41.14.870, requires permits for activities in anadromous waters that affect fish and game. The Fishways Act, at AS 41.14.840, requires permits for obstructions that would otherwise block fish passage. The Murkowski Administration transferred the authority for both statutes from ADF&G to DNR in eliminating the ADF&G Habitat Division.

⁶ The Murkowski Administration dismantled the Coastal Management Program by eliminating enforceable guidelines and habitat standards which required that permits be consistent with a high level of protection for fish and wildlife habitat. In the same vein, ADEC issued mixing zone regulations to allow discharge of harmful substances into salmon spawning areas.

⁷ Although ADF&G is charged by statute, at AS 16.05.020, with protecting, preserving and maintaining fish, game, and the uses of them, the elimination of the ADF&G Habitat Division and transfer of all ADF&G permitting authority – except for refuges – eliminates its statutory ability to implement its charge in all locales in Alaska except state refuges such as that proposed by SB 67 (the Jay Hammond State Game Refuge bill). Furthermore, given recent reports of the difficulty in hiring staff in these agencies, both DNR and ADF&G likely lack the technical capacity and staff to review a project as complex as the Pebble Mine.

Regarding how the process is expedited, a mining company proposing a large mine can choose to use the process by entering into a contract with DNR by which the company pays DNR employee salaries involved in reviewing and expediting the company's permit applications. This presents a palpable conflict between DNR's duties to perform objective analysis and the funding of DNR staff who perform that analysis.

Regarding existing statutes, for the most part they provide vague standards at best and lack anything approaching a standard based on actual performance by a mining company or an agency. For example, AS 38.04.005 establishes DNR's overall policy of managing "for maximum use of state land consistent with the public interest." This standard is derived from Art. VIII, section 1, of the Alaska Constitution. The result is a vague standard that allows DNR wide discretion and no guidance about how to exercise that discretion. Similarly, the Water Use Act, at AS 46.15.080, administered by DNR, provides that DNR must find that a water appropriation is in the "public interest" and that in determining the public interest, DNR shall "consider:" (1) benefit to the applicant; (2) the effect of economic activity resulting from the appropriation; (3) effect on fish and game and on public recreation; (4) the effect on public health; (5) the effect of loss of alternate uses of water; (6) harm to other persons; (7) the intent and ability of the applicant to complete the appropriation; and (8) the effect upon access to navigable or public water. Requiring that DNR "consider" a matter does not require that any particular action be taken with regard to any of the matters "considered." In contrast, performance standards might say, for example, that DNR's decision must "protect" fish and game and habitat by not allowing acid mine drainage or long term or perpetual care and treatment of mining wastes. No such protective standards currently exist.

Finally, AS 38.05.135(e) governs leases and disposals of certain public resources, and provides DNR with wide discretion to determine what is in the "state's best interest." A "best interest finding" is not required for leases for millsites, tailings disposal, and other mine related facilities under AS 38.05.255, however. Such a lease will likely be required for the Pebble Mine, but no protections for public process are in place for that decision. This also is true for a permit, right-of-way, or easement under AS 38.05.850.⁸

Thus, DNR statutes provide vague standards to protect the public interests in fish, fishing, and other public resources and uses of them. That causes two problems:

⁸ AS 38.05.850 applies to "permits, rights of way, or easements on state land for roads, ... and ... pipelines not subject to AS 38.05, ... electric transmission and distribution lines, ... and other similar uses or improvements." The access road from Cook Inlet to Pebble will require as many as 120 stream crossings. Despite efforts to protect stream habitat, road construction activities and bridge and culvert installation can be expected to impact streams and fragment habitat. They will alter downstream habitat by disrupting runoff patterns for seasonal flows. Roads and their associated dust, increased access, and effects on hydrology all are likely to have significant effects on natural ecosystems of this region, including increased competition between commercial, subsistence and sport users of the fish and wildlife. Contamination at mine port loading facilities in Alaska has been an issue at Skagway, Red Dog, and Greens Creek.

- On one hand, the lack of clear standards frustrates the ability of the public to provide meaningful input.
- On the other hand, the lack of clear standards frustrates the ability of agencies, like DNR, to make factually grounded decisions or to respond to the public in any meaningful way.

DNR, when faced with a 93% failure rate at similar mines around the country, and in much more arid climates, is not credible in its claim that its permitting process will work when others have failed. This is why it is so important for the Legislature to enact legislation that conserves the Bristol Bay drainages and establishes processes and standards that protect those drainages. Doing so is the only way to serve the public and protect Alaskan's interests in the natural resources that belong to them.

Finally, the track record of one of the companies that will be developing and operating Pebble Mine shows that Pebble is likely to pollute the Bristol Bay watersheds. In Colorado, a mine in which Anglo American's subsidiary, AngloGold, was the majority owner, repeatedly violated its state-issued Clean Water Act permits. The U.S. Environmental Protection Agency fined the mine operators the maximum allowed under the Clean Water Act.⁹ Anglo American's record in Colorado shows that Alaskans cannot rely on the permitting system to protect the Bristol Bay watersheds. Companies routinely violate their permits and, if they are caught, they consider the fines simply a cost of doing business.¹⁰

6. Will an unconstitutional "taking" of private property occur if the legislature enacts a statute that makes it more difficult or infeasible to develop Pebble Mine?

No. This is a red herring issue raised by Northern Dynasty. A mining claim is a very limited, *exclusive*, property right. It amounts to a right to be *first in line* to explore and develop the claimed minerals, but it never creates a right to obtain permits to mine the minerals. It does not preempt the State legislature's constitutional power under Article VIII, section 2, of the Alaska Constitution, to enact natural resource statutes that revise the standards under which a claim might be developed, even if those laws render the mine infeasible. Nor does a mining claim pre-empt the State's police powers to enact laws to protect public health, safety, its economic interests, or the environment, even if those laws render the claim infeasible.¹¹

⁹ *Sierra Club v. Cripple Creek & Victor Gold Mining Co.*, No. 00-02325, 2006 U.S. Dist. LEXIS 92900, at *8-10 (D. Colo. 2006). AngloGold is the majority owner (67 percent) of Cripple Creek & Victor Gold Mining Co. See Anglo American Plc Interim Report 2007, p. 15 (June 2007), available at www.angloamerican.co.uk/newsandmedia/reportsandpublications/reports/2007reports/ (last visited Sept. 21, 2007). See also Cripple Creek & Victor Gold Mining Co. website, www.ccvgoldmining.com/About/about.html (last visited Sept. 21, 2007).

¹⁰ The EPA fined Cripple Creek & Victor Gold Mining Co. the maximum penalty then allowed under the Clean Water Act. See *Sierra Club v. Cripple Creek & Victor Gold Mining Co.*, *supra* footnote 9, at *6 n. 7. Such fines historically have not deterred permit violations. See footnote 3, *supra*.

¹¹ See Jan. 9, 2007, *Memorandum of Law re: Elevating Habitat Conservation Standards in the Bristol Bay Drainages*, W. P. Horn, et al., Birch, Horton (in Hs. Fisheries Comm. HB 134 file).

Hello, My name is Everett Thompson. I am a lifelong Naknek resident, member of the Naknek native village, Bristol Bay Native Corporation shareholder, Levelock Limited shareholder, a subsistence person, a commercial fisher since the age of seven and a single father to a great six year old daughter named Lakota.

I am here in support of HB134 because I believe we don't have enough protection for our fish and other natural, renewable resources. As a commercial fisher that puts in a lot of effort to add quality to our wild catch, this bill ensure our consumers that Bristol Bay Wild Salmon is desirable. Without any protection it so needs and deserves, it will have the opposite effect. For as soon as the consumer knows that North America's largest open pit mine is in the headwaters of the two major river systems of Bristol Bay, our product will lose its reputation of being wild and pure and good for you.

What worries me more than just the well being of our fisheries is the well being of our fish, animals and plants and of course water quality that has made us able to have existence, to remain here, to continue to keep ourselves alive and to provide food for us for nine thousand years.

I am concerned about the adverse effect that the mining of molybdenum, copper, gold and silver will have on our spawning grounds. From the dust, toxic tailing ponds, explosions, amount of energy used and the amount of water that will be used in the process and also, what will be left behind.

We need more protection in and around our spawning areas, with such valuable resources already here, there is too much to risk. As a commercial fisherman, with one of the oldest aluminum boats in the bay, I deliver a high quality product through icing and bleeding and handling. And as a local that comes from a ling family history here all around the bay, I believe we have a lot to benefit through our fisheries. It has taken over a hundred years to get to this point and we have more control in the fisheries year after year.

We will not have much control in this mine. I know hundreds of fishermen and not really any miners. And I am not saying I am against all mining. I just believe this is the worst place to have one. And I understand, it just isn't Pebble that has interest in the area. And once we let one in, I believe more will be right behind them.

I have been concerned about the effect of mining in our area since the beginning of 2004 when I attended a Northern Dynasty meeting in Newhalen. I have done a lot of independent study on mining and the effect this type of mining can do to our environment.

I am an RRC member and recently volunteered at the Alaska State Fair for eight days believing I could make a difference. And being from Bristol Bay, I thought that would be important. I paid my own way, and my daughters way. Its not cheap to volunteer like that but I believed it to be a good cause. Hundreds of Alaskans would come to the booth every day and ask what they could do? What they can sign? One or two a day would not be so pleasant. And one or two old timers, Alaskan elders, would walk up, me not knowing which side of the fence they were on, and say this would be the worse thing that could happen to the state of Alaska. Then they would

thank me for being there. That would truly make my day. I will volunteer as much as I can because I don't want my lively hood threatened. That is why I am here right now. We need more protection in and around our spawning grounds.

Trading on long term renewable resource for a short term non renewable resource? Just imagine a hundred years from now if our fisheries is protected. We will have a great, wild, untainted product still and other areas in the world might not be able to say the same because they didn't take action to protect the goodness of their area. I hope you all will.

Our native corporations and village can pass resolution after resolution but you are the ones that can truly help preserve a wonderful thing we have here. Clean water for our fish and animals.

Thanks for coming out to hear us, most of us wouldn't be able to afford coming down to Juneau.

Governor Sarah Palin
State Capital
Juneau, AK 99801

Submitted
for Everett Thompson

August, 2007

Re: Support Bristol Bay Fisheries
Oppose Pebble Mine

Dear Governor Palin;

We are writing to support Bristol Bay commercial, subsistence and sport fishermen and ask you and your administration to vigorously support and defend the renewable resource industries of Bristol Bay and oppose the Pebble Mine.

Large scale mining near the headwaters of the Bristol Bay Watershed threatens our world famous salmon fishery, and the businesses, communities and families (such as yours) that it supports. We believe that sustainable long-term salmon harvests are worth far more to us and to Alaska than digging up the metals that lie beneath our hills and lakes.

- Harvesting and processing of Bristol Bay fish generates an average of \$320 million a year, and jobs for some 12,500 people.
- Bristol Bay residents, on average, harvest 2.4 million pounds of subsistence salmon per year, about 315 pounds per person.
- Sport fishing adds \$60 million dollars a year to the area's economy.

There is no doubt that responsible mining will continue to be vital to the Alaskan economy. But in Bristol Bay, our salmon - and the communities and businesses it supports - should always come first. Our fish and wildlife habitat are our legacy to pass down to future generations. Pebble Mine and Bristol Bay's world class salmon just don't mix. We respectfully urge you and your administration to help us protect our Bristol Bay fisheries and oppose the Pebble Mine.

Governor Sarah Palin
State Capital
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November 15, 2007

Senator Charlie Huggins
Chair, Senate Resources Committee
Alaska State Legislature
State Capitol, Room 417
Juneau, Alaska 99801

Representative Paul Seaton
Chair, House Fisheries Committee
Alaska State Legislature
State Capitol, Room 102
Juneau, Alaska 99801

Re: Current and Proposed Statutory Standards for Permitting Pebble and Similar Mines.

Dear Senator Huggins, Representative Seaton, and Members of the Senate Resources and House Fisheries Committees,

This responds to your request, at the September 2007 field hearings in Bristol Bay, that Trout Unlimited¹ (TU) submit additional written testimony on existing statutory standards used by the Department of Natural Resources (DNR) in large mine permitting and potential changes to the standard. At the outset, it helps to distinguish *statutory* standards (e.g., the "state's best interest" or "proper protection of fish and game") from *regulatory* standards (e.g., a pollutant discharge limit measured in "parts per billion per liter"). Because the legislature enacts statutes, this addresses statutory standards, rather than technical regulatory standards adopted by agencies.

Careful review of the current statutory standards shows that they are vague. Moreover, the professional literature shows that 93 percent of sulfide mines permitted in the past 25 years in the United States pollute water and exceed water quality standards, despite predictions at the time of permitting that they would not. Thus, Trout Unlimited's concern is that the standards do not offer adequate protection for fish, game and habitat in the face of the massive, metallic sulfide mining project, Pebble Mine, proposed in the Bristol Bay region. If Pebble proceeds to permitting under current state and federal standards, the large scale mining of sulfide based copper ore in the Nushagak and Kvichak drainages will destroy or degrade high quality spawning and rearing habitat and threaten fisheries production downstream.

¹ Trout Unlimited is the Nation's largest coldwater fisheries conservation organization. It has over 160,000 members, approximately 1000 in Alaska, organized in 6 Alaskan chapters, and a full time staff of five in Alaska. TU works with commercial, sport and subsistence fishers, seafood processors, and other citizens, organizations, and agencies through the state to protect salmon and trout habitat.

To facilitate the committees' discussions of statutory standards, we will offer two tables. They will allow you to compare:

- (1) 11 current statutes and their standards, implemented by DNR, with
- (2) statutory standards proposed in SB 67 and HB 134, and TU's suggestions.

1. Current Statutory Standards Implemented by DNR.

Table 1, below, summarizes 11 state statutes, implemented by DNR, and their 10 standards applicable to permitting mines, such as Pebble.

Table 1
DNR's Vague Statutory Standards that Fall Short of Protecting Fish, Game and Uses of These Renewable Resources When Applied to Development of Metallic Sulfide Mines like Pebble

Department of Natural Resources, Statutes & Application	Current Statutory Standard	Problems Current Standards Create When Applied to Development of Metallic Sulfide Mines
AS 27.05.010 -- Establishes DNR as "lead agency" on mining. DNR "shall coordinate all regulatory matters" concerning mining.	The statute articulates no standards and only articulates duties.	
AS 38.04.005 -- DNR's overall policy statute. ²	Establishes DNR's overall policy of managing for "maximum use of state land consistent with the public interest."	"Maximum use of state land consistent with the public interest" is a vague and subjective standard, establishing wide discretion for permitting decisions made by DNR. Vague standards, overseen by DNR, militate against conservation of fish, game and uses dependent on them.
AS 38.05.135(e) -- Applies to leases and disposals of public land, mineral and water rights, etc.	Lease or disposal depends on DNR's determination of the "state's best interest."	"State's best interest" standard is vague and subjective.

(Continued on p. 3)

² By contrast, AS 16.05.020 is ADF&G's overall policy statute. It establishes ADF&G's duty to "manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state."

AS 38.05.255(a) -- Applies to leases for millsites, tailings disposal, mine facilities and other surface uses of state land or water within a mining property.	Leases and surface uses within a mining property are limited to those "necessary" for prospecting, extraction, and processing of minerals and shall be "subject to reasonable concurrent uses."	1. What is "necessary" for prospecting, extraction, processing is vague and subjective with respect to some uses. For example, how DNR decides whether or not housing, sewerage treatment, etc. for 2000 workers is "necessary" on state land when alternatives exist on non-state land is entirely subjective. Yet this type of permitting decision could have serious regional impacts on fish, game, and uses dependent on them. 2. "Subject to reasonable concurrent use" is vague as to whether it includes production of fish and game.
AS 38.05.850 -- Applies to permits, rights of way, or easements on state land for roads, ditches, pipelines not subject to AS 38.05, electric transmission and distribution lines, and similar uses or improvements.	DNR's Director of Division of Mining, Land, and Water "shall give preference to that use of the land that will be of greatest economic benefit to the state and the development of its resources."	1. The preference for land use that gives "greatest economic benefit to the state and development of its resources" is vague and subjective. Does "the state" refer to the state treasury, the state and its economy, or the citizens of Alaska? 2. Because of the transfer of ADF&G habitat functions to DNR in 2003, this preference now favors development of non-renewable resources, such as minerals, over already developed renewable resources, such as fisheries, even more than the preference did prior to the transfer.
AS 41.14.840 (Fishways Act) -- Applies to permits for activities that could obstruct fish passage, such as dams and culverts.	Fish passage may be required "if the deputy commissioner [of DNR] considers it necessary."	1. "Necessary" is vague, subjective, and interpreted by each DNR Deputy Commissioner. 2. DNR implementation results from Governor Murkowski's transfer, by E.O. 107, of ADF&G habitat functions to DNR. It is contrary to (a) the long history of implementation by ADF&G, and (b) decisions made by legislature at Statehood to establish separate agencies for fish and game (ADF&G) and resource development (DNR).
AS 41.14.870 (Anadromous Fish Act) -- Applies to permits for activities in waters known to be anadromous.	Plans, activities and permits shall provide "proper protection" of fish and game when the waters are "specified" through field work to be anadromous and listed in the Catalogue of Anadromous Waters.	1. Under current practices, the statute depends on waters being documented in the field as anadromous. 2. "Proper protection" standard is vague, subjective, open to discretion, and lacks a statutory definition. 3. DNR implementation results from Murkowski's transfer, by E.O. 107, of ADF&G habitat functions to DNR and is contrary to (a) the long history of implementation by ADF&G, and (b) decisions made by legislature at Statehood to establish separate agencies for fish and game (ADF&G) and resource development (DNR).

(Continued on p. 4)

AS 44.62.330(a)(6) and (30) of the Administrative Procedure Act – Affords judicial appeal to review (1) some decisions by DNR's Division of Mining, Lands and Water under the Alaska Land Act [AS 38.05] "where applicable," and (2) decisions under AS 41.14.870.	Alaska Land Act, AS 38.05.035(l), provides appeal to superior court from DNR decisions that are subject to the requirements of AS 38.05.035(e)(6), which applies to sales, leases and disposals of state land other than oil and gas. However, AS 38.05.035(e)(6)(A)-(H) lists 8 exceptions to the requirements. Exceptions include: revocable permits or authorizations; mineral claims located under AS 38.05.195; mineral leases under AS 38.05.205; surface use leases for millsites, tailings disposal and other mine-related facilities under AS 38.05.255; and a permits, rights-of-way, or easements for roads, ditches, pipelines not subject to AS 38.05, electric transmission and distribution lines, and similar uses or improvements under AS 38.05.850.	A result of the exemptions in AS 38.05.035(e)(6) is that many of DNR's decisions related to mining are NOT subject to appeal to the courts under the Administrative Procedure Act. Under existing law, it is likely that the only DNR permits that will be subject to administrative adjudication and appeal to superior court will be Anadromous Fish Act permits for activities in anadromous waters, which are also under-documented throughout the state.
AS 46.15.080 (Water Use Act) – Applies to authorizations to appropriate state owned waters.	Appropriation must be "in the public interest." In determining that interest, DNR shall "consider" 8 factors: (1) benefit to the applicant; (2) effect of economic activity resulting from the appropriation; (3) effect on fish, game and public recreation; (4) effect on public health; (5) effect of loss of alternate uses of water; (6) harm to other persons; (7) intent and ability of the applicant to complete the appropriation; and (8) effect upon access to navigable or public water.	1. The "public interest" standard is vague and subjective. 2. The requirement that DNR "consider" eight factors is merely procedural. It is far short of substantive standard that would require DNR to avoid (or even to minimize or mitigate) the harms or risks that can occur. Moreover, "considering" the effects on fish is far short of a statutory standard that articulates acceptable or unacceptable harm to fish. Similarly, because DNR generally lacks criminal citation authority, it cannot enforce a cease and desist order with criminal authority. ADF&G has general criminal citation authority, but due to the transfer of its permitting authority to DNR, ADF&G no longer has permitting authority to enforce.
AS 46.17 – Applies to permits authorizing construction of dams, such as for tailings impoundments.	Dams must be designed, constructed, operated and maintained "consistent with the protection of life and property."	The standard "consistent with the protection of life and property" ignores fish, game, habitat, and uses of them.

(Continued on p. 5)

AS 46.40 (Alaska Coastal Management Program, ACMP) – Applies to agency decisions on a proposed project located in the coastal zone, as identified by state or district coastal management plans. ACMP is implemented and coordinated by DNR.	Requires that agency decisions on a proposed project be “consistent” with statewide coastal zone standards adopted under AS 46.40.040 and the enforceable policies in an applicable district coastal management.	1. “Consistency” depends on the quality of statewide ACMP standards for protecting fish, game, and uses of them, and on enforceable policies of district plans. The Murkowski Administration diluted many statewide standards and enforceable policies and reduced the coastal zone boundaries. 2. DNR implementation is the result of Gov. Murkowski’s transfer of the Program from the Governor’s Office, where ADF&G and DNR were peer agencies, to DNR. Vesting sole responsibility in DNR is contrary to decisions made by legislature at Statehood to establish separate, peer agencies for fish and game (ADF&G) and resource development (DNR).
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Table 1 demonstrates that DNR’s 11 applicable statutes contain 10 standards, and all 10 are vague. Most are open to wide interpretation. None articulate clear standards for protection of fish and game, habitats, and uses of them. Moreover, aside from the Fishways Act (AS 41.14.840) and the Anadromous Fish Act (AS 41.14.870) which obviously mention fish, of the remaining eight statutory standards listed in Table 1, *only one* (AS 46.15.080) mentions fish, game, and recreation (but not commercial or subsistence use), and that statute only requires DNR to “consider” fish, game and recreation, rather than to protect them.

The Department of Natural Resources statutes are out-of-date for purposes of protecting Alaska’s fisheries in the face of large scale mining. Most were enacted when no one could envision the scale and risks that contemporary open pit and block caving mining, and chemical treatment of massive, low-grade, metallic sulfide ores, pose today to regions like the Bristol Bay watershed. Because of its scale and location at the headwaters of two of the most productive salmon systems in the world, Pebble has brought these risks into public view.

Table 1 reveals that although AS 27.05.010 requires DNR to “coordinate” matters related to mining, no statute actually *creates* DNR’s “large mine permitting process.” The “process” is illusory. If a statute had created the “large mine permitting process,” then Table 1 would list the statute and its standards. Instead, DNR’s “large mine permitting process” is merely a *rhetorical device* for a *personnel action* – i.e., the hiring of an individual staff person as a “large mine permitting coordinator,” to coordinate permit applications, reviews and authorizations for such mines under pre-existing vague statutes. If a company elects to use the services of this coordinator, then the coordinator expedites permitting.³ In other words, DNR’s “large mine permitting process” is a person not a process.⁴

³ A mining company proposing a large mine can opt to use the process by entering into a contract with DNR, whereby the company pays DNR salaries related to expediting the review of permits. This presents a conflict between DNR’s duties to perform objective analysis and the funding of DNR staff who perform that analysis.

⁴ Currently, the large mine permitting staff consists of Tom Crafford and his assistant, Andrea Meyer.

So, one must look at the existing statutes as Table 1 does. Doing so reveals no clear DNR standards for protecting fish, game, habitats, and the uses of them. The lack of concrete statutory standards will have drastic implications on vital renewable resources.

The vagueness of the statutory standards partially explains why the proposed Pebble Mine is controversial. Pebble would mine a metallic sulfide deposit containing copper and other heavy metals extremely toxic to fish. Sulfides are chemically reactive. Exposing sulfides to air and water creates sulfuric acid. It dissolves most metals, including copper (and other heavy metals) into solution. When the dissolved metals enter surface waters, whether directly or through groundwater, they are highly toxic to fish, particularly salmon.⁵ Mining, milling and processing the ore exponentially increases the rate of exposure of sulfur to air and water, and exponentially increases the amount of sulfuric acid generated and hence dissolved metals. Regardless of whether the Pebble deposit is mined by open-pit or block-caving,⁶ the mine walls, the wastes and the dust associated with the mining will generate sulfuric acid. A recent study of sulfide mines, permitted in recent years in the U.S., found that 85% polluted surface water and 93% polluted ground water, despite that fact that at the time of permitting 89% of the environmental documents predicted the mines would not do so.⁷

⁵ Woody, Carol. A., Ph.D, *Copper: Effects on Freshwater Food Chains and Salmon: A Review*, submitted to House Fisheries Committee, September 2007. (See enclosed digital CD.)

⁶ The mine itself, whether by open pit or underground block caving, is likely to fill with water, be acidic, and require care and treatment in perpetuity.

⁷ Kuipers, J.R., Maest, A.S., MacHardy, K.A., and Lawson, G. , *Comparison of Predicted and Actual Water Quality at Hard Rock Mines: The reliability of predictions in Environmental Impact Statements* (2006). Although 100 percent of the environmental impact statements examined by the report predicted that the mines would be able to comply with water quality standards, in actuality:

- 76% of the mines polluted ground or surface water in excess of water quality standards;
- 60% of mines polluted surface water severely enough to exceed water quality standards;
- 52% of mines polluted ground water severely enough to exceed water quality standards;
- 73% of mines exceeded surface water quality standards despite predicting that mitigation would result in compliance;
- 77% of mines that exceeded groundwater quality incorrectly predicted that mitigation to correct problems would result in compliance;
- When the permitting agency tried to get the mine operator to fix the problems, the fixes failed 75% of the time; and

This poor track record of governmental permitting of sulfide mines, the sulfide nature of Pebble, and its location in a wet environment, mean that Pebble is virtually certain to create acid mine drainage and put dissolved toxic metals such as copper into water. The deposit is at groundwater in a wet climate. The groundwater flows through permeable soils to feed surface waters of two of the most productive river systems in the Bristol Bay drainages, the most productive salmon habitat in the world supporting the most productive salmon fisheries in the world.

As Table 1 shows, the combination of (1) vague standards in DNR statutes, (2) lack of appeal and judicial review of DNR permits, (3) transfer of the ADF&G Habitat Division and its permitting authorities to DNR, and (4) transfer of the Alaska Coastal Management Program to DNR, leaves any claim that the Alaska statutes retain the system of "checks and balances" established at statehood between ADF&G and DNR⁸ a

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- Of the mines analyzed that polluted ground and surface water, 63% released toxic metals such as lead, mercury, cadmium, copper, nickel, or zinc; 58% released arsenic and sulfates; and 53% released cyanide.

⁸ Table 1 also illustrates Alaskan history in developing a system of natural resource management. Prior to statehood, outside mining interests – chiefly the Guggenheims, Carnagies and the so-called "Alaska Syndicate" of mining companies – dominated major mining, just as non-Alaskan companies do today. They were the original "Outsiders," before Seattle fishing interests, and are origin of Alaskan antipathy toward non-Alaskan interests. At statehood, a debate ensued over whether to separate the management of renewable fish and game resources from nonrenewable resources. Mining interests opposed doing so and favored making ADF&G a "division" of DNR. The commercial fishing industry, and commercial, sport and subsistence fishers and hunters, favored separate departments and pointed to loss of salmon habitat in the Pacific Northwest. During the First Alaska Legislature, the fishing industry, and commercial, sport and subsistence fishers and hunters prevailed. The legislature established ADF&G and DNR as separate departments. Hence, Table 1 shows that DNR never had a single, mining related, statutory standard that even seeks to protect fish, game and commercial, subsistence and recreational use, until Governor Murkowski transferred the Fishways Act (formerly AS16.05.870, now AS 41.14.870) and the Anadromous Fish Act (formerly AS16.05.840, now AS 41.14.840) from ADF&G to DNR, and transferred the Alaska Coastal Management Program (ACMP) from the Governor's Office (where ADF&G and DNR had been equal peers in the event of a dispute, to DNR, which then reduced the ACMP boundaries and weakened enforceable standards. It is in this historical context that Steve Borell, President of the Alaska Miners Association, correctly described these events as "massive" changes that favored the mining industry. (Borell, *Regulatory Changes Improve Alaska's Mining Climate*, Alaska Miners Assoc., Feb. 11, 2007.) The Anadromous Fish Act and Fishway Act had been administered by ADF&G since statehood. These massive changes eliminated ADF&G's historic role of protecting fish and game habitat through permitting and reduced ADF&G to commenting on DNR permits. These changes leave ADF&G with no permitting authority over projects that

demonstrably empty claim. Hence, SB 67 and HB 134, to which we now turn, are before your committees. Both bills seek to address large scale sulfide mining in Bristol Bay drainages.

2. Proposed Standards in SB 67 and HB 134.

Table 2, below, summarizes proposed standards of SB 67, HB 134 and TU's suggestions for the 26th Alaska Legislature. SB 67 would apply to state lands in the Nushagak and Kvichak drainages. HB 134 would apply to all lands in the Nushagak, Kvichak, Naknek, Egegik, and Ugashik drainages. Two other bills, HB 41 and HB 74, would apply statewide, and both have arisen in discussions of Pebble and existing statutes. HB 41 would restore to ADF&G its habitat duties under the Anadromous Fish Act, the Fishways Act, and other laws. HB 74 would restrict mixing zones. Northern Dynasty's water and dam applications filed in 2006 assert that Pebble will be no-discharge facility, so mixing zone legislation may not apply.⁹

Table 2
Comparison of Major Provisions of SB 67 and HB 134, and TU's Suggestions

Bill, Purpose, and Agency implementation.	Proposed Standards and Means of Protecting Fish, Game and Public Uses and Providing Transparent Public Processes.	Advantages of the Proposed Standards and Means.
SB 67 – would apply to 7.7 million acres of state land and water in the Nushagak and Kvichak drainages and designate them as the Jay Hammond Refuge on. ADF&G chiefly would implement, but DNR would retain its authorities subject to the Act.	1. The "compatibility test" permits non-refuge uses so long as they are "compatible" with refuge purposes. Since the 1950s, the compatibility test has been the fundamental, broad general standard in state and federal refuge statutes. In SB 67, it is framed as follows: the refuge purposes are: (1) protect fish, game and habitat; (2) protect commercial, subsistence and sport uses of fish and game, (3) allow other uses <u>compatible</u> with (1) and (2). 2. Storage or disposal of industrial waste in the refuge would be prohibited. (cont.)	ADVANTAGES: 1. The "compatibility test" in conjunction with other provisions in SB 67 simultaneously protects fish, game, habitat, and uses of them, while protecting valid existing mining claims. Unlike rigid standards such as effluent standards, it accommodates future developments in science and technology. 2. Anglo American's CEO, Cynthia Carroll, essentially endorsed the compatibility test when she told the Resource Development Council: "We do not want to and will not be associated with a mine that damages Alaska's fisheries and wildlife." (cont.)

impact fish and game (except in refuges) and place nearly all mining related decisions in DNR. That promotes the economic dominance by Outsiders that the First Alaska Legislature sought to avoid – by separating ADF&G and DNR and giving them each appropriate authorities to regulate mining. Hence, it is not surprising that the President of that miners association described Murkowski's changes as "massive," and that several biologists who worked under both systems testified to the House Fisheries Committee (in hearings on HB 41) that the level of protection and considerations given to fish habitat under DNR has been reduced.

⁹ More recently, Northern Dynasty has said there may be discharges.

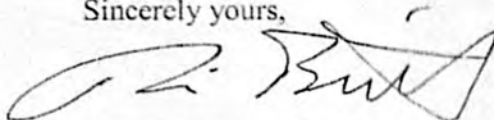
	3. The management plan required by SB 67 would be a vehicle for public involvement in the issues and transparency in the process prior to applications for Pebble permits. 4. AS 16.05.020 – ADF&G's overall policy statute would apply. It establishes ADF&G's overall duty to "manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state."	If a mine cannot be planned in a way that provides proper protections, it will not be built." ("Anglo Considers Chucking Pebble," <i>The Times</i> (Johannesburg), 10/24/07, http://www.thetimes.co.za/Business/Article.aspx?id=594844 last checked 11/7/07). 3. ADF&G would have a substantive role in managing the refuge to protect fish, game, habitats, and commercial, subsistence and sport uses.
SUGGESTIONS for SB 67, including for clearer standards: 1. Revise the boundary in subsection (a) by excluding certain lands: Exclude (1) all state and federal parks and refuges (not just Wood-Tikchik State Park), and (2) land in the Nushagak drainage which is concomitantly south of Wood-Tikchik Park and west of the Lake and Peninsula Borough, so as to allow potential land selections of a possible future borough in the Dillingham/Nushagak area from that excluded area. These revisions would reduce the refuge without harming refuge purposes. <i>Rationale: (1) accommodate concerns that a future borough may be created in the Nushagak drainage; and (2) retain in public ownership the upper reaches of the Nushagak drainage where most fish production occurs and fish and wildlife habitat is more important.</i> 2. Clarify subsection (b) by splitting it into two subsections, to read as follows: "(b) The Jay Hammond State Game and Wild Salmon Protection Area is established to protect the (1) fish and wildlife habitat and populations, including the salmon and trout spawning and rearing habitat, and critical caribou, moose, and brown bear habitat; and (2) public use of fish and wildlife and their habitat, particularly subsistence, commercial, and recreational fishing, hunting, trapping, viewing, and general public recreation in a high quality environment. "(c) The use and disposition of other resources, including appropriation of water for domestic and similar uses, may be permitted when the activities are compatible with subsections (b)(1) and (b)(2)." <i>Rationale: In most refuge statutes, the compatibility test is a separate provision that refers to the purposes but is not part of the purposes as it is in SB 67 as introduced. TU's suggestion clarifies that the purposes are related to fish and game, and that other uses may be permitted so long as compatible with those purposes.</i> 3. Clarify subsection (c) to provide that the closure to new mining claims (mineral entry) is subject to valid existing rights. <i>Rationale: accommodate concerns that the legislation otherwise would not protect valid existing rights.</i> 4. Revise subsection (d) to focus prohibitions and permitting requirements on the issues posed by pre-existing claims for mining sulfide minerals or ores, rather than issues posed by any pre-existing mining claim. <i>Rationale: sulfide mining, such as Pebble, is the huge threat to fisheries.</i> (A) Prohibit: (1) use or generation of cyanide, sulfuric acid, compounds of cyanide or sulfuric acid, toxic or acidic ore-processing or beneficiation reagents; (2) storage or disposal of industrial waste, mining waste rock or overburden, mining processing or beneficiation products or byproducts, tailings, or chemically processed ore or waste; and (3) withdrawal, appropriation, obstruction, channeling, injection, pollution or alteration, on either a temporary or permanent basis, any surface or subsurface water hydrologically interrelated or connected to waters in the area covered by the bill. <i>Rationale: without prohibiting development per se of pre-existing claims for sulfide deposits, these prohibitions address the most threatening activities associated with such mining.</i> (B) No state agency shall issue a permit or authorization for prohibited activities or that would have potential to create acid mine or acid rock drainage into surface or groundwater. For mining sulfide minerals or ores, both the mining area and affected area, including all facilities, shall be reclaimed and remediated to achieve a naturally self-sustaining ecosystem appropriate for the area that does not require long-term or perpetual care, including treatment, and the areas shall be returned as expeditiously as possible to the ecological conditions that approximate pre-mining conditions. <i>Rationales: Deter acid mine drainage; adopt the "no perpetual care" standard found in Michigan and New Mexico mining statutes. See M.C.L.A. 324.63209 and N.M.S.A. § 69-36-12.</i> (C) Any permit, lease, compatibility determination or authorization for facilities related to mining sulfide minerals or ores in the protection area shall be subject to a public notice and comment period of at least 60 days, after which the agency shall respond to comments in writing and with scientific or technical justification for the agency's position. Any person who participated in the public comment process may seek judicial review of the agency decision. <i>Rationale: remedy the lack of notice requirements in existing statutes, require agency written scientific and technical response to comments, allow judicial review.</i>		

HB 134 -- Establishes higher standards, applicable to any person, to protect surface and subsurface waters and water bodies supporting salmon on 16 million acres (11-12 million acres state owned) in 5 Bristol Bay drainages --Nushagak, Kvichak, Naknek, Egegik, Ugashik. (Sponsored by Edgmon, DEC would implement.	Subject to exceptions, no one may: (1) withdraw, obstruct, divert, inject, pollute, pump, either temporarily or permanently, subsurface or surface water in drainages supporting salmon or any water hydrologically interrelated or connected to those drainages; or (2) alter, destroy, displace, relocate, channel, dam, convert to dry land, or otherwise adversely affect any portion of a river, stream, lake, bog, tributary, or any other water body, including the beds of water bodies, in drainages supporting salmon.	ADVANTAGES: These prohibitions do not prohibit mining per se but instead establish higher standards to protect fish, game, and uses of them.
SUGGESTIONS for HB 134, including for clearer standards: 1. Revise HB 134 to apply only to mining of sulfide minerals or ores. <i>Rationale: (1) Doing so focuses the prohibitions and permitting requirements on the issues posed by pre-existing claims for mining sulfide minerals or ores, rather than issues posed by any pre-existing mining claim; sulfide mining, such as Pebble, is the huge threat to fisheries; (2) Doing so eliminates need for exceptions which has been controversial.</i> 2. Make 3 above revisions to focus prohibitions and permitting requirements on the issues posed by pre-existing claims for mining sulfide minerals or ores, rather than issues posed by any pre-existing mining claim. <i>Rationale: sulfide mining, such as Pebble, is the huge threat to fisheries.</i> (A) Prohibit: (1) use or generation of cyanide, sulfuric acid, compounds of cyanide or sulfuric acid, toxic or acidic ore-processing or beneficiation reagents; (2) storage or disposal of industrial waste, mining waste rock or overburden, mining processing or beneficiation products or byproducts, tailings, or chemically processed ore or waste; and (3) withdrawal, appropriation, obstruction, channeling, injection, pollution or alteration, on either a temporary or permanent basis, any surface or subsurface water hydrologically interrelated or connected to waters in the area covered by the bill. <i>Rationale: without prohibiting development per se of pre-existing claims for sulfide deposits, these prohibitions address the most threatening activities associated with such mining.</i> (B) No state agency shall issue a permit or authorization for prohibited activities or that would have potential to create acid mine or acid rock drainage into surface or groundwater. For mining sulfide minerals or ores, both the mining area and affected area, including all facilities, shall be reclaimed and remediated to achieve a naturally self-sustaining ecosystem appropriate for the area that does not require long-term or perpetual care, including treatment, and the areas shall be returned as expeditiously as possible to the ecological conditions that approximate pre-mining conditions. <i>Rationale: Deter acid mine drainage; adopt the "no perpetual care" standard found in Michigan and New Mexico mining statutes. See M.C.L.A. 324.63209 and N.M.S.A. § 69-36-12.</i> (C) Any permit, lease, compatibility determination or authorization for facilities related to mining sulfide minerals or ores in the protection area shall be subject to a public notice and comment period of at least 60 days, after which the agency shall respond to comments in writing and with scientific or technical justification for the agency's position. Any person who participated in the public comment process may seek judicial review of the agency decision. <i>Rationale: remedy the lack of notice requirements in existing statutes, require agency written scientific and technical response to comments, allow judicial review.</i>		
OTHER SUGGESTIONS for SB 67 and HB 134: 1. Amend to condition annual exploration permits on waiver of any takings claims. Amend the bills to condition every annual exploration permit upon a waiver of asserting a takings claim against the State, and provide notice that investment in a claim provides no assurance that permits will be granted or that laws and regulations governing permits will not change. <i>Rationale: protect State from legal claims, and threats of specious claims.</i> 2. Amend to condition annual exploration permits on full disclosure of previously gathered scientific and technical information and an annual report fully and accurately summarizing the information. <i>Rationale: This would also improve the transparency of the process. Presently, NDM partially discloses and partially does not disclose its data and the protocols for gathering data from its environmental field work used in planning Pebble. For example, NDM discloses the content of valuable metals in its drill holes (which bolsters marketing the prospect to investors) but does not disclose the sulfide or mercury content, which can be harmful to fish. Similarly, NDM did not disclose its protocols for handling water samples, which degrade and yield poor data if proper protocols are not followed. Such lack of disclosure puts the state and the public at a great disadvantage for purposes of protecting public interests and creates a lack of transparency in matters involving public resources.</i>		

Finally, at the September hearings, TU's consultant, Dr. Carol Ann Woody, a widely published fisheries biologist and formerly of the USGS Pebble Team, presented you with her paper – Woody, Carol. A., Ph.D, *Copper: Effects on Freshwater Food Chains and Salmon: A Review*. It reviews professional literature on the effects of copper on fish. In fact, TU had hired additional respected consultants. Unfortunately, their papers were not ready for your September hearings, so we are now enclosing them on a CD. The following appendix to this letter summarizes the contents of the CD.

We appreciate this opportunity to share our concerns with the Senate Resources and House Fisheries committees. We strongly believe it is in the state's and the public's interest to improve standards for protecting fish and fish habitat in the face of large scale mining development and to ensure the continued productivity of our state's world renowned fisheries. We are eager to provide you with any additional information at your request. We appreciate the courtesy your committees showed us and many others at the September 2007 hearings. We thank you.

Sincerely yours,



TROUT UNLIMITED – ALASKA

Tim Bristol, Director

Lindsey Bloom, Commercial Fisheries
Outreach Coordinator

Lauren Oakes, Conservation Programs
Officer

Geoffrey Parker, Counsel

Appendix

Summary of Contents of Enclosed CD of Professional Papers Relevant to Pebble, SB 67 and HB 134

1. Woody, Carol A., Ph.D, *Copper: Effects on Freshwater Food Chains and Salmon: A literature review*, submitted to the Alaska House of Representative, Committee on Fisheries, September 2007.

Dr. Woody is a fisheries biologist. She has conducted nearly a decade of research on sockeye salmon in the Kvichak system for federal agencies, has professionally published nearly two dozen articles on fisheries, has a book on sockeye salmon ecology in publication, was until recently with the US Geological Survey team on Pebble Mine, and has been an officer with the American Fisheries Society, Alaska Chapter.

Her paper is a literature review of professional papers on lethal and sublethal affects of copper on salmonids and other fish, particularly when the pathway is exposure of sulfides to air and water, which creates sulfuric acid, which dissolves copper to make it bioavailable to fish. Her paper also addresses synergistic effects of copper in combination with other elements. Copper is a necessary trace element for growth and reproduction and is extremely toxic to fish in small amounts.

2. Moran, Robert E., Ph.D, "*Pebble Mine: Hydrology and Geochemistry Issues*," September 2007.

Dr. Moran has more than thirty-five years of domestic and international experience in conducting and managing water quality, geochemical and hydrogeologic work for private investors, industrial clients, tribal and citizens groups, NGO's, law firms, and governmental agencies at all levels. Much of his technical expertise involves the quality and geochemistry of natural and contaminated waters and sediments as related to mining and hazardous wastes. In addition, Dr. Moran has significant experience in the application of remote sensing to natural resource issues, development of resource policy, and litigation support. He has often taught courses to technical and general audiences, and has given expert testimony on numerous occasions. Countries in which he has worked include: Australia, Greece, Mali, Senegal, Guinea, Gambia, Ghana, South Africa, Iraqi Kurdistan, Oman, Pakistan, Kazakhstan, Kyrgyzstan, Argentina, Chile, El Salvador, Guatemala, Honduras, Mexico, Peru, Canada, Great Britain, Romania, and the United States.

His paper addresses more than a dozen environmental issues arising from the hydrological and geochemical conditions at the proposed Pebble Mine, which would develop a metallic sulfide deposit in the Bristol Bay drainages of Southwest Alaska. The hydrological and geochemical issues fall into two groups. The first is "substantive" issues – e.g. (a) acid mine drainage from unprocessed waste and host rock, mine or pit walls, tailings, tailings storage facilities, and dust; (b) pollution from chemicals used in processing ore; (c) pollution from fuels, oils, greases and antifreeze; (d) pollution from residues of explosives; (e) chemical and bacteriological pollution from sewerage treatment facilities; (f) pollution from herbicides, pesticides and road deicing compounds; etc. The second group is "procedural" issues. They result from (a) inadequate data (or decisions not to release all data) particularly on matters related to hydrology and

chemical compositions of rock, potential ore, waste rock, tailings, etc; (b) inadequate sampling techniques, and inadequate protocols for preserving field samples or gathering field or lab data; etc. The procedural issues weave throughout the substantive issues and undermine the ability of the public and agencies, such as the Board, DNR, and ADF&G, to understand the potential, significant environmental impacts, particularly to water and fish, which will result from Pebble Mine. His report concludes that significant impacts to some of the world's most important fisheries are likely.

3. Chambers, David. M., Ph.D., "*Pebble Engineering Geology: Discussion of Issues*," September 2007.

Dr. Chambers is president of the Center for Science in Public Participation, a non-profit corporation formed to provide assistance on mining and water quality issues to public interest groups and tribal governments. He has 15 years of management and technical experience in the mineral exploration industry, and for the last 16 years, Dr. Chambers has served as an advisor and consultant on the effects of mining projects both nationally and internationally. He is a registered professional geophysicist (California No. GP 792) with a masters in geophysics from Berkeley and Professional Engineering Degree from the Colorado School of Mines. Dr. Chambers received his Ph.D in environmental planning from the University of California at Berkeley.

His paper also addresses engineering and environmental concerns arising from the metallic sulfide nature of the Pebble deposit. Discussed in this paper are mining and mineral processing methods likely to be used during mining, the potential for likely impacts from dust generated during mine operations, the seismic stability of the tailings dams, and the potential for post mine-closure seepage from the open pit, underground mine, and sulfidic tailings/waste impoundments.

4. Hauser, William J, Ph. D., "*Potential Impacts of the Proposed Pebble Mine on Fish Habitat and Fishery Resources of Bristol Bay*," September 2007. William J. Hauser is a retired fisheries biologist for the Alaska Department of Fish and Game, Commercial Fisheries and Habitat divisions.

His paper addresses the scope and nature of likely direct, indirect and cumulative impacts from Pebble Mine and associated facilities, including the potential that associated road development may impact fish production.

5. "*Proceedings, Workshop on Mine and Quarry Wastes – the Burden from the Past*," edited by Erik Puura, et al., 2002. These proceedings contain a series of professional papers you may find helpful to understanding the issues that arise from Pebble and that are before you and the Bristol Bay drainages. One paper in particular, titled "*Don't Forget the Mine Voids: Aquatic Pollution from Abandoned Mines in Europe*," addresses a frequently ignored topic relevant to Pebble – i.e., the leaching of pollutants from mine voids as opposed to from tailings facilities, wastes and waste rock. The paper presents compelling data that much of the focus on wastes ignores even worse effects of mine voids and the extreme difficulty of addressing pollutants from the voids.

6. "*Biological, Technical and Legal Questions and Answers About Pebble Mine*," September 2007. This document was compiled for Nunamta – Caretakers of the Land – a

Native Alaskan conservation entity in the Bristol Bay drainages. This document provides a quick introduction to six biological, technical and legal questions that frequently arise in discussions of Pebble Mine. It was compiled, with the assistance of several of the scientists, engineers and lawyers involved these matters, for the recently completed hearings in September 2007 by the House Committee on Fisheries on HB 134 and Pebble.

7. Duffield, John, Ph.D, "*Economics of Wild Salmon Watersheds: Bristol Bay, Alaska*," the University of Montana and BioEconomics (2007). Dr. Duffield is one of the nation's leading natural resource economists. He has worked for numerous federal and state resource agencies, including the Alaska Department of Fish and Game. His paper quantifies the economic values at risk from large scale develop of the Bristol Bay drainages, including commercial fishing, subsistence, recreation, and other public uses of fish, game and the area.

The following three documents are a set.

8. Septoff, Alan, "*Predicting Water Quality Problems at Hardrock Mines: the failure of science, oversight and good practice*," Earthworks, Inc. (2006) available at: <http://www.mine-aid.org/predictions/> (last checked October 8, 2007). This is a convenient 8-page summary of two lengthy papers, below, by James Kuipers, P.E., and Ann Maest, Ph.D.

9. Kuipers, James R., P.E., Maest, Ann S., Ph.D, MacHardy, K. A., Lawson, G., "*Comparison of Predicted and Actual Water Quality at Hardrock Mines: the reliability of predictions in Environmental Impact Statements*," Kuipers & Associates and Buka Environmental (2006) available at: <http://www.mine-aid.org/predictions/> (last checked October 8, 2007).

10. Kuipers, James R., P.E., Maest, Ann S., Ph.D, et al., "*Predicting Water Quality Problems at Hardrock Mines: Methods and Models, Uncertainties, and State-of-the-Art*," Kuipers & Associates and Buka Environmental (2006) available at: <http://www.mine-aid.org/predictions/> (last checked October 8, 2007).

James Kuipers, P.E., is a mining engineer, has managed mining operations in Africa and the United States for some of the larger mining companies, and is now president of Kuipers and Associates. Ann Maest, Ph.D is a geochemist and is president of Buka Environmental.

For two years, they studied a representative sample of 25 recently permitted major mines in the United States where pre-mining baseline data was available and where operational data was available. Although 100 percent of the environmental impact statements predicted that the mines would comply with water quality standards, in fact:

1. 76% of the mines polluted groundwater or surface water severely enough to exceed water quality standards;
2. 60% of mines polluted surface water severely enough to exceed water quality standards;

3. 52% of mines polluted ground water severely enough to exceed water quality standards;
4. 73% of mines exceeded surface water quality standards despite predicting that mitigation would result in compliance;
5. 77% of mines that exceeded groundwater quality incorrectly predicted that mitigation to correct problems would result in compliance.

With respect to mines of metallic sulfide ore bodies, as Pebble is, the authors found:

6. 85% of these mines polluted surface water;
7. 93% polluted ground water, despite that fact that at the time of permitting, fully 89% of the environmental documents predicted that the mines would not do so. Most mines of sulfide ore bodies near ground water, as Pebble is, should never have been permitted.

These results demonstrate the nearly total failure of reliability of predictions about water pollution, made at the time of permitting. Furthermore, the results demonstrate the failure of mitigation to correct events once they occur.



Fred Pike

Need to protect but don't restrict normal
commercial development
maximize catch

Bradley Rush HS student

Adam Dubay - does not want any development
(Welding Instructor) maintain welder's
Remove exemptions for transportation projects

Scotty Sore - everything is based on
fishing

Dan Michaels - What is \$\$ consequence
for the State = Taking claim =

Carl Rant-Henderson - fish
No oil + gas - limited scale commercial
Paul Hanson - limited scale.

Matt Price fishermen + Lodge.
Doubtful to support oil + gas.

Myra Olsen - only 40% of Fishing permits +
prices don't support. deckhands.
No on 134 but do Tweed water quality reg.
Don't like restriction of users



N

George Wilson No Large Scale
Tweek +

Sheila Bergey. - Against 134
Address Through Permit Process

Lindsey Bloom
Supports Fish habitat protection

Everett Thompson Support became
marketing of salmon would be
impossible (No pebble)

Mark Angerson
Village trick of King Salmon
Does not support Needs opportunities
we don't have today & go through regulatory process

Pete Hill retired teacher
people have to leave village because of lack of jobs
- should clean up seafood water quality.

Glen Alsowath. Boro Mayor.

HB 134 Threatens the Boro finances and
allotment holders

210 Raw fish tax + sport lodging

Spawning boxes + fish

* * Need to exempt salmon enhancement

N

Betty Bonnin - fishes
Support concept
oil + mining
not so restrictive

Violet Wilson - Support 134 concept
Worried about Pebble

Jeff Cooris Manager Lake & Pen Boro
problem HB 134 another layer
Assumption L&P not protecting environment
well enough so creating another layer
flawed + reaches too far
Boro believes in self determination of local
government.

Maureen Knutsen
favors highest protection for our waters
+ does not want to see a large scale development.
Believes in precautionary principle.

Allen Aspen

Native Allotment or villages should be exempt.
Old grandfathered lodges support because no
new younger person could compete.
Scared of law and later regulation
Put in a massive volume restriction

permitting process.

John Savo - Supports 134
Does not support dams or Nuclear reactors

N

Patricia EDEL

support intent but should be targeted
to large scale commercial
support on shore oil

Rich Edd -

water quality must improve
expand area to all of BB
Allow comment that is not negative
what does

Annette Wilson supports

I guess will go to getting clean
drinking water from Lake Williams

Pete Argeron HB 134

work with planned resource development

John Holm - Lodge

200 Tourist every year.

Lives in Wassila in winter.

Oil & Gas must adhere to same rules as mining
so may mean

Protect water on big &

Doug Olsen - competition

markets his own fish & relies on clean water
reputation

~~Aboriginal~~
Nunamta

- ✓ Welcome
- ✓ Intro of committee members
procedure for testifying
- ✓ Conflict of interest. Identify self and affiliation.
Please give any paperwork to my staff

Henry St John - Fish come first
Anything that threatens fish is bad
Image of pure fish
Jobs should not replace fishing.

Robert Subsiatane in clerk's part.

~~Patty~~ Luckhurst
came from mining company which have
not returned.

Emily Olsen Village Envir. Coordinator
fisherwomen

for
Norman Anderson Support Concept
Cofishermen water quality - need jobs

Ron Bowers - HB134 will depress economy
: Does not exempt Gravel pits
No agricultural exemptions

Wassilew

BB need economic development
Lodges don't hire natives Bring
all their guides from the Lower 48

Mark Hermann. - Oppose - currently
No agricultural exemption
Support concept of

Dave Bowker - ^{Totally} Support as work in progress
Mine at Platinum had dirty runoff for good news
But Montana Bay.

Ralph Anderson fear of losing
restricted native allotment

Pete Caruso - BB Fishermen Assoc. Allmanin
oppose version F

Eva King -

Com fish limits low effective prices. HB134
would add to economic distress

- 1) quantify
- 2) Build road + bridges
- 3) Takings without consequences what is cost

Eva (2) \$\$\$ cost from lawsuits for illegal
taking

Jim Wallman - Support bill
We are to fix it.

Frank Woods Support
Commercial fishing

Ted Angasun -
Village losing population + kids
2004 support study of mine for
Don't want to be a ghost town
Native Allotment impacted

John D Nelson -

Billy Mains - Environ coordinator for Tribe

William A Johnson Support concept HB134
needs reasonable renewable economic level.

San Forties - AFN 2 Tribal villages + 20 individuals
Oppose HB134 affects existing
water rights regime - Does not consider drought in future
would restrict private land.

Dan Durnaway - support with five

Chenue Welso
Heide Andrews } High School
oppose use of cyanide

Terry Hoeffler. Support protection
of
combine HB137 + SB67
Problems with exclusion
Prohibit cyanide use
Prohibit based on scale of usage
prohibition use of large scale water.

Andrew Delapine - ACMP
Habitat Div:

Dwayne Johnson
If mine takes

Joe Faith Need HB 137
protect from large scale water use at mine

Robby Andrew - need to protect water
Source of fishery (Habitat Resolution)

Patricia Trayette

Some scary stuff - impacting private property
rights Be careful maybe best address
by scale.

Alice Ruby -

support in concept & intent

Dorothy B Johnson

HB134 support intent need trucks

Count on the value of substance & needs
water quality

George Wilson Jr. Amend

exempt seaport & small scale commercial
on private property

Anna Nielsen

clean up so don't spoil water

Russel Nelson

gravel pits rock quarry etc

Rick Tennyson self

Chippewa Tribal Council - support HB134

Supports economic opportunity but does not want to risk
gravel & rock quarry.

Robert Heyano - Support Concept of 134
BOF resolution that not sufficient
habitat protection

Jalmar Olsen
Board member AFN
AFN Board not taken.

Mike Davis self Supports Bill ^{with} modif.
need to treat ecosystem management

Rich Halford Supports concepts
needs to deal with megaproject only.
Pipe bigger than ~~Eklunna~~ water line just to collect pit

Thomas Tilden water reservation proposed
for BB management plan overridden
by State.

Bill not perfect but like intent.

Lulu Tilden -
need.

Karen McCambly -

Stene Wassily

Marion Small
Commercial fish

Helen Chythlook corn fish
respect renewable resources. (clean water)
Support HB 134 as long as subsistence and
traditional lifestyle protected

Peter Christopher Supports 134 w/revision
need to protect watersheds

Margie Nelson. —
water

Jodi Seitz Supports Artent
was researcher for F&G / reporter

Kevin Jensen .
pedro Bay is on wetlands and 134
would impact planned developments.

Raymond W. Asilic
Glen Alworth
Bella Hamond

Fish HB134
Not pebble

Conflict of Interest

2 min testimony

Raymond Wasieleski
opposes fine

opposes - convert to dry land.
"Do to the mine but leave us out"

Glen Alsworth

Agnes Rychnovsky
opposes - Restricts people of Newhalen
from hunting and gathering grounds
- can't cross creeks -
Can't build docks.

Lisa Reines

Nancy Delkethie
support for clean water but
oppose if impacts subsistence

Terry Wassili
opposes
restrict our use of our property

Bella Hammond.

Charlett

Lubie

Beth Weikel
Protection of fishery needs to protect all
watershed

Dan Salmon Ig. Village Council
Exempted uses bad.
Bill

North Fork of Katobas no fish.

Kieth Jensen
Pedro Bay - Water from Road

Amend line 19 pg 2 included
Water allotment as exempt

Brian Kraft
Amendments line 11 amount that can
have a measurable effect

George Honferger does not support
mines must be able to go through
permitting process

Michael Borleshe - need to support the
current laws

Sue Anelson (Lorene)
HB 134

Carol Ann Wood -

Technical review of copper + evidence
is lower than the AK standard for
aquatic life

Governor Sarah Palin
State Capital
Juneau, AK 99801

Submitted
for Everett Thompson

August, 2007

Re: Support Bristol Bay Fisheries
Oppose Pebble Mine

Dear Governor Palin;

We are writing to support Bristol Bay commercial, subsistence and sport fishermen and ask you and your administration to vigorously support and defend the renewable resource industries of Bristol Bay and oppose the Pebble Mine.

Large scale mining near the headwaters of the Bristol Bay Watershed threatens our world famous salmon fishery, and the businesses, communities and families (such as yours) that it supports. We believe that sustainable long-term salmon harvests are worth far more to us and to Alaska than digging up the metals that lie beneath our hills and lakes.

- Harvesting and processing of Bristol Bay fish generates an average of \$320 million a year, and jobs for some 12,500 people.
- Bristol Bay residents, on average, harvest 2.4 million pounds of subsistence salmon per year, about 315 pounds per person.
- Sport fishing adds \$60 million dollars a year to the area's economy.

There is no doubt that responsible mining will continue to be vital to the Alaskan economy. But in Bristol Bay, our salmon - and the communities and businesses it supports - should always come first. Our fish and wildlife habitat are our legacy to pass down to future generations. Pebble Mine and Bristol Bay's world class salmon just don't mix. We respectfully urge you and your administration to help us protect our Bristol Bay fisheries and oppose the Pebble Mine.

Name	Address
Troy Hart	5336 W 82nd Anch AK 99502
David M. Lippert	475 Fennell Dr Eads AK 99820
Matt Wood	3151 W. Banner Hwy Wasilla AK 99654
Kelsey Seader	501 E 45th Ave Anch, AK 99503
Courtney Dossett	3151 W. Bear St Wasilla, AK 99654
Antonia H. Yellwell	1160 K 140 28th Anchorage, AK 99514
Patricia Mayhew	Box 2357 Homer, AK 99603
Michael Fernandez	4166 N Inspiration Loop Wasilla, AK 99654
Julian Diaz	4700 W 145th Ave

Governor Sarah Palin
State Capital
Juneau, AK 99801

August, 2007

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Name	Address
Mary F Waskay	115 Montgomery Way ^{Palmer, AK} 99645
Lee Henriksen	325 E Fireweed Palmer
Merry Littlefield	4830 TALUS M. APO AK 99516
Jimmi J. J.	Box 37051 - Bristol Bay AK 99637
Mary Hoffman	Box 496, Palmer, AK 99603
Linda R. S.	2700 Valley Forge Cir. Anchorage AK 99503

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Margaret Wilson	17146 Meadow Cr Dr Eagle River AK 99577
Marina Sais	5767 Tongva St Anchorage AK 99507
Raymond Sais	1630 6X 4th Ave
Carter Wilson	3321 Eureka St #12 Anchorage AK 99503
Kiana (Ple)	1014 W. 11th Ave 99503

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Zex Malcom	510 Kiyak Dr Anchorage AK 99515
Caleb AMBERSON	1441 N LANDMARK DR PALMER AK 99645
C M CHAMBERLAIN	3045 PIA MESA DR Fair AK 99551
Jacob Amberson	1481 N Landmark Dr. Palmer AK 99645
Justin Daskill	13343 Eastpolice Rd Palmer AK 99645
Robin B. Mc	Chugiak / Fairbanks
Stephen O'Brien	7717 Lumbago Anchorage AK 99577
Helen O'Brien	
Jennifer Lawler	5930 mego St 30m Anch. AK 99507
Brad Lawler	5930 mego St Anch. AK 99507
Katherine Conner	629 E 11th H 100 ft Anch AK 99501
Richard Sheppard	1905 E 4th #302 99501
Carol Reed	1905 E 4th #302 99501
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Cynthia Beardsley	8054 Wilcox St Anch. AK 99502
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Erika Venn	Box 1348 G.Wood 99507
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Britt Kosm	1102 W 30th Anchorage AK 99507
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Nicole Duran	3060 Lazy Eign Ct #2 PMB 444 Wasilla AK 99654
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Bridgit Amstrup	6625 Nlossing Rd Palmer
STEVE CHSKM	1521 N. 52nd ANCH 99501
John Loppenberg	Box 4356, Soldotna
John Loppenberg	4839 Tampa Circle Anch. AK 99508
Catrina McQuinn	9620 Morningstar Loop AK 99512
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Stacy Arnold	P.O. Box 325 Willow AK 99688
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Richard Trent	1151 W. Carl Dr. ^{Wasilla, AK} 99654
Anthony A. Trent	
Harvey McKnight	3508 3508 Hartwood Pl ^{Anch} AK
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Casey Borg	11387 E Cienega Ave Palmer AK 99645

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Karen Lauer	11930 Suncrest Dr Arch 99515
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Nelissa Jones	2214 Jefferson Hwy #C 99517 Anch
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Danese Nicholson	Dillingham AK 99576
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Brandi Proctor	Wasilla 1711 Nacyloop
Katie Murphy	Wasilla 1511 Nacy Loop
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Margaret L. Kuran	3683 S. J. A. P. 99645
Cynthia K. K. K.	48915 Glen St. Kuran AK 9950
Austyn Chernikoff	7320 Blakelyville Cir Anch 99507
Nathan Olson	3655 Smithed Gorge Plun
Kara Anderson	1712 Chica Loop Rd Anch. 99515
Trans W. K. K.	1712 Chica Loop Anch. 99515
Laird L. K.	7362 L. Park Hwy H652 Waukegan
Laird W. K. K.	7362 L. Park Hwy #152 Waukegan
Greta K. K.	7559 S. J. A. P. 99645
Paul D. K.	1352 Chica Loop Anch. 99501
Mark K. K.	3535 E 17 th Ave Anchorage AK 99503
Jane E. S. K. K.	3340 Knik Ave Anch AK 99517
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Mike Gogolowski	3460 Kvichak Cir Anch 99575
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Josh Roberts	9030 Greenwood #3 Anch AK 99518
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Dawn Hayes	2141 N. Cordelia Dr
Seth Adams	Palmer, AK 99645
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Glenda Westfall	8040 Clear Haven Cir, Anch, AK 99518
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2320 E Grizzly Bear Dr. Wasilla, AK	Charles B. Smith
P.O. Box 1193 Willow, AK.	Edwin F. Kent
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Christine Johnson	P.O. Box 231903 Anch. AK 99523
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Alyssa Cunniff	1833 Dave Ave Anch AK 99515
Ricky Smith	3450 N. Carbur St Wasilla AK 99650
Tony Archer	2901 Wesleyan Dr Anch. AK
Heather Archer	2901 Wesleyan Dr Anch 99525
Dawn Hughes	8111 CRAIG AVE EAFB, AK 99504
Vikki Bruke	9166 Snowhill Wasilla AK
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	Solo Teard
	Kelsey Powell
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1417 S. Browne Circle Redme AK	Mikel Burke
7350 Huntman Circle 156 Anch. 99578 POB 875533 W 451119 AK 99687	Gregory Foxworth Lillian Thayer Shirley Jooyon Marilyn Lindly Irene Steen
5406 Kline Anacortes WA 98201 5406 Kline Anacortes WA 98201 5406 Kline Anacortes WA 98201	Timothy Shargin
5373 LEARNED circle Anch. AK 99507	Jenna Seltz
316 Lukian-Rol Ougnik Lake AK	Jessamine Sheringin
Bx 242152 Anchorage, AK 99524	Darryl Reagin
750 Fairborn Anchorage, AK 99507 RFB-26 TSIO Rounding Anchorage, AK 99507	Crystal Frank
4904 Timothy Lane Wasilla AK 99648	Don Clausen
3100 McLeod-Johnson Hwy Anchorage AK 99648	Denise Delmon
3100 McLeod-Johnson Hwy Anchorage AK 99648	Mrs. Gilden
4540 Snowcup Circle	Eily Coross
4540 Snowcup Circle	Stacy Gross
4540 Snowcup Circle	Ever Goss

Dana Fallucca	Dana Fallucca
Kirk LINGFOOT	Kirk
Anne Vanderhoeven	Anne
Patricia Vanderhoeven	Patricia Vanderhoeven
Graciela Chavarria	Graciela
Donald Godoy	Donald
Arika Browne	Arika Browne
LISA Nordstrom	Lisa Nordstrom 53587 MARINE HOME, AK 99600
Josh Nordstrom	Josh Nordstrom same
Sabrina Lea	Sabrina Lea
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Laura Drexhage	Laura
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Aimee Carol	5014 KATHLEEN DR ANCHORAGE AK 99507
Carole Carol. Carole Carol	
Barb Wallace WE FISH	3294 Faxon Valdez AK 99657
Don White	P.O. #334 Copper Center 99575
Joe Seung	7461 FENDELWAY Anchorage 1545 S. Hoyt Anch
John Fy Mike Henz	1326 F St Anch, AK 99508
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Martha J. J. S.	Gen. Del Port Alsworth, AK
Al Johnson	4105 HANES ST. ANCH. AK
Christall	4206 15TH TERRACE ANCH. 99501
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Ernest J.	FRANK L. JONES BOX 700 BETHEL, AK 99559
Sarah Larson	1694 E. Mansard Dr Anch

	1604 Elmwood Dr. Anch
Du Hunter	3171 N. Arctic Fox Dr Wasilla AK. 99654
	1405 37th PITMECH, AK 99645
FUSSELL MINNERT	940 S. ELLIOT ST. PALMER, AK 99645
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MARIA WICK	Palmer, AK
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AARON ARMijo	Anch. AK 99087
Naomi Armijo	Anch. AK. 99054
Sachak Transue	Home AK 99603
KEITH HERREN	22147 BEAR Mtn. Dr. Ca. CHUGIAK, AK 99507
Sara Herren	" "
Matt Olson	Anchorage
Natalie Raelson	Anchorage
Wendy J. J.	Anchorage AK
Phney Smallman	Anchorage Alaska
Amanda Patrick	Anchorage, Alaska
Mary Juarez	5187 Fish Falls Cir. AK 99577
James Ungebrecht	4010 Margus Way Anch AK 99502
Joseph Brandt	13661 Davis St Anch 99516

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Jessica Farrell	Wasilla, AK
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James Miller	Palmer AK
Andrew Vait	Homer, AK
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Stan Offenthal	Anch AK. ⁹⁹⁵⁰²
C. Nicole Herby	167 West Anket Palmer AK ⁹⁹⁶⁴⁵
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Leed Don	3370. 11 Clark St Palmer AK
William	10130 1123 Healey AK ⁹⁹⁷⁴³
WADA Connor	
Robert	2462 106th Ave Apt 114 Anch, AK ⁹⁹⁵⁰³
Jeff Spiske	19235 2nd Street Eagle River, AK ⁹⁹⁵⁷⁷
Aurora H. Quilley	19235 2nd St. Eagle River ⁹⁹⁵⁷⁷
in 12	5010 Boundary Ave #30 Anchorage, AK ⁹⁹⁵⁰⁴
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Simone McMahan	10564 Spindrift Loop Anchorage 99515
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Dave Snyker	7810 Charlotte Anch AK 99502
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Aaron Christensen	SAME
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Emil Christensen	↑
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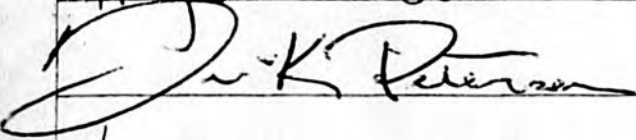
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Wade Gillespie	12866 West Hawk C. B. S. Lake 99652
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NEIL MERAN	6049 DeBarr Rd #203 Anchorage AK 99504
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Shyla Callaway	3181 Windona AK Wasilla AK 99654
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Julie West	3920 Winchester LP Anch, AK 99507
Eve M. Rhodes	9111 TILIA CIR ANCH, AK 99502
Travis Rhodes	9111 TILIA CIR ANCH, AK 99502
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Jan Nofsinger	234 E 15th #306 Anchorage AK 99501
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Danielle Specking	2651 Melvin Ave Anchorage AK 99517
Michael Specking	2651 Melvin Ave Anchorage AK 99517
Mike Edwards	15640 Jensen Circle Anchorage AK 99516
Lelancha Lankford	3250 N Banner Wy. Wasilla AK 99654
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Patsy	Dalton Horn
Bob Jensen	Yelm WA

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Paul DUCHENY	126 F STREET Anchorage AK 99501
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Dave GAPPA	641 INGRA ST ANCHORAGE 99501
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Patrick Dewane	Cogal Nunavut
Amelia van Sijgel	3703 Lois #5 Anchorage AK 99507
Johns Gilmore	1435 Virginia Ct Anchorage AK 99501
PAT GILMORE	1435 Virginia Ct Anchorage AK 99501
TOM NORVIG	14428 DON RIPLE EAGLE RIVER, AK 99577
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Rhea Johnson	23233 Tundra Rose Ave Chugiak AK 99567
Rayan Nolan	4620 SILVER SPRING Cir. 99507
Naleaha Peshel	817 N. Flower St 99508
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Anni Hauens	5522 Alora Loop Anch AK 99504
AL Lindenman	5741 Jordan Circle Anchorage AK 99507
George Talbot	406 Cambridge Anchorage AK 99508
Scott Anderson	6922 A Haley Ln EAFB, AK 99506
DAVID LANDRY	1135 E 9th ANCHORAGE AK 99501
Carol Woods	³ Anchorage AK
JIM BARKER	530 HJELLEN DR. WASILLA AK
Susanne Barker	530 Hjellen Dr. Wasilla, AK 99654
Brian Richardson	Anchorage, AK
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Alicia Giles	Duke Eagle Ranch
SARAH GREEN	Anch. AK 99504
Kathleen Ladd	Anchorage AK 99515
Lawrence L. Ladd	12540 Silver Fox Ln #1 Anchorage, AK 99515
John Rominske	Palmer, AK

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Cheryl Cunningham	3880 N. Arctic Fox Dr. Wasilla AK 99654
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J-McZane Haywood	Wasilla, AK

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Alan Gettman	Same as above ↑
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Darren Bygok	Togiak, AK 99578
Diana Grimes, AK	Manotokak, AK 99628
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Chugach AK 99567	21908 Grass Rd Chugach AK 99567
Sheilam Waughtal	Chugach, AK 99567
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David George	13474 Hwy 411 Naklev 2212
Kathy Crook	3133 Seclusion Bay Anchorage Anch AK 99515
Lorelei Mallett	3133 Seclusion Bay Anchorage AK 99515
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Don Tipton	PO 240244 ANCH AK 99524	Ø Pebble mine!
Amanda Lampton	1601 Seward Dr #2 Anchorage, AK 99501	Ø Pebble mine
Jandra Deland	PO Box 763 Seward AK 99664	Ø Pebble mine!
GRANT WALKER	1721 Mission Rd Kodiak, AK 99615	
John Norris	2135 E 37th Ave Anchorage, AK 99508	Ø
Dany E. Bell	2651 Quince Cir Apt B2 Wasilla, AK 99654	Ø
Joelle Davis	19731 Highland Ridge Eagle River AK 99577	
Rick Davis	19731 Highland Ridge Dr Eagle River, AK 99577	
Kimberly Schneider	23403 D St Anchorage AK 99503	
Helena Chris	Anchorage, AK 99503	
TED DAVIS	Anchorage, AK 99517	
Mandy O'Farrell	Anchorage AK 99516	
Margaret Minkin	Anchorage, AK. 99501	
Neil Minkin	Anchorage, AK. 99501	
Cosmo Penn	Pulmer AK 99645	
Lor. Flannery	18395 Lodge Dr Wasilla, AK 99654	

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Darius Moore	1711 Lore Rd. APT. 202
Kathleen Angus	227 Newell St SP 59
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Danée Nebel	4120 N. E Taimo Cir ^{WASILLA} 99654
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John Kellner-Rode	11441 CRIMSONVIEW DR PALMER AK
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Amelia K...	701 S K... #182 Anch AK 99501
Miranda Refrusion	3933 E 8th Ave No2 Anch AK 99502
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Lance Trasky	3941 Truro Dr Anchorage, AK 99507
SEAN THOMAS	94 CUSTY ALLEN ANCHORAGE, AK 99504
TRACY TRASKY	194 CUSTY ALLEN ANCHORAGE, AK 99504

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Pam Aki	" "
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Catherine Breiby	" " " " " 99654
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Milton T. Bryner Jr.	18716 N. Lowrie Loop Eagle River AK 99573
Kendall Dorman	430 Chugach Dr Soldotna AK 99669
Jeremy Brenner	571 N. Ten Circle Wasilla, AK 99654
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Harley Barnes	16622 R. 1st Dr Anch ER. 99577
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Mistie Hammond	1430 E 14th & Inc 99507
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Stephanie Kibbe	16217 Unga Minor Circle Eagle River 99577
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Lorelle Tupuola	3501 #307 Anch, AK 99508
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Cassandra Lowell	P.O. Box 3706 Palmer AK 99645
Betty Lowell	P.O. Box 3706 Palmer AK 99645
Betty Smith !	
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Ty Hintz	PO Box 877395 Wasilla 99687
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Michelle Moss	PO Box 870010 Wasilla 99687
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Jonas Mober	PO Box 15 Girdwood AK 99587
Jackie Collins	PO Box 1292 Girdwood AK 99587
Candice Mowen	5033 Marlowe Anch. 99508
Kevin Barnett	Anchorage AK
Celeste Barrett	6294 Fairweather Dr. Anch. AK 99518
Bryce Pilyng	441 E Ravenswood 1p
Matt Gore	7349 Vikings Court Dr 99654
Justin DeBorja	320 East 2nd St Anch.
John Benbich	16691 E Over Spruce Palmer
Gabe Martin Jr	19621 Fennel Circle Anch 99516

Very Perfect

Severe Financial

Kenneth D. Gould

2. 1/2 doz

Threaten in the

Sherilyn Lane

✓ Antonessa Gosselt

of June K. 1864

CHAMPA NIKETI

725 BARRY AVE #20 99515

5/5/55 350

2053 Diamond Rd 94515-

6115. William Palmer 1845-

2524 Glenwood, Apt A195508

PO-70116 Homer, Alaska

100 Russell St. #119A Arch, Atl 9952

9516 Summa Dr. North, AK 99517

5422 12/24/74

10 16000000 12 511

Nothing Brownish

Prithvi Aftwato

Allysa L. Thompson

Kearns Del Duca

Alfred M. Cauder

Alfred Lindberg

STANVA NE ²⁰⁰⁴ Oly

R. A. J.

1500

Therese

John N. P. [illegible]

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CHINESE

8525 July 1967 EC 92577

50780 Foreign Car

31. W. DOVALL

~~187576 W4905~~

10. Box 92252 Adelante 99503

Pa Box 2537 Chino AK 99661

McBr 3835 Polym 1410 0904

PO 3035 Paken, Mr 9364

PO Box 1427 Alameda AK 99568

$\frac{9}{10}$ box of 8703%

PO Box 3830 Palmerton, PA 18044

41 E 75th CT #3 Auck 9/5/16

Anthony P. Commander	4202 PARSONS ST, Anch 99508
Eugene M. Mendenhall	4505 PARSONS AVE Anch 99508
Jane Sherman	3165 DON DR. Anch 99502
Clark Whitney	5382 SOLDOTNA AK 99669
Raymond Kent	2501 LATOUCHE ST Anch 99503
LORNA J. CLIFFE	3705 ARCTIC BLVD. ANCHORAGE AK 99503
R. B. J. Nicole Brundhartzl	11231 AMFAY DR Palmer AK 99645
Brenna Reintema	PO Box 875342 Wasilla, AK 99687
Phyllis Kucher	641 3rd ST Palmer 99645
Michael Tischer	641 3rd ST. Palmer 99645
Brittney Kaufman	13900 Old Glenn Hwy Apt 15 Eagle River 99577
Jorge Grant	2174 N KELSO LANE Palmer 99645
Jeff Miller	5865 ROGARD RD APT 3 WASILLA
Vickie M. Loe	2456 DENZIE RD Anch
Karrie Friday	PO Box 102612 Anch AK 99510
Ardys Olsen	" " "
Melanie Ellis	2526 WEST 27TH ST Anch., AK 99517
Sam M. M. M.	225 DENNIS AVE. Wasilla AK 99651
Victoria Halson	4400 SNIDER DRIVE Wasilla AK 99651
Debbie Kuntz	631 Southway St Wasilla, AK 99654
Marion R. R. R.	8949 SHALEE DR
Billy Gibson	12400 EAST NORMAN AVE.
Wanda Kunkel	3900 COUNTRY PK.

Malinda M Kingsley	907-222-3239 3701 Leyden Rd, Anchorage, AK 99511
Raquel Osterbauer	907-496-3349 3349 Highland Rd ER 99577
Ashley Johnson	4860 Leah Ct Anch AK 99508
Way Johnson	4860 Leah St Anc 99508
Brad Christensen	5918 Craig Dr Anch AK 99509
Stephanie Cudde	7650 Pheasant View Cir. 99507
Matthew Polly	7650 Pheasant View Cir 99507 745-1526
Anthony Malapanis	4745 Almaden Dr. Palmer AK 99664
Karl Augestad	430 W. 7th Ave #100 99501
Lei Cantu Augestad	430 W. 7th Ave #100 99501
Amber Rick	250-7292
Roger Nelson	P.O. Box 67065 Chugiak AK 99507
Karen Nelson	P.O. Box 67262 Chugiak AK 99507
Brittany Tammin	2510 Scarborough Dr. Anchorage AK 99501
Savannah Echols	423 West 73rd Ave.
Healy Olson	2521 Scarborough Dr. ★
Myrtle Van Doorn	2301 Sentry Dr. Anch.
Christina Hobson	3310 1st Ave Circle A/H 99507
Shirley Phillips	
B. L.	11912 Town Park Circle Eagle River, AK 99577
Nancy Liu	11912 Town Park Circle Eagle River, AK 99577
	6451 Piedmont Anchorage AK 99502
Paul A Burton	3401 CAROLINA DR. #3 Anchorage, AK 99517

MARTHA JACKSON	201 McCURRY ST. HA13 ANCH. AK 99508
JULIANNE TUMULAK	546 ROSEMARY CT ANCHORAGE AK 99518
Joe Schroeder	911 E. Fairview WASILLA AK 99654
Trevor Miller	3918 W. 88th AVE 99502
Susan Ahwinang	3611 W. 70th ANCH AK 99502
Melford Wesley Jr	3611 W. 70th ANCH AK 99502
Thomas, Jennifer	5547B Goodwin Ave Elmendorf AFB AK 99506
Thomas, Trevor	5547B Goodwin Ave Elmendorf AFB AK 99506
Edward R Gardiner	1881 Meadow Lakes Ln WASILLA AK 99654
Michelle Gardiner	1881 Meadow Lakes Lane WASILLA AK 99654
Lara Nichols	23351 Northwoods Circle Eagle River AK 99567
Lyk Volz	1507 E. 10th #93 ANCHORAGE AK 99508
Brinton Wise	1545 S. Hoyt #93 ANCHORAGE, AK 99508
Nancy Westcoast	P.O. Box 4134 Sutton, AK. 99674
Natalie Coe	H034 BOX 2514 WASILLA AK 99654
Kelly Kline	434 N. Bonanza Palmer AK 99645
Alison Kuen	3061 E 42nd Ave ANCHORAGE AK 99508
MARIE Tenkersley	2410 W. 29th #3 ANCHORAGE AK 99517
LAURA L BOWERS	PO BOX 671255 CHUGIAK AK 99567
Brianne W. POWERS	PO BOX 671255 CHUGIAK, AK 99567
Rebekah Wallman	1450 Melanie Ave WASILLA, AK 99654
Sue Havel	316 Seigill Dr. Palmer, AK 99645
Ralph Katz	9241 Shorecrest ANCH, AK 99502

Karen Denny K. Hinchman	POBx 4113 Palmer AK 99645
Russell Alcock	3660 S. ENGLISH Bay Dr WASILLA, AK 99654
Marjorie Z. Bestram	7505 BOUNDARY Ave ANCHORAGE AK 99504
Kierian	Box 409 Houston, AK 99694
Bossy R. Paricer	4175 N. Palmer Fish Hook Rd AK
William P. Trimlett	7505 BOUNDARY Sp 18 ANCHORAGE AK 99504
Marie R. Sakar	Marie R. Sakar
Wendy Hansen	Wendy Hansen
Lainy Verhaeghe	1459 Essex in Anchorage AK 99503
Thomas Pebler	1459 Essex in Anchorage 99503 1903 Stregate Circle Anchorage, AK 99515
Steve Pogany	Box 672362 Chugiak AK 99567
Kristi Moss	3100 Snow Goose Dr Wasilla, AK 99654
Raren Moss	" " "
James Mitchell	6534 Linden anchorage, AK
Jane Patton	2225 S. Rue De La Paix Sp. Wasilla AK
Jessica Britton	3200 S. Rue de la Paix Wasilla AK
Jane J.	3248 LeTouche St 527 Anch. AK 99508
Elizabeth Lorne	POB 673371 Chugiak, AK
Tillerman K.	1131 Meadow Way
Kim Ziegler	374 N Chugiak Palmer, AK

Janet Nelson	PO Box 1577 Dillingham AK
Kurt Nielsen	PO Box 702 Dillingham AK
Rick BRIAN SANDERS	1129 W 20th Anchorage AK
Rick RICK KEIL	4450 E. Birchwood Dr Wasilla AK 99654
Off Dairy	P.O. Box 10040 Anchorage, AK 99510
Frances Thiele Fran Thiele	4515 S. Babylon Lp Palmer AK 99645
Melissa Keith	4450 E. Birchwood Dr. Wasilla AK 99654
Kay Kerttunen	5337 Peaceful Meadow, Anch, AK
Billie Larsen	Box 1147, Dlg AK 99576
Carol Lockwood	208 W Cottonwood Palmer, AK 99645
Holly Lewtun	302 E. Cook St Anch, AK 99501
Susan Moore	401 Eagle Bay, Wasilla AK 99654
Martin Moore	4000 Seagle Bay, Wasilla AK 99654
Tom Sanner	13363 Sunshine Lp Anch, AK 99586
Julie Berberich	PO Box 4260 Palmer 99645
Jeff Swanson	2059 Cl. Aside Anch 99521
LR.	PO Box 4260 Palmer 99645
Mary Jane Wainright	PO Box 1051 Dlg AK 99576
Joe Wainright	1054 Kene. Td Rd AK 99525
Jonie Wainright	1404 Kene. Td Rd AK 99525
Heather Kirkland	2737 Glacier St Anchorage AK 99508
Christine VanVleet	1321 Grant Ct Wasilla AK 99654

A. C. M. A	Box 1245 Dillingham AK 99576
Alma Jannson	1411 Fairview St. Cordova 99574
John R. Chalkley	1330 Seward Ave. Sitka AK 99835
Antoinette M. Stegert	PO Box 142601 ANC. AK 99514
Sharon M. Seiler	2960 Quartz Cir Wasilla AK
Angela R. Geller	1136 N. Helen St. Anchorage AK
Layla Woods	PO Box 315 Dillingham AK 99576
Carol Montgomery	4542 W. Seward Blvd 99645
Deborah Patrick	19421 Citation Rd 99577
Debecca Namene	4333 San Ernesto #205A 99508
Jason Bartlett	11488 Discovery View Anch. AK 99515
Kate Bartlett	11488 Discovery View Anch. AK 99515
Steve Glos	7050 Dorothy 99654
Tom Abramson	7057 Windsor 99654
Donna Clinsch	3100 Wind PL #8 FES 17
Aimee Hovester	PO Box 1171 Dillingham 99576
Christina Ellis	3531 E 43rd Ave Anch. AK 99508
Mara Carnahan	232 E 10th Ave Anch. AK 99501
Patty Carnahan	232 E 10th Ave Anch. AK 99501
Gregory J. Hunt	13 Highower Girwood AK 99589
John W. Hunt	PO Box 142 Willow AK 99648
John W. Hunt	PO Box 142 Willow AK 99648
Cindy Neubauer	PO Box 570769 AK 99587

Robert & Karen Owen	17064 Notre Dame St. Forest Lake, MN 55025
Erik Pullister	5433 E 12th Avo. Anchorage AK
CYNTHIA LEE	PO Box 2401 PALMER, AK 99645
Tammy Ranicke	5018 E. 43rd Ave. #1 Anch., AK 99508
Angie Cupples	606 N. Gulkana Palmer, AK 99645
Frank Moss	8089 South Americana, AK 99645
Kari Moss	8089 S Americana Way 99645
Judy Duntosh	4631 MARS Dr ^{ANCHORAGE} 99507
Brian Nelson	P.O. Box 870126 Wasilla 99687
Steven Nelson	P.O. Box 870126 Wasilla 99687
ELEANOR WILHE	PO Box 870137 WASILLA AK 99687
NONI PANZA	P.O. BOX 670612 CHUSIAK, AK 99586
Sharen Padilla	2200 Patriot Cr. Anchorage, AK 99515
Perry Padilla	2200 Patriot Cr. Anchorage 99515
Kathy Noun	4106 Eagle St Anchorage 99503
Katherine Fuselie	9536 NOAK Cir Eagle River 99577
Ronnie Deschamps	15271 E OUTER Spring Loop Palmer 99645
Noelle Deschamps	508 S Flower St Anch 99508
GARY M'GEORGE	TO Box 307 PALMER, AK 99645
SANDY M'GEORGE	PO Box 307 PALMER, AK 99645
Rita Rogers	Box 876269 Wasilla, AK 99687
Linda Slack	2100 Campbell Pl Anchorage 99507
Herb Spencer	4611 E. 4th Ave, Anchorage AK 99508

KATHY KLOSS	PO Box 231096 ANP AK 99502
JAMES L O'NEAL	7624 HENDINGS WY Anch AK 99504
Robert J Boyd	3911 HAMPTON DR Anch AK 99504
Sue Sheriff	PO Box 100704 Anch. AK 99501
Kay Myers	4701 Sportman Drive Anch. 99503
Deborah Retherford	4525 S. McKechnie Ln, Palmer 99645
Nicole Sheldon	8211 Willina Ave #1A 99504
Cecil Rich	14400 Echo Canyon Rd, Anch AK 99508
Katherine Stiles	PO Box 91679 Anch 99509
Matthew Williams	353 E. 5th Anch AK 99501
Matthew Williams	HC 52 Box 8765 Indian, AK 99540
Matthew Williams	PO Box 870961, Wasilla AK 99567
Judy Jo Matson	FIIDE 72nd AVE #4 Anch. AK 99507
CHRIS WESOLOWSKI	11700 SUMMIT ST Cir Anch. AK 99515
Henry Ferguson	973 E 12 Anchorage AK 99508
Joseph Floyd	120 N 140th Anchorage AK
Kristen PERON	2221 Muldoon #1065 Anch AK 99504
Elizabeth Whitmore	1210 W. Beaver Ave Palmer, AK 99645
Maggie Elton	15032 East Lake Ridge Drive

<i>[Signature]</i>	
<i>[Signature]</i>	3831 LAKESIDE DR Anch AK 99515
Mary M Locklin	7321 Durenda Circle Anch 99507
Wesley M. Lyman	3460 Kachemack Circle 99515
Cathy Lundmark	13216 Old Swenard Hwy ^{26 Ave.} Anch. 99515
Connie Shanley	93645 STILLMEADOW DR CA ^{OAKHURST}
Kris Small	71089 BX 1596 Willard ⁹⁹⁵¹⁸
Leroy Sears	PO BX 142341 Anch. AK 99514
Miss Jenkins	6475E 32 nd Anch. AK 99504
Ed Matine	1701 Oxford Anchorage 99503
Shirley Matz	" " "
Michelle Foss Michelle Foss	8050 Fairwood Circle Anchorage AK 99516
Brian Foss Brian Foss	" " " " " "
<i>[Signature]</i>	4820 Fairmont Ave AK 99516
Darrell L. Davis	4820 Fairmont Ave AK 99516
Kimberley Garner	12651 Schenker Dr. Anch. AK 99515
Michael Hendrickson	P.O. Box 877301 WASILLA AK 99687
Nancy Hendrickson	" " " "
Maile A. Price	P.O. Box 141253 Anch. AK 99514
John Durand	5250 Pintail Cir 99654
Aaron Ziebelstein	6075 CAMPOS AVE EAFB 99500
Rachel Craspe Rachel Craspe	PO BX 142571 Anch. AK 99514
Amanda Cavie	341 Juneau Ave Apt F Ft Rich 99505

William Deherty	11047 Kathan Dr Eagle River AK 99571
Ed Colver	10245 Silvertip Circle E.R. 99575
Marilyn DeLeonora	2217 Vanderbilt Cir Anch 9950
Jessie DeWarty	11047 Kathan Dr Eagle River AK 99571
Heather Kalma Felt	251 Copper Creek Rd 99164 Was.
Tammy Sue Joe	6710 Zurich #3 Anch. AK 99507
Leonard James	6710 Zurich #3 Anch AK 99507
Denise Nickoli, Ilumna, AK	550 W. 24th Ave Apt B Anch. AK 99503
Vivian Murphy	6816 Colonial Ct. Anch. AK 99502
Deborah Emony	480 Naknek, AK 99633
Diana R	Box 484 Naknek AK 99633
Carol East	13030 Ridgeway Dr. AK 99576
Wendy Abitz	4375 S. Trolls Ave, Palmer, AK 99644
Marion Lee	5245 Union Jack Dr. Wasilla 99654
Q. Muley	5323 Kenka Ct Anch 99508
Shirley	5323 Kenka Ct Anch 99508
Richard M. M. M.	PO Box 230835 Anch AK 99515
Shelley	4300 N. Cheryl Dr Wasilla AK 99654
Heane E. Osterhaus	4333 San Ernesto #305A 99508
Linda Beller	PO 974 Palmer AK 99645
Alona Horvath	Box 11037 Chugiak, AK 99501
Alan Kamen	Box 70022 Se. Naknek, AK 99670
Fred Kamen	Box 70022 Se. Naknek, AK 99670

Christa Colway	5631 Renee Circle Unit A Anchorage AK 99504
Michael Tucker	5631 RENEÉ CIRCLE ANCHORAGE AK 99504
David Spyke	P.O. Box 243764 99524 Anchorage, AK
Debra O'Nea	4371 Rendezvous Cir. A1A99504
Carol Bush	PO Box 871141 Wasilla 99667
SEAN GREE	13076 FIRE CREEK TRAIL DR EAGLE RIVER AK
Shana McPherson	P.O. Box 324 Glenallen, AK 99588
William Ford	3204 N. Main Ave Wasilla AK 99654
Trishara Reed	1800 Parkside Dr Anchorage AK 99501
Shanda Lohse	19430 Quiet Way Chugiak AK 99567
SUSAN E BROWN	13121 NOKA DR ANCHORAGE AK 99515
Holly Buskirk	12734 LHM Plover Circle Anch, AK 99516
Ellen Chas Renick	P.O. Box 4979 Palmer, AK 99645
Michael Schumacher	1940 N. Creekwood Park Cir #7, Palmer AK 99645
Michael Schumacher	1940 N. Creekwood Park Cir #7, Palmer AK 99645
Christy L. Rakowski	19521 Wingham Cir ER AK 99577
Kelley E. Fox	
Tom Hennessey	14700 Park Hills Circle Anchorage, Alaska 99516
Pat	Box 3032 - V Wasilla 99659
Rachel Tilden	PO Box 786 Dillingham AK 99576
Selena Sletten	HC35 5380-D, Wasilla 99654
Teresa Overvik	1132 E 19th Ave Anchorage AK 99501

Jim + Lori HEANEY	PO. 4539 99645
Kraig Berg	P.O. Box 877947 Wasilla 99687
Sophie Young	Box 2430, Bethel, AK
Creek + Meadow	Box 7667, Knik River, AK
Jana James	3531 E 42 Ave #504 Anch. 99508
Paula K. Kraslow	4300 N. Werner F. Anch. 99615
Herb Kraus	980 Snodhill Wasilla, AK,
Kyle Biscanette	87313 Wasilla AK 99687
LEROY FOX	P.O. Box 136 Tol., AK. 99678
Mark Arcvalo	40904 Seward Farm Rd Homer AK 99603
David Dup	13900 Baywind Dr Anch., AK 99516
Kathryn MacLeod	Box 788 Soldotna, AK. 99669
Mary J. Tontonghi	P.O. Box 2244 Soldotna, AK 99669
Betty Sutter	P.O. Box 10075 - 99510
Chad Belinski	345 Lynwood Dr 99578
Christine Belinski	" "
Denise Chythlook	6520 Feather River Dr. 99518
THOMAS WARNEK	1700 TAMMAY AVE Anch AK 99515
Alyshia Montgomery	PO Box 1672035 Chugiak 99567
Michael Hansen	7350 Carillon Court Anch
Meagan Hansen	4109 Lynn Dr #213 Anch AK 99506 99607
Raymond	
21	11607 16500 E 14th Ave 99577

James Rayl	104 E. Frank Smith Way #503 Wasilla, AK 99654
Ramona Rayl	Samoa alone
Eric A. Ankines	1009 N. W. Thompson Rd Palmer AK 99648
Elaine Rennie	17705 So. Juanita Loop Eagle River, AK 99577
Deborah Bradley	POB 90034 Anchorage, AK 99509
Diane Abraham	P.O. Box TWA Twin Hills, AK 99576
George Pleasant Jr	P.O. Box TWA Twin Hills, AK 99576
Robin Horst	6701 Tiffany, Anch, AK.
Sam Schumaker	7350 Ketchikan St Anch. AK 99502
Matthew Rossi	7000 Rowena St. Anch. AK 99518
BRYAN REAVIS	2221 MULBERRY RD. #36 ANCH AK 99504
Phyllis Susan Thylund-Larson	1411 Martha Vineyard Trl Anch. 99507
Ken Wolkoff	1911 Martha Vineyard #7 Anch 99507
Chad J. Lee	
Tilany Janis	9501 Chenequa Dr. Anch 99507
Burt Janis	9501 Chenequa Dr - Anch 99507
Paula Jarrett	5426 E 4th Ave Anch, AK 99508
Heather Craig	Palmer, Alaska 10/24/90
Nathan Lee	14361 Goldenview Anch, AK 99516
EDWARD WAFFEN	POB 874252 WASILLA, AK 99687
Dolores Waffan	2133 ILAMINA DR WASILLA, AK 99650
YR SIMMONS	1705 W. Riffle St.
Ally Simmons	1705 W. Riffle St.

Anthony Smith	244 W. 11th Ave., Apt. C Anchorage, AK 99501
Thomas J. Smith	244 W. 11th Ave. Apt C Anchorage, AK 99501
Ann Young	Box 1765 Unalakleet AK 99684
Delphi R. Klein	1370 Pangloss Rd Wasilla AK 99654
Melody K. Johnson	1710 N. Lacey Loop Wasilla, AK 99654
KM Hagan	P.O. Box 670278 Chugiak, AK 99567
Maya Lipp	11920 Steeple Chase Cir Anchorage, AK 99516
David Thibault	2830 G. L. Lane Circle Anchorage, AK 99517
Darbi Doty	4763 Blue Heron Circle Anchorage, AK 99507
Angelica Pollock	2100 Saratoga Ave. Anchorage, AK 99517
Mikaela Pastar	1139 Stella Pl Anchorage, AK 99507
Dorel Jill Pollock	2100 Saratoga Anchorage, AK 99517
Jill Flanders Crosby	17641 Almdale Ave Eagle River AK 99577
Debra Smith	PO 875225, Wasilla AK 99657
CECILIA SCHOFF	20133 LUCAS AVE Eagle River, AK 99577
CHRIS SCHOFF C/O A	20133 LUCAS AVE. Eagle River AK 99577
Joseph A. Humphreys	Box 1854 Unalakleet AK 99574
Dean Maxwell	2351 N. Lacey Dr Palmer, AK 99641
David Schaefer	1839 W. Jaime Marie Cr Wasilla AK 99654
Janna Taber	1275 E. Valley side cr Wasilla AK 99654
Brianna Campbell	Anna Al Oakey
John Lipp	Box 331 Mutiakatia AK 99626
Nancy Campbell	P.O. Box 94044 Houston AK 99684

Carrie Benson-Chu	1604 Woodcut Hill, Anch, AK 99507
Ben Pierce	2701 W. Steubridge Dr Wasilla 99651
Jane Hughes	4248 Reliance Circle Anchorage, AK
Ann Rodgers	5433 W 73rd Ave AIA
	PO Box 478 Palmer AK 99645
Cochet Garrett	4787 River Rd. Juneau, AK 99801
Don McFarland	4887 E ALDICH DR Wasilla, AK 99654
Hilana McGee	12050 E. Lady Slipper Ln. Palmer, AK 99645
Jeff Fair	PO Box 2947 Palmer 99645
R. Hugel-Holmes	1540 MESA, 99516
Robert T. Parker	1255 SNYPORE DR FISKS AK 99709
Spencer E. Atkinson	647 E 75th Apt B3 Anchorage, AK
Elaine F. Atkinson	647 E 75th B3 Anchorage AK.
Katherine T. Harlow	647 E 75th B3 Anchorage Alaska
MIKE RENFRO	27121 SEWARD HWY " " AK 99567
Carl Liebes	PO Box 6347 N. Kishi, AK 99635
Jennifer Culp	6450 Baxter Terrace Anchorage 99504
Kelcie Ralph	3801 FURROW CREEK Rd Anch AK 99516
Marcell Walker	1720 Tiendeck Dr Anchorage AK 99516
Brian DeBault	2315 Alameda Cir Anchorage, AK 99516
Virginia Ferrera	✓ Const. Int'l 2, 2, 2, 1
ED CURTIS JR	6200 S 57th St Wasilla
Vern Luckhurst	16218 Jamestown DR 31 Anch AK 99507

ROSIO PIZ	800 4166 N. INSPIRATION LOOP Wasilla AK 99654
Charlotta Larre Luckasson	4220 Bridle Circle Anchorage 99517
Musula Parker	7221 Winchester St. Anch 99507
PHILIP M. PAKIS	7221 WINGATE STREET ST. Anch 99507
Joseph C. Pearson	2451 Hillbrook Circle Anchorage AK 99504
Laura Wick	P.O. Box 3108 Palmer, AK 99645
Stan Wick	P.O. Box 3108 Palmer, AK 99645
Corey Rennell	P.O. Box 242123 Anchorage 99508
Elayne Hunder	P.O. Box 242123 Anchorage 99508
Steve Rennell	2702 West 31st Anchorage 99508
TORA GERRICK	1108 E Northern Lights Anch AK 99508
Melissa Lowther	3107 W. 35th Anch AK 99517
JEFF SHAFER	5720 ENFS, AK 99506
DONALD H. NAFF	6357 Whispering Loop B ANCHORAGE, AK 99504 - AK
Mary Kruer	P.O. Box 233686 Anch AK 99523
Chris Bourgeois	Box 1545 Cordova AK 99574
Linda Rockstad	P.O. Box 0425 Palmer, AK 99645
Michael Palanuk	P.O. Box 190471 Anch 99514
Khonda Gildersleeve	P.O. Box 871343 Wasilla AK 99687
SOPHIA INGA-KENNEDY	3195 N. SNOW GOOSE DR. WASILLA AK 99654
David Kennedy	3195 N. SNOW GOOSE DR. Wasilla AK 99654
Julie Thompson	171 Petlis rd Anch, 99515
John Thompson	171 Petlis rd Anch, 99515

Ang L-	3365 moonshine Run Fairbaults AK 99709
Michael Funke	201 E 13th Ave Anchorage, AK 99501
Melody J. Workman	6905 Mink Ave Anchorage AK 99504
Scott Zounds	339 N. Bailey St Palmer AK 99645
K. Michael Mays	339 N. Bailey St. & Palmer Ak. 99645
Donald Albright	4480 E. Fox Trot Ave.
Travis Seybert	3691 Willow Ptarmigan
CINDI CONNER	PO Box 298146 Wasilla 99629
Joseph Roberts	800 O. Lynn Martin Dr Palmer AK
Robertson	1051 N. RA. NB. W. DR Wasilla AK 99687
Eric J. Mear	4480 Engstrom Rd Box 87127 Wasilla AK 99687
Ashley Fenton	Wasilla, AK
Avia Aspelund	1414 Walden Ave. Apt 202 Anchorage, AK 99503
Tomoko George	P.O. Box 877477 Wasilla, AK 99687
Allen Shuravlsky	4151 E. 20th Anchorage AK 99508
Robin Fillmore	451 E 20th Anchorage AK 99508
Zoe Bingham	18927 E. Knik River Rd Palmer AK 99645
Cynthia Rustie	48915 Jean St Kenai AK 99611
Sherry Wright	PO Box 104901 Anchorage AK 99510
Cathy Marton	PO Box 671369 Chugiak AK 99577
Isabel Schmauder	Box 46 Dillingham, Ak 99576
Johanna Waldron	PO Box 446 Dillingham, AK 99576
Kenneth Chiu	1604 Warden Court Anchorage AK 99507

Katie Walsh	2510 Northrup Place Anchorage, AK 99508
Suzanne Walsh	2510 Northrup Place Anch, AK 99508
Veranie Ford	18022 Baronoff Ave Eagle River AK 99577
HEATHER GOSTETT	6009 Acheson Ln Anch, AK 99504
Adam Crivello	6009 Acheson Ln Anch AK 99504
PAUL CARLSSGAARD	1150 S. Colony Way #3-302 PALMER AK. 99645
Erin Walsh	BX 109 Willow 99688
Linda Free	Box 109 Willow, AK 99688
Scott Mansfield	11901 Circle Dr Anchorage, AK 99557
Scott	P2 Box 70145 South Naknek, AK 99670
David Edley-Butler	9060 King David Dr. Anchorage AK 99507
Conne Egger	3350 S. Butler Rd Palmer AK 99645
Aleena Butler	1250 S Felton St. Palmer, AK 99645
Taylor Salls	1240 St St Josseline Ln. Palmer AK 99645
Michèle Brandois	PO Box 873814 Wasilla, Alaska 99687
Alana Meyer	1105 Ramona Anchorage, AK 99515
Chamber Campbell	5176 Campbell Ave RE - Anch. AK 99504

Sabrina Glowacki	1741 Scotwood Dr. Wasilla, AK 99654
Zach Petley	2738 Izloginn Dr.
Kelly Hill	3202 rope St
Wmley Weyer	822
John Segr	17139 Old Glen
Wmley Weyer	3511 Hooper Way
Wmley Weyer	9708 Dineen Dr. Eagle River AK 99577
Donna D. Irsik	725 W. Fern Avenue Palmer, AK 99645
Laurel Turner	PO Box 434 Palmer AK
Nile C Dougherty	6414 Bailey St #13 Palmer AK
Homer Huffman II	TALKEETNA AK
Alan Dere	Anch. AK
Anthony Huffman	TALKEETNA
Nina A Hernandez	3424 East 18 Anchorage AK 99508
Richard Ullstrom	3004 Brittany Place Anchorage AK 99504
Troy Zaumseil	9015 Dewberry St Anch. AK 99502
Cliff Livingston	5271 Littlefield St ANCHORAGE, AK 99507

Peg Kruse	P.O. 2114 Talkeetna, AK
Lutau S. Oschkoft	829 Shakespeare Anch. AK 99503
An Marie Oschkoft	3100 Ward Place Anch. 99517
Lag Alundson	17916 Taapuk Landing AK
Lozon	1327 W2C Anch AK 99503
Will	12100 copper mtn. DRINK.
Selene Hoelcher	P.O. Box 40 Nmdalton, AK 99600
Sharon, Mrs. V	Box 92 Nmdalton AK
Pearl Fransburg	446 Brighton Dr # AK 99507
Joshua Pike	3250 Travis Lane Anch, AK 99507
MEEGAN HENRED	7024 E 3AVE Inc, AK 99504
Robert Hebert	2221 Muldoon Rd #907 Anch, AK 99504
Subrina Hebert	2221 Muldoon Rd space 907 Anchorage AK 99504
Roxanne N Nilsson	18133 McLAUREN St Eagle River 99577
Joie Nilsson	18133 McLAUREN ST EAGLE RIVER 99577
Jamie Leach	3101 W 31st Apt 1 Anchorage, AK 99517
Jeremy Copeman	3101 W 31st #1 Anchorage AK 99517

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Chris Bradwell	17340 Flintwood PL Eagle River AK 99527
Melissa Briggs	4004 Eot 8th Ave #3 Anch AK 99505
Gandy Warren	10249 Willis Drive ER. AK. 9957
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Ashia Vasuki	3927 Hampton Dr Anchorage AK 99501
Olya Bulluta	Mondulon Alaska
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Emily Conway	2815 Knick Ave Anch. AK 99517
March Hochart	2900 W Northern Lights Apt #1 Anchorage, AK 99508
Christina Schwab	1401 E 10th Ave Apt 4 Anchorage Alaska 99501
Christina Williams	439 Dyea Ave Apt A Fort Rich, AK 99505
Christopher Beason	10 King Rd Etna NH 03750 ^{in. 1.12.13}
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Mona Nossan	6003 Buckhorn Dr Anch, AK 99507
An Omeri	5220 EAST 42nd ANCH

Russ Kinsey	POB 243113 Anch 99524
SHANNON KINSEY	POB 243113 ANCH 99524
Denise Ed	7637 Dover Ave Anch 99504
Shelly Edwards	7637 Dover Ave Anchorage 99504
Ilir Alili	6656 Holly Ln Anch 99502
Ricky WALTER	Mile 1.1 Larry Trail Wadli, AK 99654
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Kenneth	2424 Tan
Geoff Pratt	13321 Old Seward Hwy #4 Anchorage, AK 99515
Daniel Huff	8460 Crystal St Anchorage AK 99502
Andrea Huff	Same
Cara Horvath	POB 501 Palmer AK 99645
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Cheska Kester	9820 Whitefish Cir Apt B Anchorage AK 99515
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Tamara Stepanoff	5232 E. 24th Anch, AK 99508 AB
Jean Baxter	5232 E. 24th Ave #3 Anchorage AK 99503

NO
Soliciting

Anthony Orel	5226 E 42nd Ave Anchorage, AK 99508
Tony Guterer	5807 Tiji St #J10
Katherine + Marty Hupe ^{Waters}	430 Mellow Place Anchorage
Edward Stubb	
Rudy Rasmussen	
Tim Fischbach	430 Mellow Place
Alex Fischbach	430 Mellow Place
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Rachel Felder	810 West 73rd Ave Anchorage AK 99518
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Paula Brown Taylor	7221 Setter Dr. Anchorage AK 99522
Lindsay Miller	461 Equiv Dr. Anchorage AK 99503

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Charles Humphrey	" " "
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Leann Pulling	11400 Estridge Dr #101 A/H 99507
Jim Lowe	3127 BRIMCLIFF Dr Anchorage AK 99503
Roxana Hutchins	1150 S. Colony Way PMB #332 Palmer 99646
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James Adams	5901 East 6th #342 Anch AK 99507
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Ryan Dodson	12721 Hance St Anchorage AK 99515
Denise Ray	1120 Valley St Anch AK 99504
Karina EA Munson	915 E 20th Anch, AK 99501
Jose Munson	4216 McLean
Corey Lee	KUTALUNA AK 99750
Anthony C Paul	840 WOODGREEN DR. ANCH AK

Burnan, David	745 S. Collins, Palmer
Julia Meier	1042 E 5th Anchorage 99501
DAVID DINATTO	1042 B 8th Ave Anch, AK 99501
Ken VARTAN	8270 Fl + 1st Circle Anchorage 99507
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Thomas Noble	1822 Juneau Dr #3 Anchorage 99501
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Mark Carlo	9020 Andy Circle ER AK 99517 X5
Patrick Denney	817 W 6th Ave #203 Anch AK 99501
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John Roche	2240 Larry Trail Wasilla, AK 99624
Miriam Watson	Naknek, AK 99633
Marie Alvarez	Naknek, AK 99633
Valerie Alvarez	Anchorage, AK 99503
Claudia Haynes	Anch. AK 99515
Bonnie Labbe	Palmer, AK 99645
Robert E. Labbe	Palmer, AK 99645
Melody Palen	Willow, AK 99688
Ken Shaver	Willow, AK 99688
Linda	Anchorage, AK 99504
Gene F. Bartlett	Wasilla, AK 99654
Nipa Nirannoot	Bangkok, Thailand
Sophida Phummal	BKK, Thailand

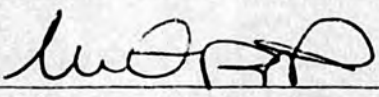
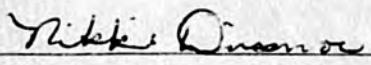
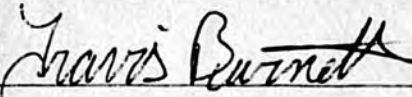
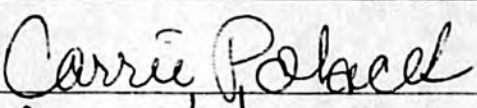
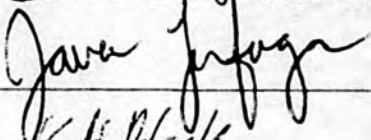
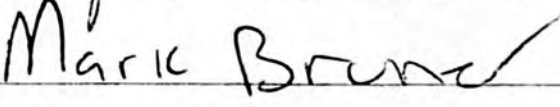
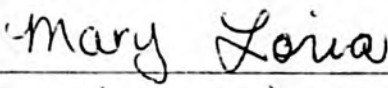
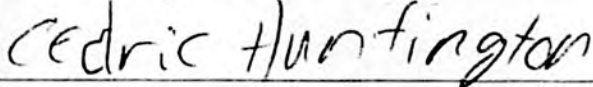
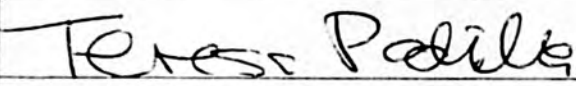
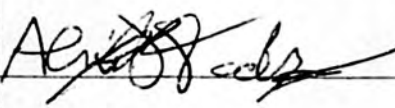
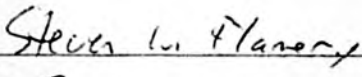
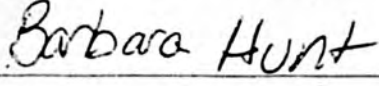
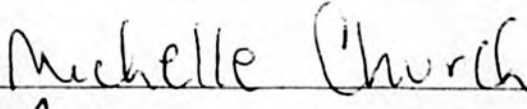
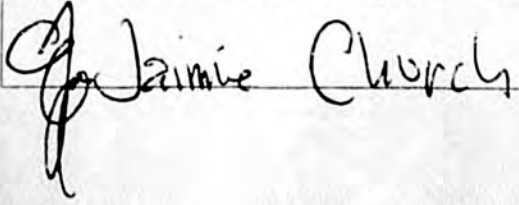
Phyllis Haggard	49720 P.O. Box 35, Chandler, Wyo
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Cheryl	Box 6 King, Alaska 99501
SIMON KALTENBACHER	HC 35 Box 5413 Wasilla AK 99654
Kent Kaltenbacher	HC 35 Box 5413 Wasilla, AK 99654
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John Kinkart	Box 147 Talkeetna, AK 99676
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Carolyn Hoyer	" "
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Mary Stowe	434 B Dyke Fl. Rich 99505
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Joanella Willis	1101 McAdoo Way, Wasilla, AK 99652

Cheslin Kay	PO Box 5033, Kilauea AK 99574
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Alia Vale	99639 277 Carrow St Yakutat, AK
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Tahara Kaputak	<u>KGK</u>
Janice L. Hollinger-Ernest Janice L. Ernest	Janice Hollinger Ernest DBx 771707, CRIV, AK 9236 Campbell Terrace Anchorage, AK 99502
Ingeela Chappell	3111 Tayshee Cir. Anch. 99504
Ian V Chappell	3111 Tayshee Cir Anch. 99504
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Rob Bachnick	2554 GUNTER, 99508
Brooke Cooper	2500 Copperwood Dr Anch 99516
Marcia Thiemer	Po Box 463 Willow AK 99688
Warren McClure	800 Mulchatna Wasilla

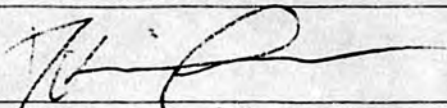
Marjorie Kaiser	938 David Pl Anch AK 99501
SCIENCE CLASS	5031 Tongue Pt 9917
GIANNI LAQUINTA	" "
Kristen Blevins	294 W 33rd Anch AK 99517
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Anna Allen	PO Box 1067 Palmer AK 99645
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Gregory Chub	6840 E. Jean Dr. Palmer, AK 99645
Gregory Andrews	6840 E. Jean Dr Palmer, AK 99645
Tim Caddell	3560 W. Diamond Anchorage, AK 99502
Tim Caddell	1701 Elwood #2 Anchorage AK 99507
Beverly Horton	4412 W. Gold Leaf Cir Wasilla, AK 99607
Laura Gutierrez	3560 W. Diamond Blvd AS A/A 99502
Laurie Hammill	3560 W. Diamond # AS A/A 99502

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Dynelle Longto	Concord Lane Anchorage AK 99502
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Bridget Wilson	5980 Longoria Cir. Anchorage, AK 99504
John Nelson	5980 Longoria Circle
Larone O. Taylor	17930 Chablis Circle Eagle River, AK 99571
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Christian Taylor	"
B. Clark Hubbs	1551 State St Unit A5 Anch AK 99507
Nanette Rose	1716 Kalgin St Anch. AK 99504
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	Travis Burnett	7505 Boundary ave #85 99504 Anchorage, AK 99504
	Breanna Gray	" "
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	Java Ingo	11300 OUR RD Anchorage, AK 99516
	Katie Black	11000 Polar Dr Anchorage, AK 99516
	Alyse M. Roberts	8032 Green Victoria Dr Anchorage, AK 99518
	Mark Brunel	120 W. 11th Ave Anchorage AK 99501
	Mary Louisa	
	Cedric Huntington	
	Terese Pollock	5105 Camelot Anch AK 99508
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Gabe Loggins	855 W. Helen Dr.
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Miguel Opland		Yeah
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Hillie Wendt		179 OKA ST #5 Anch. AK 99504
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Wileen Painter		7101 Weimer Apt. 10 Anch, AK, 99502

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Alvin Alborn	1453 Willowway Way Wasilla 99554
Alvin Alborn	1453 Willowway Way, Wasilla 99554
Adrian	54223 Chickadee 99674
Michael Rose	6459 Barclay Ct Anch. 99504
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Napsta Everett	13500 Old Seaview Hwy Apt 3 Anchorage 99515
Bruce Casen	3932 Balchen Dr Anch AK 99517
Nichelle Casen	" "
Shayla Moore	" Wasilla "
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Erin H. H.	7505 Glenn Ave #81
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KEVIN TENKA	1100 E. 16th St #7 Anch AK 99501
Brancel S. Detsen	P.O. Box 87349 Wasilla AK

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Phyllis Shiron	PO Box 110851 Anchorage, AK 99511
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Carol M. Scalet	125 Main Street, Anchorage, AK 99501
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Clayton Renner	Box 4908 Palmer, AK 99645
Jennifer Renner	Box 4908 Palmer, AK 99645
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Naomi Johnston	1210 W 80 AVE, ANCH AK 99518
Gale Ricken	615 W 45 th St Anchorage AK 99501
Tim Renner	1500 Burgard Alvin, TN 37511
Gloria Hunter	P.O. Box 2833 Kenai, AK 99641
Rachel F. Hunter	2146 Alder Drive, Anch. AK 99508
JOE VICAN	Box 1653 / CDU AK 99514
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Questions and Answers for DEC/DNR/ADF&G to House Fisheries/House Resources HB 134 field hearings and Pebble site tour

These answers were provided by staff from DEC Division of Water and DNR Division of Mining, Land and Water, and DNR Office of Project Management and Permitting. For more information, please contact Ed Fogels, DNR/OPMP, (907) 269-8423 (ed.fogels@alaska.gov).

1. Large Scale Tailings Facilities

a. Is a liner always required for a large scale tailings facility?

No, liners are normally not utilized to line the 'basin area' of large tailings facilities; however, synthetic liners are sometimes used as a low-permeability layer within the tailings dam. A prospective mining company must demonstrate how they will protect groundwater quality down-gradient of the tailings facility. All tailings facilities must have some form of seepage control, typically consisting of drainage materials and grout curtains, compacted soil, and / or synthetic liners in various combinations designed to meet the unique performance requirements of each project.

b. What material are liners made from?

Liners may be made of geologic, synthetic, or geosynthetic materials. Typically a geologic liner is composed of clay or other fine-grained material, which is compacted to achieve a permeability and thickness that comply with Department of Environmental Conservation regulations (18 AAC 60). Geomembranes, commonly referred to as synthetic liners, are made of a variety of polymers including polyvinylchloride (PVC), 'high', 'linear low', and 'very low' density polyethylene (HDPE, LLDPE, VLDPE), polypropylene (PP), and ethylene interpolymers (EIA), among others. A geosynthetic clay liner (GCL) includes processed bentonite clay laminated with synthetic geotextile fabrics. Geomembranes are typically 30 to 100 mils (0.030 to 0.10 inch) thick depending upon the specific synthetic material and application.

c. On a scale as large as Pebble, is this a significant cost factor?

Yes, synthetic liners and their installation are relatively expensive. Costs can vary greatly depending on the details of the design, required products (type, polymer formulation, thickness or weight, etc.), quantity of materials that are purchased (economies of scale), project location (shipping and installation environment), and any required sub-grade preparation, and are therefore very site-specific. Budget estimates for material costs for synthetic liners typically used in the mining industry may be in the range of US\$0.65/ft² for GCLs, US\$0.50/ft² for 80-mil HDPE, and US\$0.19/ft² for 16 oz/YD² geotextile fabric for sub-liner. We have seen cost estimates for lining a 1,000 acre tailings facility ranging from \$110 million to \$290 million.

d. Have advances in liner technology occurred in the recent past?

The variety of synthetic liner products has been relatively stable over the recent past, although novel products or product improvements occur regularly due to the competitive nature of the

industry. Geotextiles in general (including synthetic liners) have provided substantial benefits to a variety of mining and civil engineering projects, but they should not be considered a panacea. Engineer's understanding of product performance continues to improve, but challenges remain. The 'long-term' life span of synthetic liners is an area of uncertainty, and depends on a number of factors such as composition, construction, stress, and exposure to sunlight.

e. What agencies have authority over tailings facility design – does one agency take the lead role in permitting?

The Department of Natural Resources is the lead state agency for coordinating the permitting of mining projects. However, the permitting and regulatory oversight for the waste associated with tailings facilities falls mainly to the Department of Environmental Conservation through issuance of a Waste Management Permit for mine tailings disposal and any required waste water treatment and/or discharge. The purpose of this permit is to ensure that all water leaving the facility during operations and after closure meets standards, and that water quality is protected. The permit requires operational and post-closure monitoring, and requires financial assurance to make sure any long term treatment and monitoring can be funded.

The Department of Natural Resources' Office of Dam Safety conducts the technical review of proposed dams and companies must receive a Certificate to Construct prior to beginning work on the dam. The Dam Safety Engineer conducts inspections during the construction of the dam and reviews 'as-built' drawings, construction reports prepared by the professional engineer responsible for quality assurance / control, and the Dam Operating Plan. The mining company must receive a Certificate to Operate before they can place tailings in the facility. The designs for any modifications or the ultimate abandonment of the dam are also reviewed by the Dam Safety Engineer and must be approved prior to any actions being taken by the company. The construction and ultimate closure of tailings facilities is also reviewed by the Department of Natural Resources' Division of Mining, Land & Water to ensure that the closure plan complies with the requirements of the State Reclamation Act (AS 27.19). All projects must obtain a Reclamation Plan Approval prior to initiation of construction activities and projects located on state land must also receive a Plan of Operations Approval.

f. In a typical tailings impoundment, similar to what could be expected at Pebble, how deep is the water used to cover the tailings?

In a conventional tailings impoundment, water depth can vary from 0 to perhaps 50-feet depending primarily on the topography of the tailings basin, but also on the physical and chemical characteristics of the tailings, and requirements for water in the milling process. Also, some tailings facilities may have a water cover during the mine's life, but at closure, the water is removed and replaced with a dry or wet-soil cover.

g. What depth below the surface of the sediment beneath a tailings pond does the water permeate?

This depends on a number of factors, such as the permeability of the liner (if used), the nature of the material that the facility is built on, and the type of tailings stored in the facility. In all cases

the applicant must model the expected seepage from the facility, and demonstrate the pathways the seepage will follow and how this seepage water will be intercepted should it not meet water quality standards. When a dam is used to impound mine tailings, water behind the dam will follow the path of least resistance. Often tailings dams are designed and constructed to convey tailings water as underground seepage to the toe of the dam where a system of wells and pumps create a barrier to outward underground flow.

h. How fine is waste rock in a hypothetical tailings pond? Is the consistency of glacial silt a fair characterization, or will the tailings be coarser?

The actual size of the tailings depends on the ore processing method. In general, tailings are usually fine sand to silt sized material, which is very similar to glacial silt.

i. At the end of operations, is it normal to completely cover the tailings and make dry land, or will a lake remain in perpetuity?

Reclamation of a tailings facility is designed based on a wide variety of factors such as the site water balance, geochemistry of the tailings, quality of the water remaining in the tailings pond, seepage chemistry, and other site-specific factors. If the tailings material has potential for acid-generation or metals leaching, it may be necessary to maintain a water cover in perpetuity. In other cases, it is quite feasible to provide for either a wet-soil or dry-soil cover with re-vegetation of the surface material.

2. Mine Pit

a. Hypothetically after the termination of operations at Pebble a large pit is left, and this fills with water. Is the rock in the Pebble area expected to leach heavy metals or other materials into the water?

At this point in the exploration process it is uncertain what the tendencies for heavy metal leaching or other water quality impacts might be. As is typical for most mines, this data is developed through extensive drilling and water quality monitoring programs that most often go on for years, prior to submission of permit applications to regulatory and resource agencies. Baseline water quality and rock characterization information that is used to predict these conditions will be submitted as part of the permitting process, and will be evaluated by DEC and DNR prior to issuance of any permits. These documents, along with proposed permits must be provided to the public and public comments received.

It is possible that the pit might fill with water containing heavy metals and acid rock drainage. If a mine were permitted, it would be based on the proposed mining plan along with extensive, supporting rock and water chemistry data. It is impossible to predict any outcomes without knowing the activity (type of mining procedure and concurrent closure techniques), specific locations, and baseline data. However, any predictions will be conservative in nature. They will protect the environment to the highest prevailing quality or level while considering a range of scenarios.

A clear understanding the rock geochemistry and the water quality of any water that contacts mine rock and tailings is usually the single most important factor that agencies consider in deciding if a mine's design is permissible or not. These water quality predictions drive the design of tailings storage facilities, waste rock dumps, and closure plans.

b. Will agencies require a contingency plan for a potential pit filling and discharge of heavy metals into adjacent streams?

State agencies must approve a closure plan for all mines, including any open pits that are to remain after closure. If the lake is to fill with water, the closure plan must show what the predicted water quality in the pit will be—if this water won't meet water quality standards, then it must be treated before leaving the site.

The major purpose for requiring rock to be characterized and baseline water quality to be established prior to permit issuance is to predict whether metal leaching will be a problem. The results of these studies are used to establish operating permit conditions, short and long term treatment requirements, and to predict water quality in the pit at closure. This information is also used to estimate the long term costs associated with mine closure so that adequate financial assurances can be required from the mine developer to protect the state.

In all cases, the natural quality of the receiving water will be strictly protected through redundant containment, and by vigilant monitoring, recordkeeping, and reporting. All discharged water must meet Alaska Water Quality Standards or the highest prevailing, natural, quality of the receiving water.

3. Water Quality Monitoring wells

a. To what extent are water quality monitoring wells required in areas downstream of a tailings dam?

The location and number of monitoring wells is dependent on very site specific hydrogeologic data and on the design of the tailings storage facility. Complicated geologic conditions may indicate that numerous wells are needed. Less complicated subsurface conditions may allow fewer wells. It is important that all the potential subsurface pathways be identified that could allow contamination to escape and that provisions for sampling such as a monitoring well be provided. In general, the number of wells will depend on the site hydrogeology and the size of the facility.

b. What are the monitoring requirements during operation of the tailings facility - how often is monitoring required and by whom?

Monitoring frequency is established in a permit and again is site dependent. It is important that sampling be frequent enough to detect small changes over time. Typical monitoring and sampling for important contaminants of concern may be weekly or even daily. Less critical contaminants may be sampled monthly or even quarterly.

Environmental sampling is typically performed by the permittee or sometimes by an independent lab or firm under the permittee's direct control. By design and through mandate, the Clean Water Act requires self monitoring and reporting by permittees. Analytical work for compliance must be performed at a testing lab with an approved quality assurance and quality control plan.

c. How deep do monitoring wells go?

Monitoring wells extend into the aquifer that would most likely be affected if a release occurred. This is usually the upper most aquifer, but in some cases, deeper aquifers may need to be sampled as well.

d. How many years after the end of operations is monitoring required?

Under 18 AAC 60.397, Post-closure care requirements for a Class I or Class II MSWLF, Section (a) requires a minimum of 30 years post-closure care, which includes groundwater monitoring among several other requirements. Consequently, post-closure monitoring must continue for 30 years or until background water quality or Alaska Water Quality Standards are met, whichever is longer.

4. Bonding

a. How does mine bonding work (for instance, is there a formula that is applied, what agencies weigh in, is bonding often a commissioner level discussion)?

Bonding or Financial Assurance is the amount of money that is necessary to reclaim a mining project, under the terms of the approved reclamation plan, and conduct post-closure monitoring and water treatment, if necessary. The amount of the financial assurance is calculated as if the State has to take over the project and conduct the reclamation effort. As such, the costs are higher than it would normally take the mining company to do the job. Normally the company makes the calculation and provides all the data, including vendor quotes, to the ADNR and the ADEC to review. Our engineers thoroughly review the calculations, sometimes conducting our own independent calculations, and ultimately derive a cost figure that is protective of the State. There is no formula, since all projects are different and reclamation costs can vary considerably depending on the location and type of mine. No project can begin construction until the financial assurance package is in place. The bond calculation is not normally an issue at the Commissioner's level; however, should there be a serious dispute over the bond amount, the company can avail itself of the Commissioner's office for additional review.

Regarding DEC's part in bonding, AS 46.03.100(f) requires the permittee to provide DEC with proof of financial responsibility for managing and closing the facility in a manner DEC finds will control or minimize the risk of the release of unauthorized levels of pollutants to state waters. Consequently, DEC's portion of the bond is for managing and protecting water quality. This is dependent on the operation, the operational control strategies, and closure plan.

b. Should monitoring of water quality be required in perpetuity, how do bonding requirements treat this?

In the event that water at a closed mine site will need treatment in perpetuity, a trust fund must be established that will fund the effort. It is a sort of water treatment "permanent fund". The trust fund receives contributions from the mining company over the life of the mining operation such that at mine closure the fund is large enough that the costs of monitoring and water treatment can be funded from the annual earnings; the principal of the fund would remain untouched. Before the mine can begin operations, financial assurance must be in place to make sure that the full trust fund will be in place in the event of unexpected closure.

c. Please explain any changes to bonding standards that have occurred and if a mine as potentially large as the proposed Pebble mine will require changes to existing standards.

In the past the bonding standards were mostly set up to address the issues of placer mining and the bonding was capped at \$750 per acre of land to be reclaimed. This was changed by the legislature in 2004 to make hard rock mines exempt from the \$750 cap. Even a mine as large as Pebble would not require a change in bonding standards. The standards now require that an adequate financial assurance package be in place such that the State could conduct the reclamation and closure plan at any point in the life of the mine. The bond amount is monitored and updated regularly to reflect any change in conditions that warrant a significant change. This can include changes in fuel costs, the mine reclamation plan, equipment rental rates, etc. Also, the State requires that the bond be reviewed by an independent third party expert to make sure it is still adequate, or to recommend changes if it is not adequate.

The Process and Requirements for Large Mine Permit Applications in Alaska



**Ed Fogels, Acting Director
Office of Project Management and Permitting
Alaska Department of Natural Resources**

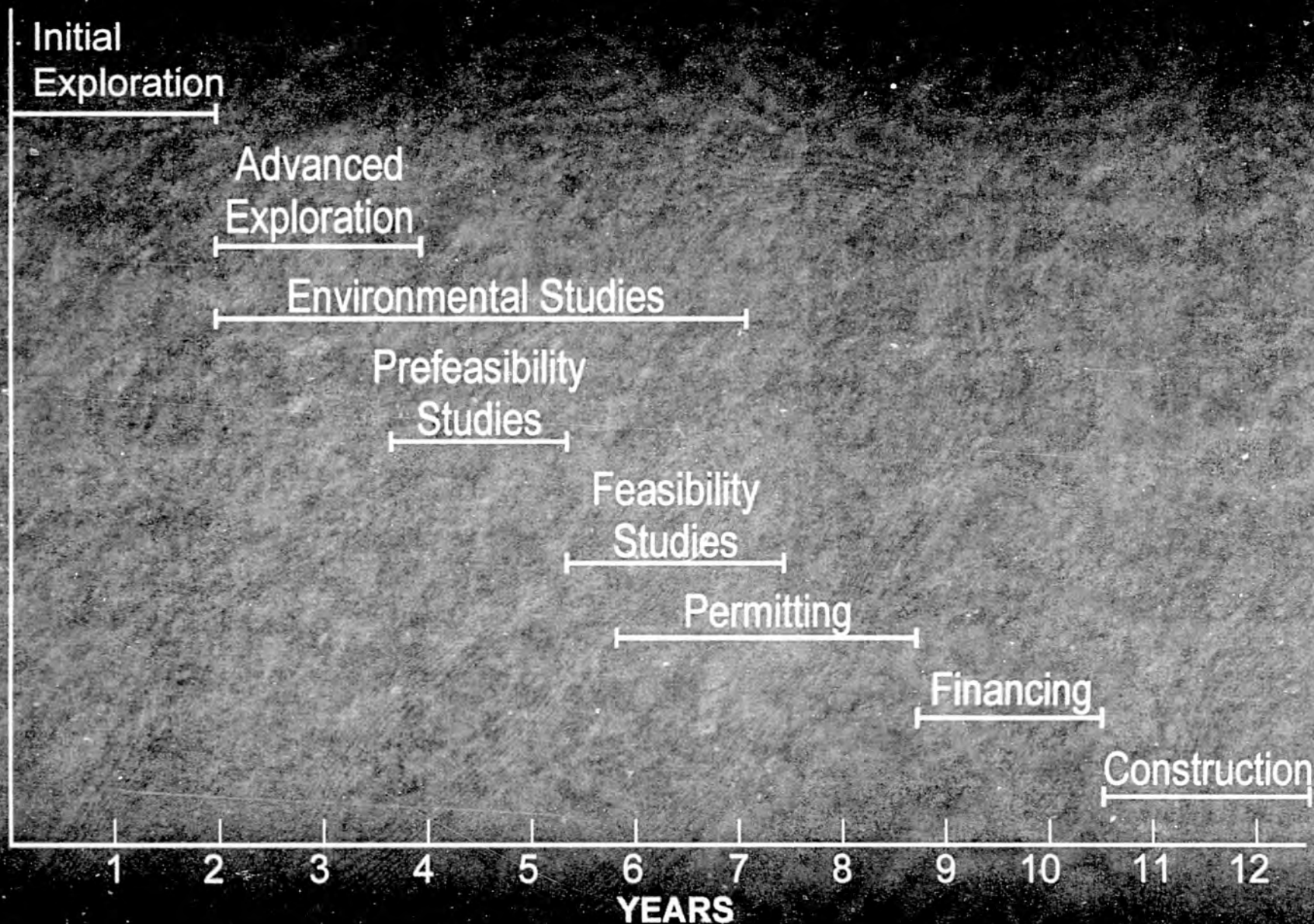
Presentation Outline

- What is the process?
- Mining 101
- The Permits
- The Agencies

No Single Permit to Mine; there are Lots and Lots of Permits!

- Plan of Operations (DNR)
- Reclamation and Bonding (DNR)
- Waste Management Permits and Bonding (ADEC)
- Certification of NPDES and ACOE Permits (ADEC)
- Sewage Treatment System Approval (ADEC)
- Air Quality Permits (ADEC)
- Fish Habitat and Fishway Permits (DNR)
- Water Rights (DNR)
- Right of Way/Access (DNR/DOT)
- Tidelands Leases (DNR)
- Dam Safety Certification (DNR)
- Cultural Resource Protection (DNR)
- Monitoring Plan (Surface/Groundwater/Wildlife) (DNR/DEC)
- Coastal Zone Consistency Determination (DNR)
- US EPA Section 402 NPDES Water Discharge Permit
- US EPA Air Quality Permit review
- US EPA Safe Drinking Water Act (UIC Permit)
- US ACOE Section 404 Dredge and Fill Permit
- US ACOE Section 10 Rivers and Harbors Act
- US ACOE Section 106 Historical and Cultural Resources Protection
- NMFS Threatened and Endangered Species Act Consultation
- NMFS Marine Mammal Protection Act
- NMFS Essential Fish Habitat
- NMFS Fish and Wildlife Coordination Act
- USFWS Threatened and Endangered Species Act Consultation
- USFWS Bald Eagle Protection Act Clearance
- USFWS Migratory Bird Protection
- USFWS Fish and Wildlife Coordination Act

(These are only some of the authorizations required)



National Environmental Policy Act (NEPA) Process

-

Environmental Impact Statement (EIS)

**Usually triggered by Federal authorizations (eg. clean
water discharge permit or wetlands fill permit)**

NEPA Process for EIS

A means for considering and evaluating alternatives

Not a permit

- Designation of Lead Federal Agency
- Process starts with submittal of full application package

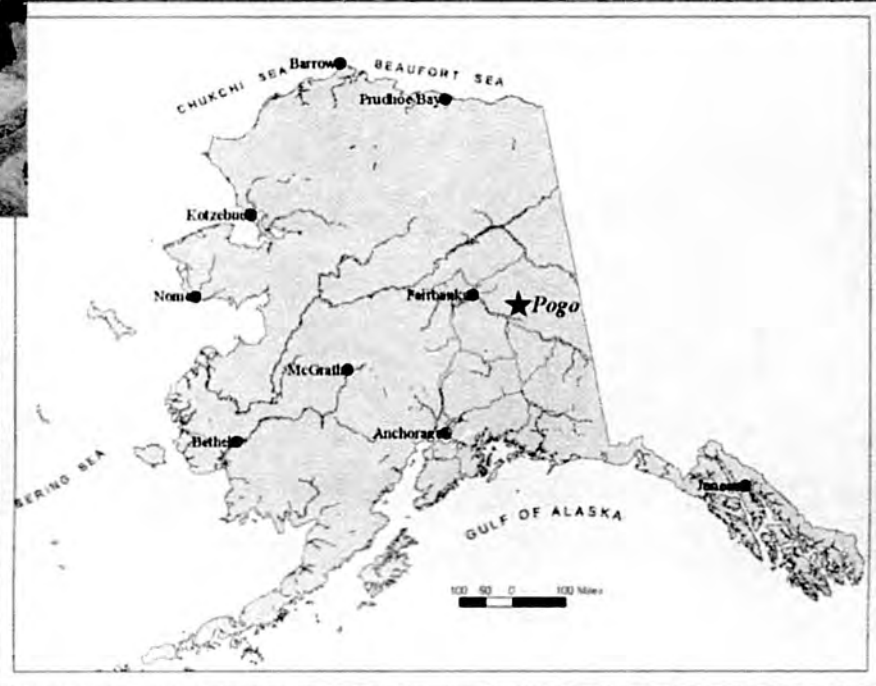
3 Steps

- Scoping (delineation of issues)/public comment
- Draft EIS/public comment
- Final EIS/public comment

Example: Pogo Mine



**Underground Gold Mine
near Delta Junction**



Pogo Process

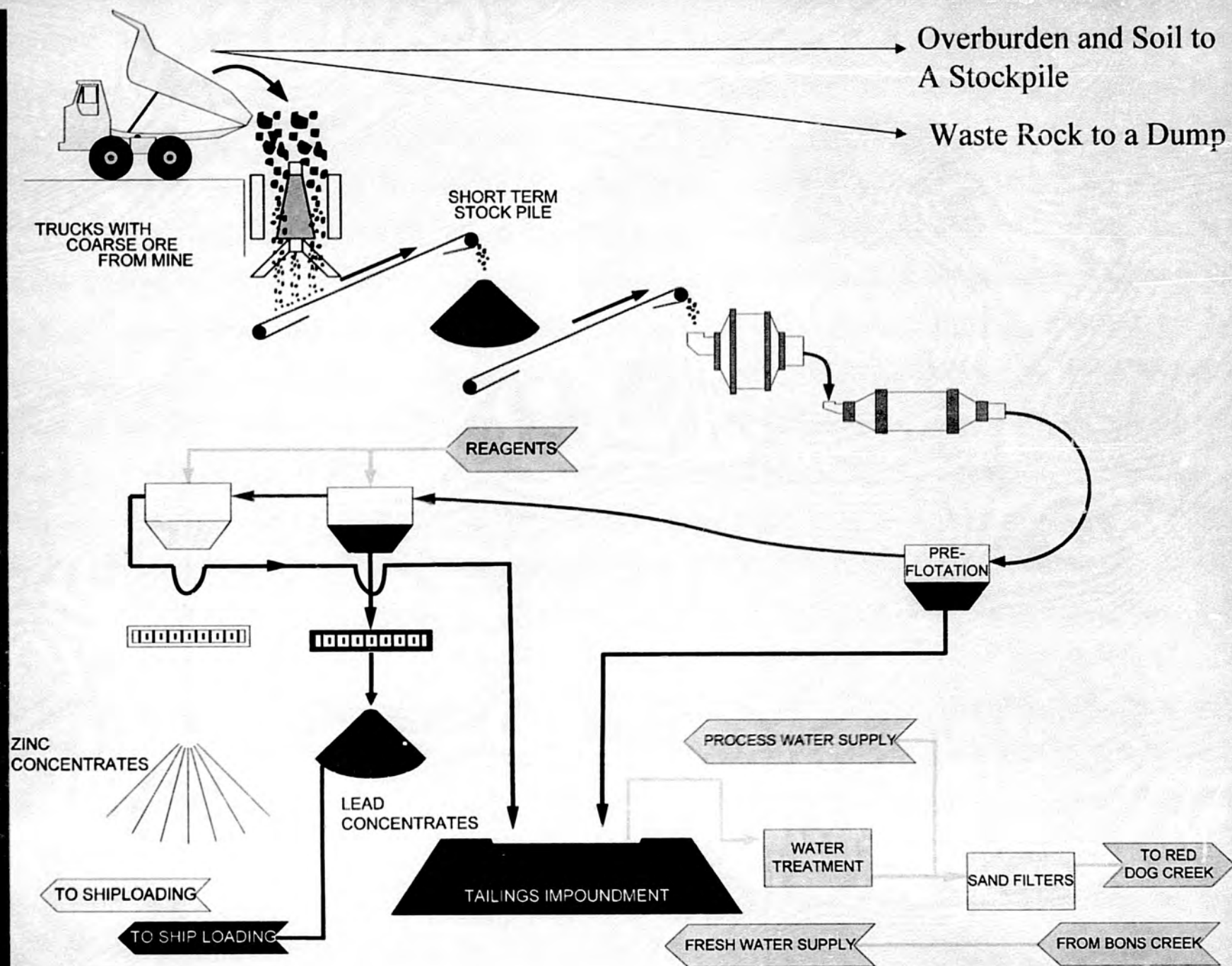
- Agency Discussions and Baseline Studies Initiated in 1997
- EIS Initiated in August 2000
- Public Input on Scoping 2000/2001
- Public Review of Draft EIS and Public Meetings, Spring 2003
- Final EIS Completed in October 2003-Public Notice
- Permits Issued in December 2003

Public Participation

- **Pre-Application meetings and outreach**
- **Environmental Impact Statement Process**
 - **Scoping (meetings, public notice)**
 - **Draft EIS (meetings, public notice)**
 - **Final EIS (public notice)**
- **Tribal Consultation (Government to Government)**
- **Open Communication (website, meetings, etc)**



Mining 101



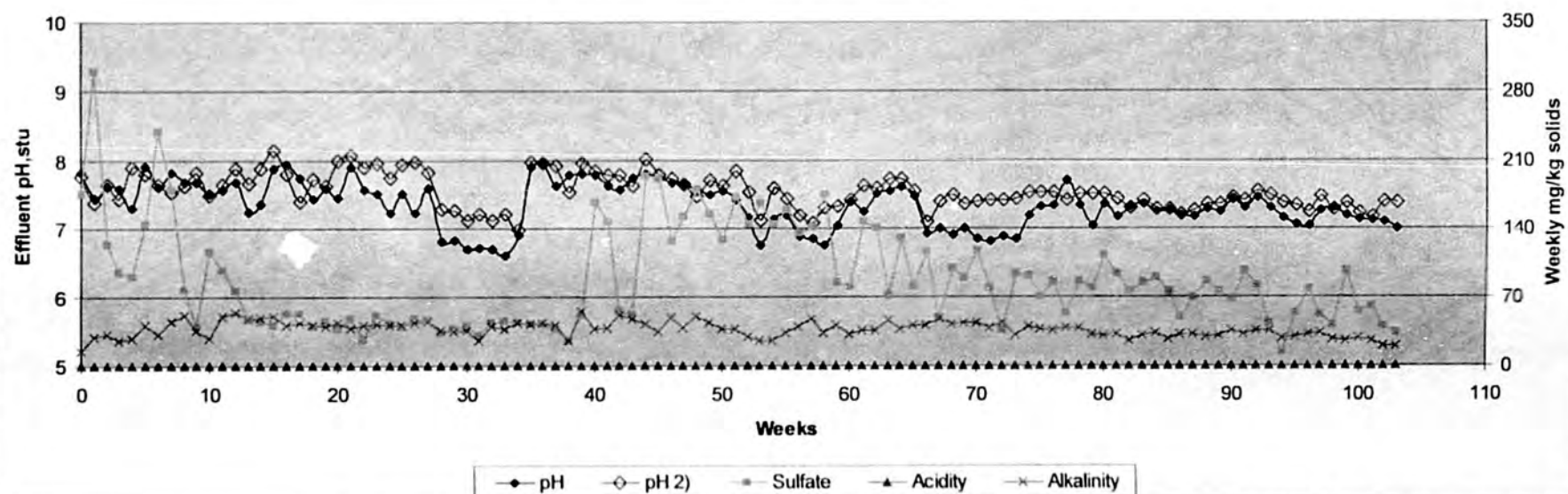
Tailings and Waste Rock
Geochemistry
(Water Chemistry)

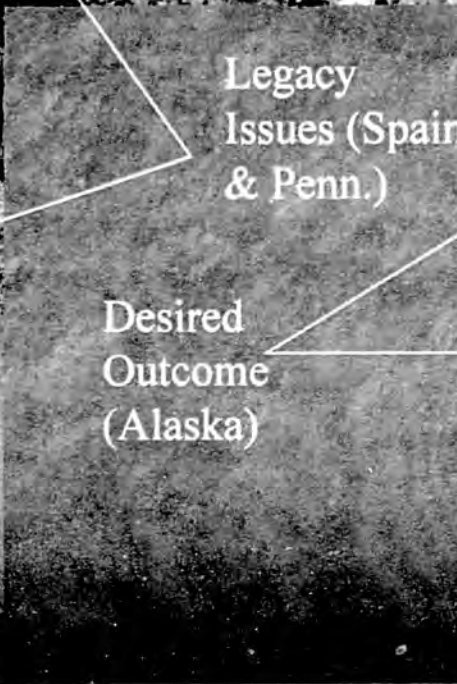


Water Quality!

Humidity Cell Tests (a kinetic test)

Figure 1a.- Weekly Humidity Cell Analytical Results





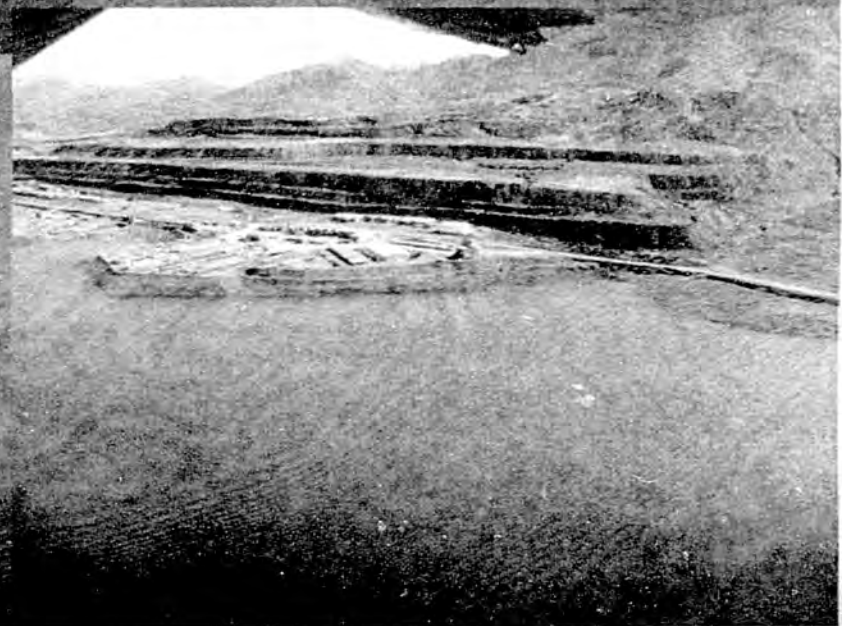
Legacy
Issues (Spain
& Penn.)

Desired
Outcome
(Alaska)



Agencies must understand the chemistry in order to decide if the project is approvable.

Understanding the chemistry is essential to designing the mine (including waste storage, closure options)



The Permits

State of Alaska Regulatory Requirements

- **Waste Disposal Permits and Bonding (ADEC)**
- **Reclamation Plan Approval (ADNR)**
- **Dam Safety certification (DNR)**
- Certification of NPDES and ACOE permits (ADEC)
- Sewage Treatment System Approval (ADEC)
- Air Quality Permits (ADEC)
- Fish Habitat and Fishway Permits (DNR)
- Water Rights (DNR)
- Right of Way/Access (DNR/DOT)
- Plan of Operations Approval (DNR)
- Cultural Resource Protection (DNR)
- Monitoring Plan (Surface/Groundwater/Wildlife) (DNR/DEC)
- Coastal Zone Consistency Determination (DNR)

Waste Disposal Permit

Issued by ADEC

- 1) Required for tailings disposal and waste rock dumps, as needed
- 2) Financial Assurance (bonding) required for reclamation and long-term monitoring and water treatment

engineered cover being placed over Greens Creek mine
waste rock

6/21/2000 10:41am



Mines Must be Reclaimed

RECLAMATION PLAN APPROVAL

- **ADNR**
- **Minesite must be returned to a stable condition, compatible with the post-mining land use.**
- **Financial Assurance (bond) must ensure State can do reclamation even if company cannot.**



08 29 2001 11:43



7/22/2003 6:25pm



Illinois Creek Reclamation

Success

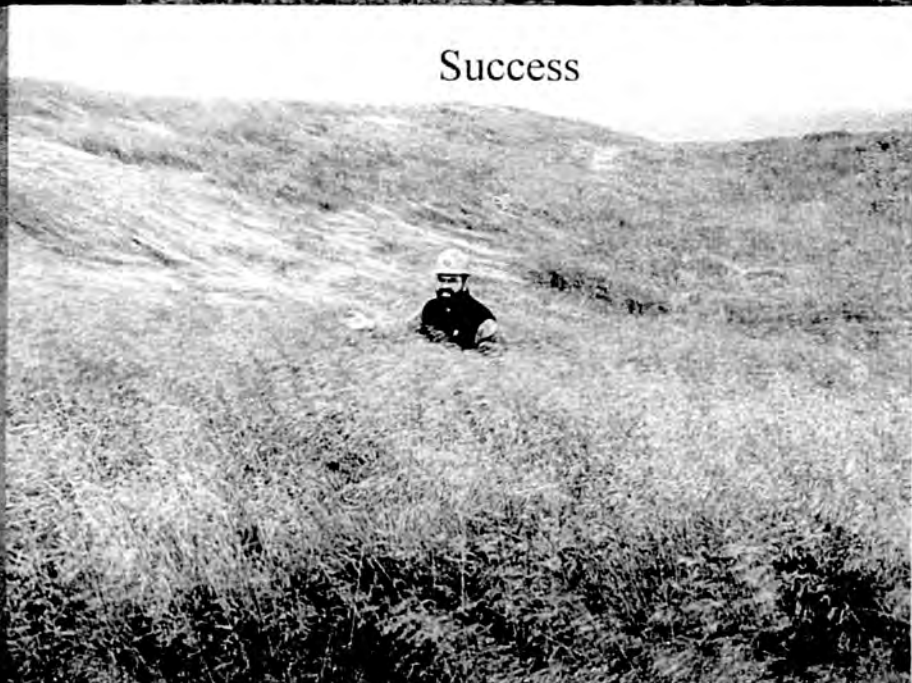


Table F.1: Demolition Hourly Labor Wage Rates

Description		General Demolition Crew	Mechanical Crew	Heavy Equipment Operator	Electrical Crew	Foreman	Laborer
Base Hourly Rate - straight time		\$26.55	\$26.04	\$27.77	\$30.83	\$30.55	\$23.43
Overtime for 50 hour week	10.0%	\$2.66	\$2.60	\$2.78	\$3.08	\$3.06	\$2.34
Adjusted Hourly Base Rate		\$29.21	\$28.64	\$30.55	\$33.91	\$33.61	\$25.77
Social Security, Medicaid, Unemployment, Liability, and Workers Comp Insurance	21.7%	\$6.34	\$6.22	\$6.63	\$7.36	\$7.29	\$5.59
Total Direct Hourly Labor Costs		\$35.54	\$34.86	\$37.18	\$41.27	\$40.90	\$31.37

Labor Indirects

Benefits - percentage of adju

Field Overhead - percentage

Small Tools Allowance - rate

Camp and/or Travel Allowan

Total Indirect Hourly Costs

.74

.32

.00

.00

.06

Total Hourly Costs

.42

Table F.2: Hourly Equipment Rates (\$)

Equipment	Equipment Lease Rate	Maintenance & Fuel	Support & Transport	Total
Excavator 330	31.00	52.00	16.60	100.00
Excavator 375L	48.00	89.00	27.40	164.00
Excavator 235	31.00	52.00	16.60	100.00
Dozer D10R	73.00			
Dozer DBR	42.00			
D6R Dozer	30.00			
Grader 16G	34.00			
Water Truck	20.00			
Tamrock Drill	48.00			
Shotcrete Machine	20.00			
Picker Truck	30.00			
Re-seeding	15.00			
Shear on 375L	65.00			
FE Loader 950	30.00			
FE Loader 990G	45.00			
FE Loader 992G	62.00			
Dump Truck 140cy	25.00			
Self Load Flat Bed	50.00			
Low Bed Truck	35.00			
Dump Truck 17cy	31.00			
Crane Truck 20T	45.00			
Crane Truck 50T	70.00			
Track Skidder 524	50.00			

POGO: RECLAMATION COST ESTIMATE
(SEPTEMBER 2003)

Project Number: U411F
Currency: USD 4Q2002

Description	Qty Unit	Unit Price/Hr	Total Direct Hr	Total Direct Lab Cost	Unit Price	Total Mat Cost	Unit Price	Total Sub Cost	Unit Price	Total Equip Cost	Total Cost
Phase I: Post-Construction			4,968	287,345		13,213		26,400		156,977	483,935
Phase II: Reclamation Concurrent with Mining											
A-07 WELLS	115			6,294		1,200		0		0	7,494
A-09 GRAVEL PADS	363			21,312		900		0		25,313	47,224
A-12 ROCK PILES	2,308			165,891		0		0		197,786	363,677
A-13 LINERS UNDER ROCK PILES	629			35,340		0		0		41,040	76,381
A-14 PADS UNDER ROCK PILES	340			19,966		570		0		20,536	44,726
A-15 EXPLOSIVES STORAGE	406			23,515		0		0		10,904	34,419
R-01 SURFACE BOREHOLES	2,000			114,060		20,000		0		31,260	145,320
S-00 WATER QUALITY ASSURANCE	0			0		0		10,000		0	10,000
Phase II: Reclamation Concurrent with Mining			6,781	386,408		52,970		10,000		329,862	776,241

POGO Project

Documentation Series for Permitting Approval
October 2003

7 Reclamation & Closure Plan Update

Bond Amounts for Alaska Mines

<i>Operation</i>	<i>Total Bond (\$ Millions)</i>
Greens Creek Mine	\$29.2 ¹
Red Dog Mine	\$155.9 ²
Fort Knox (& True North) Mine	\$37.6
Usibelli Coal Mine & Exploration	\$11.3
Kensington Project	\$7.4
Rock Creek Mine	\$6.8
Pogo Mine	\$26.7
Nixon Fork Mine	\$3.5

¹includes \$3 million increase proposed by the company after internal audit

²includes \$134 million interim parent guarantee for water treatment and site restoration

Bond (Financial Assurance)

- **What Mechanism? Most are Letters of Credit.**
- **Trust Fund to be used for long-term obligations**
- **Applies equally to US and non-US corporations**

Dam Safety Certification

- **ADNR**
- **All dams (tailings and water storage) must be designed to State standards.**
- **Seismic standards**
- **Financial Assurance for Long term care and maintenance**

Other State of Alaska Regulatory Requirements

- Certification of NPDES and ACOE permits (ADEC)
- Sewage Treatment System Approval (ADEC)
- Air Quality Permits (ADEC)
- Fish Habitat and Fishway Permits (DNR)
- Water Rights (DNR)
- Right of Way/Access (DNR/DOT)
- Plan of Operations Approval (DNR)
- Cultural Resource Protection (DNR)
- Monitoring Plan (Surface/Groundwater/Wildlife) (DNR/DEC)
- Coastal Zone Consistency Determination (DNR)

Monitoring

- Air Q
- Water Q
 - Surface
 - Groundwater
- OHMP Fish Studies
- Starts with baseline, continues post-closure

Environmental Audits

- Permit terms are usually 5 years
- Env. Audits on 5 year schedule tied to reissuance of permits
- Audits by 3rd party experts
- Financial Assurances revisited and recalculated based on Audit results

. The Agencies

State Agencies

LARGE MINE PERMITTING TEAM

- **Department of Natural Resources**
 - Div of Mining, Land and Water, OHMP, OPMP
- **Department of Environmental Conservation**
 - Div of Water, Div of Air Quality, Div of Env. Health
- **Department of Fish and Game**
- **Department of Transportation & Public Facilities**
- **Department of Commerce, Community and Economic Development**
- **Department of Law**

Large Mine Permitting Team (LMPT)

DNR Coordinates the permitting of large mine projects in the state in accordance with AS27.05.010(b):

The department is the lead agency for all matters relating to the exploration, development, and management of mining, and, in its capacity as lead agency, shall coordinate all regulatory matters concerning mineral resource exploration, development, mining, and associated activities. Before a state agency takes action that may directly or indirectly affect the exploration, development, or management of mineral resources, the agency shall consult with and draw upon the mining expertise of the department.

Federal Agencies

- US Environmental Protection Agency
- US Army Corps of Engineers
- US Fish and Wildlife Service
- National Marine Fisheries Service
- Bureau of Land Management
- U. S. Forest Service
- National Park Service

MAJOR FEDERAL REGULATORY REQUIREMENTS

- **US EPA Section 402 NPDES Water Discharge Permit**
- **US ACOE Section 404 Dredge and Fill Permit**
- **US ACOE Section 106 Historical and Cultural Resources Protection**
- **NMFS Threatened and Endangered Species Act Consultation**
- **NMFS Essential Fish Habitat**
- **USFWS Threatened and Endangered Species Act Consultation**
- **USFWS Bald Eagle Protection Act Clearance**
- **USFWS Migratory Bird Protection**

Summary

- **Make sure that the Company is collecting the right baseline data**
- **Understand what the issues are (Scoping) as early as possible-Public Process**
- **Coordinate public notice, hearings, public comments**
- **“DESIGN FOR CLOSURE”**
- **Technical review of mine plan and environmental data**
- **Ensure appropriate monitoring (air, water, reclamation success, etc)**
- **Determination & maintenance of appropriate financial assurances**

CHECK US OUT AT:

<http://www.dnr.state.ak.us/opmp/>

or

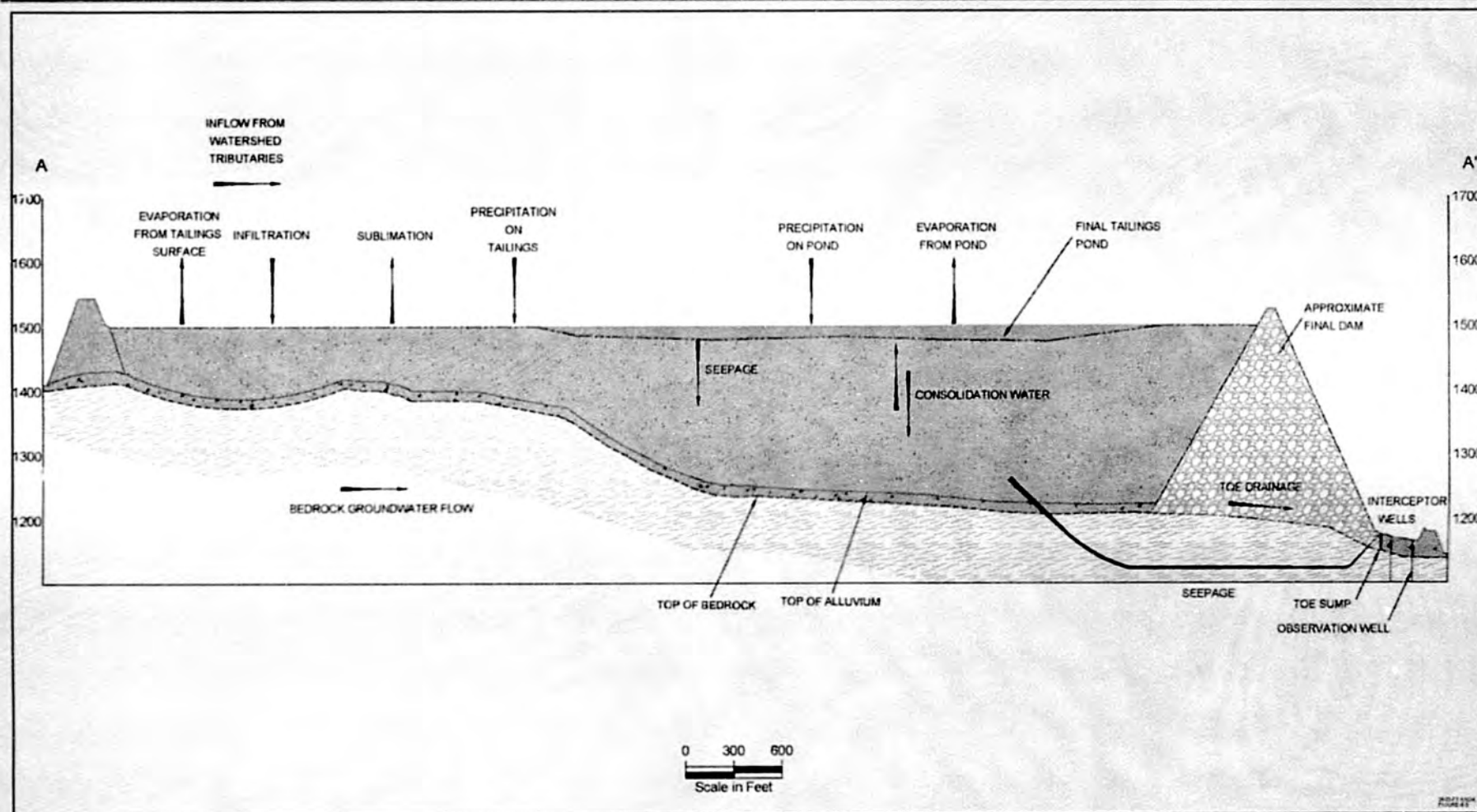
<http://www.dnr.state.ak.us/mlw/mining/largemine.htm>

Tom Crafford, Acting Mining Coordinator

Tom.Crafford@alaska.gov

(907) 269-8629

Drawing of typical tailings facility







BLACKBIRD CREEK
IS UNSAFE FOR
DRINKING WATER



under DNR - Oil + Gas leasing statutes.

AS 38.05.140. Limitations

The submerged and shorelands lying north of 57 degrees, 30 minutes, North latitude and east of 159 degrees, 49 minutes, west longitude within the Bristol Bay drainage are designated the Bristol Bay Fisheries Reserve. Within the Bristol Bay Fisheries Reserve, a surface entry permit to develop an oil and gas lease or an exploration license under AS 38.05.131 - 38.05.134 may not be issued on state owned or controlled land until the legislature by appropriate resolution specifically finds that the entry will not constitute danger to the fishery.

new statute is under AS 16.10



Fred Pike

Need to protect but don't restrict normal
commercial development
Maximize catch

Bradley Rush HS student

Adam Dubay - does not want any development
(Welding Instructor) maintain wilderness
Remove exemptions for transportation projects

Scotty Soro - everything is based on
fishing

Dan Michaels - What is \$\$\$ consequences
for the State = Taking claim =

Carl Paul Anderson - fish

No oil + gas - limited scale commercial

Paul Hanson - limited scale.

Matt Price fishermen + Lodge.

Doubtful to support oil + gas.

Myra Olsen - only 40% of Fishing permits +
prices don't support. Deckhands.

No on 134 but do Tweek water quality reg.

Don't like restriction of users



N

George Wilson
Tweek +

No Large Scale

Sheila Bergey. - Against 134
Address Through Permit Process

Lindsay Bloom
Supports Fish habitat protection

Everett Thompson Support became
marketing of salmon would be
impossible (No pebble)

Mark Angerson
Village rich of King Salmon
Does not support Needs opportunities
we don't have today & go through regulatory process

Pete Hill retired teacher

people have to leave village because of lack of jobs.
- Should clean up seafood water quality.

Glen Alsworth. Boro Mayor.

HB 134 Threatens the Boro finances and
allotment holders

290 Raw fish Tax + sport lodging

Spawning boxes & fish house

* * Need to exempt Salmon enhancement

N

Betty Bonnin - fishes
Support concept
oil + mining
not so restrictive

Violet Wilson - Support 134 concept
Worried about Pebble

Jeff Cociris Manager Lake & Pen Boro
problem HB 134 another layer
Assumption L&P not protecting environment
well enough so creating another layer
flawed + reaches too far
Boro believes in self determination of local
government.

Maureen Knutsen
favor highest protection for our waters
+ does not want to see a large scale development.
Believe in precautionary principal.

Allen Aspen

Native Atollment or villages should be exempt.
old grandfathered lodges support because no
new younger person could compete.
Scared of law and later regulation
Put in a massive volume restriction

permitting process.

~~John Soro~~ - Supports 134
Does not support dams or Nuclear reactors

N

Patricia EDEL

support intent but should be targeted
to large scale commercial
Supports on shore oil

Rich Edd -

water quality most important
expand area to all of BB
Allow comment that is not negative
What does

Annette Wilson supports

Fracking will go to getting clean
drinking water from Lake Illwaco

Pete Angerson HB 134

work with planned resource development

John Holm - Lodge

200 Tourist every year.

Lives in Wascana in winter.

Oil & Gas must adhere to same rules as mining
so may mean

Protect water on big &

Doug Olsson - compensation

markets his own fish & relies on clean water
reputations

~~Abraham~~
Nunamta

✓ Welcome

✓ Intro of committee members
proceedure for testifying

✓ Conflict of interest. Identify self and affiliation
Please give any paperwork to my staff

Henry St rouh - Fish come first
Anything that threaten fish is bad
Image of pure fish
Jobs should not replace fishing.

Robert subsistence in clark part.

~~Pat~~ Patty Luckhurst
came from mining country which have
not reformed.

Emily Olsen Village Envir. Coordinator
fisherwomen

for
Norman Anderson Support Concept
Cofishermen water quality - need jobs

Ron Bowers - HB134 will depress economy
: Does not exempt Gravel pits
No agricultural exemptions

Wasielec

BB need economic development
Lodges don't hire natives. Bring
all their guides from the Lower 48

Mark Hermann. - Oppose currently
No agricultural exemption
Support concept of

Dave Bowker - ^{Totally} Support as work in progress
Mine at Platinum had dirty runoff for ^{goodness} Bay.
Butte Montana

Ralph Anderson fear of losing
restricted native allotment

Pete Caruso - BB Fishermen Assoc. & Unacamin
oppose version E

Eva King -

Com fish limits low effective prices. HB134
would add to economic distress

- 1) Quarantine
- 2) Build roads & bridges
- 3) Takings without compensation water cost

Eva (2) \$\$\$ cost from lawsuits for illegal
tanning

Jim Wallman - Support bill
We are to fix it.

Frank Woods Supports
Commercial fishing

Ted Angasun -
Village losing population + Kids
2004 support study of mine for
Don't want to be a ghost town
Native Allotment impacted

John D Nelson -

Billy Mairs - Environ coordinator for Tribe

William A Johnson Support concept HB134
needs reasonable renewable economic level.

San Fortier - AFN 2 Tribes villages + 20 individuals
Oppose HB134 affects existing
water rights regimes - Does not consider droughts in future
would restrict private land.

Dan Dunaury - support with fish

Chenise Welso
Heidi Andrews } High School
oppose use of cyanide

Terry Hoeffler. Support protection
of
combine HB137 + SB67

Problems with exclusions

Prohibit cyanide use

Prohibit based on scale of usage
prohibition use of large scale water.

Andrew Delapine - ACMP
Habitat Div:

Dwayne Johnson
If mine takes

Joe Faith Need HB137
protect from large scale water use at mine

Bobby Andrew - need to protect water
sponsor of fisheries Habitat Resolution

Patricia Trayette

Some scary stuff - impacting private property
rights Be careful maybe but address
by scale.

Alice Ruby -

support in concept & intent

Dorothy B Johnson

.HB134 support intent need to ask

Count on the value of substance & need
water quality

George Wilson Jr.

Amend

exempt seaport & small scale commercial
on private property

Anna Nielson

clean up so don't spoil water

Russel Nelson

gravel pits rock quarry etc

Rich Tennyson self

.Chigik Tribal council - support HB134

Supports economic opportunity but does not want to risk
gravel & rock quarry.

com.

Robert Heyano - Support Concept of 134
BOF resolution that not sufficient
habitat protection

— Jalmar Olsen
Board member AFN
— AFN Board not taken.

Mike Davis self Supports Bill ^{with} modif.
need to treat ecosystem management

— Rich Halford Supports concepts
needs to deal with megaproject only.
Pipe bigger than ~~Ekluna~~ water line just to collect pit

Thomas Tilden water reservation proposed
for BB management plan overridden
by state.

— Bill not perfect but like intent.

Ulu Tilden -
need.

— Karen McCambly —

— Steve Wassily

Marion Small
Commercial fish

Helen Chythlook com fish
respect renewable resources. (clean water)
Support HB 134 as long as subsistence and
traditional lifestyle protected

Peter Christopher Supports 134 w/revision
need to protect watersheds

Margie Nelson. —
water

Jodi Seitz Supports Artent
was researcher for F&G / reporter

Kevin Jensen .
pedro Bay is on wetlands and 134
would impact planned developments.

Raymond W. W. W. W.
Glen Alworth
Bella Hammond

Fish HB134
Not pebble

Conflict of Interest

2 min testimony

Raymond Wassilie
opposes fine

oppose - convert to dry land.
"Do to the mine but leave us out"

Glen Alsworth

Agnes Rychnosky

opposes - Restricts people of Newhalen
from hunting and gathering grounds
- cant cross creeks -
cant build docks.

Lisa Reines

Nancy Delkethis

support for clean water but
oppose if impacts subsistence

Terry Wassili

opposes

restrict our use of our property

Bella Hammond.

Chartett

Lubie

Beth Weikel

protection of fishery needs to protect all
watershed

Dan Salmon Ig. Village Council
Exempted uses bad.
Bill

North Fork of Katobas no fish.

Kieth Jensen

Pedro Bay - Water for Road

Amend line 19 pg 2 included
Water allotment as exempt

Brian Kraft
Amendments

line 11 amount that can
have a measurable effect

George Honperger does not support
miners must be able to go through
permitting process

Michael Borleshe - need to support the
current laws

Sue Anelson (Lorene)
HB 134

Carol Ann Wood -

Technical review of copper + evidence
is lower than the AK standard for
aquatic life

Pebble bill spurs talks in the Bush

HEARINGS: Proposal to limit water use by miners brings lawmakers on rare visit to Southwest villages.

By ELIZABETH BLUEMINK
elbluemink@adn.com

Some Alaska legislators are taking an unusual odyssey by holding public hearings in three Southwest Alaska villages this week.

Rarely do legislators convene hearings in rural Alaska.

The topic this time — a House bill to restrict mines, particularly the controversial Pebble prospect, from using water in 19 million acres in Southwest — was pressing enough for nearly a dozen legislators to convene in the villages, said the bill's sponsor, Rep. Bryce Edgmon, D-Dillingham.

"We all know that the Pebble mine is the impetus of the bill," Edgmon told a crowd assembled in Newhalen on Monday.

The bill, House Bill 134, would prevent miners and possibly others who seek to develop land from discharging pollution into or taking water out of five major river drainages that supply the rich Bristol Bay salmon fisheries — the Nushagak, Kvichak, Naknek, Egegik and Ugashik river systems. Edgmon introduced the bill this year and it remains in the House Fisheries Committee, which convened this week's hearings.

If the bill is approved next year, developing a mine in the region would be impossible because a mine needs water to operate, according to Northern Dynasty Mines Inc., one of the companies exploring the huge Pebble copper and gold deposit near Iliamna. Pebble straddles the headwaters of the Nushagak and Kvichak rivers.

The bill would exempt oil and gas projects and seafood processing, as well as many other local uses, such as village drinking water, road projects and individuals who fish, hunt and develop their private property. Corporations that violated the bill's provisions would face fines of \$100,000 to \$1 million per day.

PEBBLE: Some object to oil, gas exemptions

Continued from B-1

Opinion on the Edgmon bill was mixed at Monday's and Tuesday's hearings in Newhalen, near the Pebble site, and Naknek, near the mouth of a Bristol Bay river.

The hearings drew testimony from more than 60 people, including village and Native corporation officials, teachers, high school students, sportfishing guides and commercial and subsistence fishermen.

Some Native leaders, including Thomas Tilden, chief of the Curyung Tribal Council in Dillingham, said Edgmon's bill would save the region's salmon from getting wiped out by the mining industry.

Other Native leaders, such as Raymond Wassillie, president of the Newhalen Village Council, and Lisa Reimers of Native-owned Iliamna Development Corp., testified that the bill would block economic progress in the region.

"This bill discriminates against who can use the water," said Myra Olsen, deputy mayor of the Lake and Peninsula Borough, which governs the region.

But other residents, such as Betty Bonin of King Salmon pointed out that families have lived in the region for generations, depending on salmon

for food and jobs. The oil and mining industries will be more temporary than the salmon runs, and will leave the region after their resources are depleted, she said.

EXEMPTING OIL

Some fishermen said they aren't pleased that the bill would exempt oil and gas projects. A sportfishing lodge owner, Jack Holman, testified that oil companies should face the same rules as the mining industry.

A retired schoolteacher, Pete Hill, said the bill doesn't go far enough to address existing pollution in the region. "A lot of things can be done with (salmon) canneries to clean their act up," Hill said.

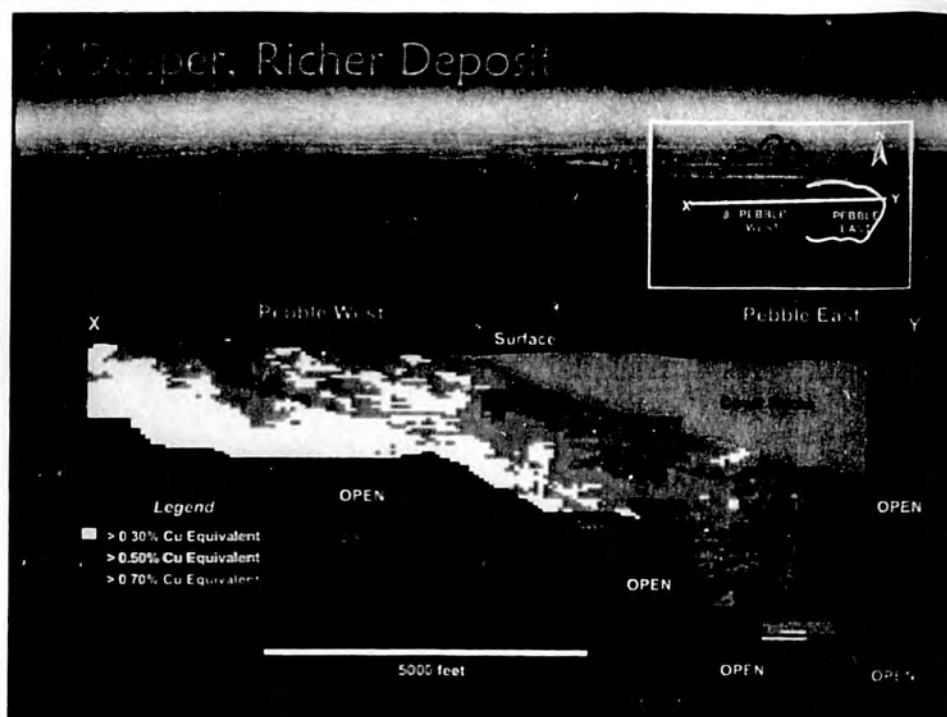
The committee also took testimony from longtime Bristol Bay fisherman Bella Hammond, the widow of former Gov. Jay Hammond.

While she didn't take a specific position on the bill, Hammond said the Bristol Bay fisheries should remain the top priority in the region. "Everything that can be done to protect (the fisheries) should be done," she said.

The House Fisheries Committee will hold its final field hearing on the bill in Dillingham this morning.

See Page B-6, PEBBLE

A Deeper, Richer Deposit



Pebble West and Pebble East

