

**BBNA PEBBLE MINE  
TECHNICAL ASSISTANCE PROJECT  
FINAL REPORT**

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**C1:** Memorandum on Environmental Conflict Resolution by CEQ & OMB

**C2:** POGO Gold Mine EIS: EPA Government to Government Consultation Plan, PowerPoint by U.S. EPA, Region 10, Alaska Operations Office

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**C4:** Government to Government Consultations & NEPA, Powerpoint by Resource Solutions/Office of Community Partnerships, UAA

**C5:** EPA NEPA & Tribal Involvement Powerpoint by U.S. EPA, Region 10, Alaska Operations Office

### **Appendix D: Documents Accessed for Technical Reviews**

## ACKNOWLEDGMENTS

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This project was initiated by Ralph Andersen in his capacity as Deputy Director of Lands & Resources for BBNA in the spring of 2005. Mr. Andersen was instrumental in establishing the goals and objectives of the project and provided guidance and direction during the project especially in coordinating the relationship with NDM that established the meeting format enabling Langdon and Colt to meet with the contractors responsible for baseline studies on socio-cultural (subsistence) and socio-economic topics.

This project benefited immensely from excellent coordination of BBNA and ISER staff personnel to accomplish the objectives. BBNA Environmental Program Manager Sue Flensburg was of great assistance in guiding the project through various shifts brought on by delays in NDM baseline studies and scheduling conflicts. From the BBNA staff side, Natural Resource-Environmental Specialist Courtenay Carty was an important part of the project team from the initiation of the project. Ms. Carty worked closely with Ms. Sharp of ISER on the communications plan and with Ms. King in the planning, coordination and implementation of the NEPA workshops. Ms. Carty was provided with office space at ISER from September to December, 2005; this proved to be an excellent placement which greatly enhanced the cooperation and working relationship between BBNA and ISER personnel.

We would like to thank Ralph, Sue and Courtenay for their collegueship, hard work and commitment to fulfilling the objectives of this project.

We support the efforts of the Bristol Bay native people to protect and sustain their way of life and to meet their self-determined cultural goals. We would be pleased to again work with BBNA in the future on these issues should the opportunity present itself.

## INTRODUCTION

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### *Overview*

This report summarizes and incorporates various materials prepared for the Bristol Bay Native Association (BBNA) under contractual agreement with the Institute of Social and Economic Research (ISER) of the University of Alaska Anchorage (UAA). The project is known as the BBNA-UAA/ISER Pebble Mine Technical Assistance Project. The project period was September 1, 2005 through November 30, 2006.

The Pebble Mine Technical Assistance Project was funded by U.S. Department of Environmental Protection through the Indian General Assistance Program (IGAP) for Alaska Native tribes. The funding was provided to the Bristol Bay Native Association through an "unmet needs" grant designed to provide technical assistance to the Bristol Bay tribes and tribal members in addressing environmental quality and subsistence issues associated with the proposed Pebble Mine project. The proposed Pebble Mine would be located in the Kvichak River drainage, home of the world's most productive sockeye salmon fishery and possibly draw water from the Nushagak-Mulchatna River watershed as well. This proposed development raises major issues related to environmental quality of the lands and waters customarily utilized by Bristol Bay tribes situated in the Kvichak and Nushagak-Mulchatna River drainages. Bristol Bay tribal members from local communities in the vicinity of the proposed Pebble Mine project make substantial subsistence use of natural resources in the area which sustain the nutritional, economic, social and cultural health of tribal members.

The purpose of the project was to provide technical assistance to the tribes to allow them to fully comprehend the nature of the Pebble Mine project and its potential impacts on the environment and their subsistence uses, and to enhance their capacity to fully participate in the review and permitting process should permits to develop the Pebble Mine be sought. The purpose of participation is to insure that protection for the environment and subsistence uses that depend on a healthy and productive ecosystem are fully addressed in the project review process.

In keeping with the project aim, the goals and objectives of the project were to provide technical assistance in three areas:

- Technical review of baseline studies on subsistence, cultural resources, socioeconomics, recreation and land use;
- Capacity-development for participating in the NEPA review process and otherwise building abilities for Bristol Bay tribes and tribal members to address issues concerning Pebble Mine development;
- Communications enhancement by developing a plan for information dissemination and improved contact among Bristol Bay tribal members.

Under the direction of Dr. Steve J. Langdon (Anthropology – administration and technical review of subsistence and cultural resources), the ISER team included Dr. Steve Colt (Economics - technical review of socioeconomic studies), Ms. Margaret King (Resource Solutions program – NEPA training) and Ms. Suzanne Sharp (Communications).

### *Project Activities*

In order to meet project objectives, a variety of different kinds of activities were undertaken. During the first four months of the project, the development of a communication plan and identification of capacity-building objectives was implemented through a series of meetings involving UAA/ISER staff, BBNA staff (Flensburg and Carty), Karen Stickman and Shawna Trumble of the Native American Fish and Wildlife Society, and Don Callaway of the UA-Bristol Bay campus. Among the outcomes from these meetings was the development of surveys about preferred means of communication and topical issues that were administered at various contexts to Bristol Bay Natives and development of a plan for step-wise building of

capacity through workshops on tribal empowerment, the role of tribes in NEPA permit process, and the NEPA process. A summary of the workshops and the materials developed for them can be found elsewhere in the report.

A coordinating meeting with representatives of the Bristol Bay Native Corporation (BBNC) and Bristol Bay Environmental Services Corporation (BBESC) was held to inform them of the objectives and activities of the project. Periodic information exchange occurred with Mr. Greg Beischer of BBESC over the course of the project.

### *Technical Review Materials*

Technical review activities required developing access to NDM materials including research designs, study plans, annual reports and whatever other materials might be available. A Technical Review Framework (see TRF-1) outlining the procedures and perspectives for the technical review process was developed and is included in the report. In addition, two meetings were held with NDM baseline study contractors to discuss the nature and progress of the baseline studies in the areas of subsistence, cultural resources, socioeconomics, recreation and land use. These background materials as well as a draft report from the Alaska Department of Fish and Game Subsistence Division are addressed in Technical Review Memos No.1 and No. 2 included in the report. Technical Review Memo No. 3 addresses an important non-NDM report concerning the economic valuation of the Bristol Bay salmon watersheds; it is important to this project in that it provides, among other valuation estimates for commercial fishing, recreational fishing, and environmental services, an estimate of monetary value for the subsistence products that Bristol Bay tribal members (and others) obtain from the watersheds.

### *Capacity-building and NEPA Training Materials*

Capacity-building and NEPA training required development of materials, coordination of efforts among a number of parties and outreach to tribal representatives for attendance. Two NEPA-Understanding Environmental Assessments for Rural Alaska Projects workshops were held in the region. Information from the technical reviews component was addressed as part of these workshops. Coordination with the Native American Fish and Wildlife staff led to a jointly conducted workshop and a Resource Handbook for Bristol Bay tribal members to utilize to pursue contacts in federal, state and other organizations about Pebble Mine development issues. The Resource Handbook is included in the report. Materials from the other workshops are also included.

Another important project product is an integrated database of the permits that NDM will be required to obtain for Pebble Mine. These must be applied for from various federal, state and borough governmental agencies and entities and require certain stipulations be met before they are awarded. In addition, contact personnel in the agencies for various permits are also identified and contact information provided. It should be noted that there may be additional permits that have not been identified as this is an extraordinarily complex matter. A number of supplementary materials related to NEPA procedures, tribal participation, and EPA positions are included in Appendix C.

### *Communications Development*

Several activities are included as part of the communications development component of the project and report. At the outset, surveys were conducted with Bristol Bay tribal members in various settings to determine what modes of communication would best serve their needs and what kinds of topics concerning Pebble Mine development they would like to receive information on. The survey instrument is found in Appendix A.

It was decided that the most current and useful way to communicate with Bristol Bay tribal members on the wide range of topics and issues associated with Pebble Mine would be through the development of a

webpage. Considerable effort was expended by Ms. Sharp and Ms. Carty in this direction – the webpage is up and running and will be maintained by BBNA’s Environmental Program (see [www.purebristolbay.com](http://www.purebristolbay.com)).

Finally, Ms. Sharp was directed to identify and obtain access to relevant technical writings about a wide range of environmental, health, social and economic issues related to Pebble Mine. Materials were obtained on the impacts of large mineral development in various other regions of the world as well as on specific topics. A database listing these articles is provided in this report and the articles have been transmitted to BBNA to include as links on the website.

### *Project Reporting*

Project activities were communicated on a regular basis to BBNA staff. Monthly reports were submitted on activities throughout the project. Four PowerPoint presentations were delivered by Dr. Langdon over the period of the project – two to the full board of the Bristol Bay Native Association and two to the Nushagak-Mulchatna Watershed Council. Periodic meetings between UAA/ISER staff and BBNA staff occurred as occasion and topic warranted. See Appendix B for copies of slide handouts from the PowerPoint presentations given by Langdon.

### *Key Considerations*

At the outset of the project, it was expected that NDM would be submitting baseline studies by mid-2006. However, in late 2005, NDM announced that exploration activities had revealed that ore materials were larger, deeper and richer than earlier studies had indicated. Consequently, baseline studies were pushed back initially to late 2006 and then further delayed until 2007. As of this writing, no baseline studies have been completed.

### *Prospective – Thoughts on Next Steps*

The report concludes with a discussion of possible next steps to be taken to continue the initiatives begun to insure that Bristol Bay tribes and tribal members are fully engaged with the Pebble Mine development process (refer to PR-1). It is imperative, in our view, for tribes to actively participate in identifying critical issues associated with environmental and subsistence protection and to take whatever steps are necessary to insure protection for these vital interests of Bristol Bay tribes and tribal members. Included are recommendations for specific additional studies to be conducted that are presently not part of NDM’s baseline studies program. Pebble Mine development, if it comes to pass, will be a long process so being aware of pending actions and being able to respond in a timely manner are of great importance for the future of tribes and tribal members. The acquisition of information crucial to the protection of the interests of tribes and tribal members should continue to be a key objective of BBNA in the future.

## **TECHNICAL REVIEWS**

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Technical Review Framework

Technical Review Memo No. 1

Technical Review Memo No. 2

Technical Review Memo No. 3

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## **Technical Review Framework**

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**Technical Review Framework for NDM Studies  
Subsistence, Cultural Resources, Socioeconomics, Recreation, Land Use**

**Pebble Mine Technical Assistance Project  
UAA-BBNA**

Dr. Steve J. Langdon, Professor, Chair  
Department of Anthropology  
University of Alaska

Dr. Steve Colt, Associate Professor of Economics and Environmental Studies  
Institute of Social and Economic Research  
University of Alaska Anchorage

January, 2006

The Bristol Bay Native Association has contracted with UAA/ISER to provide technical assistance concerning pending mineral development activities in the Bristol Bay region. One of the tasks being undertaken by UAA/ISER staff is technical review of the studies being conducted by contractors for Northern Dynasty Mining that are designated as baseline studies. The purpose of those studies is to provide an accurate and comprehensive characterization of recent and current conditions in the Bristol Bay region where mineral development is contemplated. The specific baseline studies which UAA/ISER has been asked to review concern subsistence, cultural resources, socioeconomic characteristics and land use.

This memo describes and identifies the framework which UAA/ISER will use in conducting the technical review of the baseline studies. It identifies:

- A) the perspective through which the reviews will be undertaken,
- B) the identification of the nature and aim of the baseline studies, and
- C) the questions by which the technical characteristics of the studies will be addressed.

**A. Perspective of Technical Review**

The technical review tasks are being conducted in order to assist the Bristol Bay Native Association, the Nushagak-Mulchatna Watershed Council and Bristol Bay tribes, councils and other local organizations. The perspective of the technical review is therefore taken from the vantage point of Bristol Bay communities and organizations. Such a vantage point gives priority to:

- values, interests, and perspectives of Bristol Bay Native groups as demonstrated and articulated in practices, statements, and policies;
- usefulness of studies for the protection and advancement of the values and interests of Bristol Bay Native groups;
- communicating findings from the reviews of baseline studies in a straightforward, comprehensible manner that assists Bristol Bay groups in pursuing their goals and objectives.

**B. Nature and Aim of the Baseline Studies**

- 1) Purposes of baseline studies – where do they come from and why are they being done?

a) Were they initiated by Northern Dynasty Mining as a component of an investigation about mine feasibility? If so, what models or previous examples of such studies by Northern Dynasty Mining were used?

### *Framework*

- b) Were they undertaken through specific agreements with state and federal permitting agencies? How were those agreements framed and established? What criteria for the adequacy of the studies were established by the governing agencies? What role, if any, did the agreements specify for the formal participation in studies by local organizations (tribes, borough or municipal governments, corporations) and persons?
- 2) Scope of work, peer review comments/how incorporated, role of local communities and organizations – how was it developed the scope of work and study design developed?
- a) What was the original scope of work that Northern Dynasty Mining developed? To study subsistence, cultural resources, socioeconomic factors? Who developed it or where did it come from? How many contractors applied and how was the group selected to conduct the studies?
  - b) What was called for in the study plans? Were they peer reviewed and if so by whom? Are those peer review comments available? In what manner were peer review comments treated in the study design? Were Bristol Bay organizations provided the opportunity to comment on the study design?
  - c) How were local organizations identified and informed about the study? Were local organizations offered the opportunity to conduct studies as subcontractors? What role were local organizations and persons expected to play in the studies? Were they asked to approve the study design? Were local governing institutions asked to formally agree to participate in the studies?

### **C. Technical Review Considerations: Internal and External Adequacy**

- 1) Internal questions concerning study adequacy –
- a) are the studies well designed to identify baseline conditions for critical concerns of Bristol Bay Native groups?
  - b) are obvious elements missing from the work being done or proposed? Does the overall study design incorporate locally-directed research? How do the studies incorporate traditional ecological knowledge from local populations?
  - c) are any issues inadequately addressed?
  - d) are elements, issues, variables and measurements well designed for assessing cumulative impacts?
- 2) External questions concerning study adequacy –
- a) are the studies appropriate and adequate for development of NEPA/EIS scenarios that will follow? Will information from the studies provide accurate depictions of likely impacts from different scenarios?
  - b) are the studies well designed to provide data for impacts, risk identification, mitigation, amelioration and risk management? If not, what is missing?
  - c) are the studies well designed to provide sufficient information for the state and federal permitting processes?
  - d) do the studies answer critical questions that would enable Bristol Bay Native groups to address their concerns?
  - e) do the studies provide sufficient information for responses and strategies concerning Pebble Mine development to be developed by Bristol Bay Native groups?
  - f) do study designs provide data on variables that are critical to the tracking of cumulative impacts of mine development activities?

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**Technical Review Memo No. 1**

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## Technical Review Memo No. 1

### Pebble Mine Technical Assistance Project UAA-BBNA

Review by:

Dr. Steve J. Langdon, Professor, Chair  
Department of Anthropology  
University of Alaska

Dr. Steve Colt, Associate Professor of Economics and Environmental Studies  
Institute of Social and Economic Research  
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March 10, 2006

(Revised September 10, 2006)

#### I. INTRODUCTION

As part of the agreement between UAA/ISER and BBNA, UAA/ISER personnel are providing technical review of various research studies (baseline studies) being conducted in association with the proposed Pebble Mine project. UAA/ISER faculty members Dr. Steve J. Langdon (Anthropology) and Dr. Steve Colt (Economics/ Environmental Studies) will be conducting the review of the following social topical areas identified in the "unmet needs" proposal: Subsistence, Cultural Resources, Socioeconomics, Recreation, and Land Use.

This is the first of an undetermined number of memos that will address these issues. This memo provides a technical review of documents and other information provided by Northern Dynasty Mines as of March, 2006. At the request of Dr. Steve J. Langdon for meetings with contractors to conduct the baseline studies in the areas designated, Northern Dynasty Mines arranged the following meetings to discuss the topics, methods and status of the studies:

- Subsistence* – Feb. 17: Stephen R. Braund (SRB&A) and James Fall (ADFG)  
attended by Dr. Steve J. Langdon
- Socioeconomics* – March 2: Kevin Waring and McDowell and Associates  
attended by Dr. Steve J. Langdon and Dr. Steve Colt
- Cultural Resources* – March 9: Stephen R. Braund (SRB&A)  
attended by Dr. Steve J. Langdon

In memo #1 (see TR1-1), background on the nature of baseline studies, the research plans and methodologies, and the conduct of the research to date will be characterized. Commentary from other reviews on the research plan and progress reports made by governmental agencies will also be included. There are no actual products (interim analyses, draft reports, data summaries) to review at this point limiting what technical review comments can be made.

#### **Technical Review Framework** (refer to page F-1 for the full framework)

The technical review framework which will guide the reviews operates on two different levels: first, to what extent do the research studies provide an accurate and complete characterization of the human social environment they address and two, to what extent are the research studies adequate for addressing the issues and concerns of critical importance to Bristol Bay Native organizations. The first perspective, termed

### *Technical Review*

internal, addresses the technical adequacy of the studies while the second, termed external, addresses the studies from the vantage point of Bristol Bay Natives and their organizations. The external vantage point gives priority to:

- a) values, interests, and perspectives of Bristol Bay Native groups as demonstrated and articulated in practices, statements, and policies;
- b) usefulness of studies for the protection and advancement of the values and interests of Bristol Bay Native groups.

Where the technical reviews reveal incomplete, inaccurate information, or are inadequate in other ways (research procedures, equal coverage across communities/regions, unresponsive to community concerns), those shortcomings will be noted and where appropriate recommendations concerning additional studies or research methods will be offered.

Another important aim of the technical reviews is to communicate findings about the characteristics of baseline studies in a straightforward, comprehensible manner that assists Bristol Bay Native groups in pursuing their goals and objectives.

### **Baseline Studies: What are they?**

Baseline studies is a term of art used in the governmental process of permitting activities with likely impacts on the environment (natural and human). Such studies are required of project developers (Northern Dynasty Mines) as part of the legal framework for determining if the activities should be authorized and permitted by the government. They are conducted during the "advanced exploration" phase of proposed project development in anticipation of the application for permits. In the case of the Pebble Mine project, the filing of applications for government permits to develop (which has not yet occurred) will trigger the process of project evaluation and determination established by the National Environmental Protection Act (NEPA). The baseline studies will enter the process of agency evaluation at that point for review of their adequacy for determining the possible impacts from the proposed developments. If the level of impact of the proposed activity is determined by the federal lead agency to be "significant", an Environmental Impact Statement (EIS) process is begun.

### **Pebble Mine Baseline Studies: Where did they come from?**

After determining that the quantity and quality of the minerals in the Pebble deposit were sufficient for development in 2004, Northern Dynasty Mines initiated the baseline study process. Request for proposals were developed and bids solicited. Proposals for the work were submitted and some kind of review process was conducted. Following contractor selection, a scope of work and research plan for conducting the research was constructed. The research plan was submitted for review to federal agencies including the National Park Service, the US Fish and Wildlife Service and the Environmental Protection Agency. It is not clear if the proposed research plans were offered for review to Bristol Bay Native organizations or if State agencies (DNR, ADFG, and DEC) were provided with an opportunity to review the research plans.

Northern Dynasty Mines began baseline studies in 2004. For the subsistence and cultural resources studies, Stephen R. Braund and Associates was hired as the primary contractor and he subsequently subcontracted with the Alaska Department of Fish and Game to conduct a portion of the subsistence research (see discussion below). Mr. Braund stated that field research was initiated very rapidly in the summer of 2004 after being selected as the contractor. For the socioeconomics, recreation and land use topics, Kevin Waring and Associates was hired as the primary contractor. Subsequently McDowell and Associates were hired to conduct the socioeconomics research and Kevin Waring focused his efforts on the recreation and land use studies.

### **Qualifications of Research Contractors**

Stephen R. Braund and Associates is an experienced and capable social science research firm that has conducted studies on a wide range of subsistence issues and activities throughout northern and western Alaska. The firm has been in business for approximately 30 years. The owner/research director is well-

### *Technical Review*

qualified to conduct the research. The firm is highly skilled at map development through GIS techniques, familiar with cultural and social issues associated with subsistence, well-versed in Native values and the importance of subsistence and has a track record of working well with and for Alaska Native communities. The firm is less experienced in the conduct of traditional ecological knowledge studies and rarely conducts research in Native languages.

The Subsistence Division of the Alaska Department of Fish and Game was established in 1978 following the passage of the state's subsistence priority legislation. Over the past 25 plus years has conducted a variety of studies on subsistence and subsistence-related issues in the Bristol Bay region. They have developed and standardized research approaches and protocols for identifying and characterizing subsistence activities in Alaskan communities. Their survey instruments cover the spectrum of natural resources utilized and examine patterns of production, distribution and exchange of resources. These data are collected through lengthy household surveys in communities. In smaller communities, they attempt to obtain full community coverage while in larger communities they utilize sampling strategies to identify different sub-populations within a community. They also conduct mapping studies of resource use patterns of communities.

Kevin Waring and Associates is an experienced and capable socioeconomic research firm that has conducted studies on primarily economic characteristics in various parts of Alaska for various purposes for over 20 years. The firm has conducted numerous baseline economic studies for the Minerals Management Service and other governmental agencies. They specialize in data analysis of already collected and/or collected and reported information by state and federal agencies. It is not clear that they have conducted research on the valuation of recreational activities, a complex and difficult research area, covered in their scope of work.

McDowell and Associates is an experienced socioeconomic research firm that has conducted numerous studies on baseline economic characteristics for various government agencies around the State. It is unknown if they have previously worked in the Bristol Bay region prior to undertaking this research.

## **II. SUBSISTENCE STUDIES**

### **What are the objectives of the subsistence research?**

The scope of work for SRB&A establishes six objectives. Of the six objectives, two deal specifically with studies – objective 1 is to “characterize the existing subsistence activities in the project area and contributing areas” and objective 6 is to “perform the appropriate ...studies/analyses necessary to expeditiously achieve all state and federal permitting requirements.”

The other four objectives go beyond strict baseline conditions characterization. They include identifying environmental effects on subsistence of the project, identifying alterNative design or impact-mitigation measures, recommending ongoing monitoring studies to comply with state and federal permitting requirements.

### **Documents Associated with baseline studies**

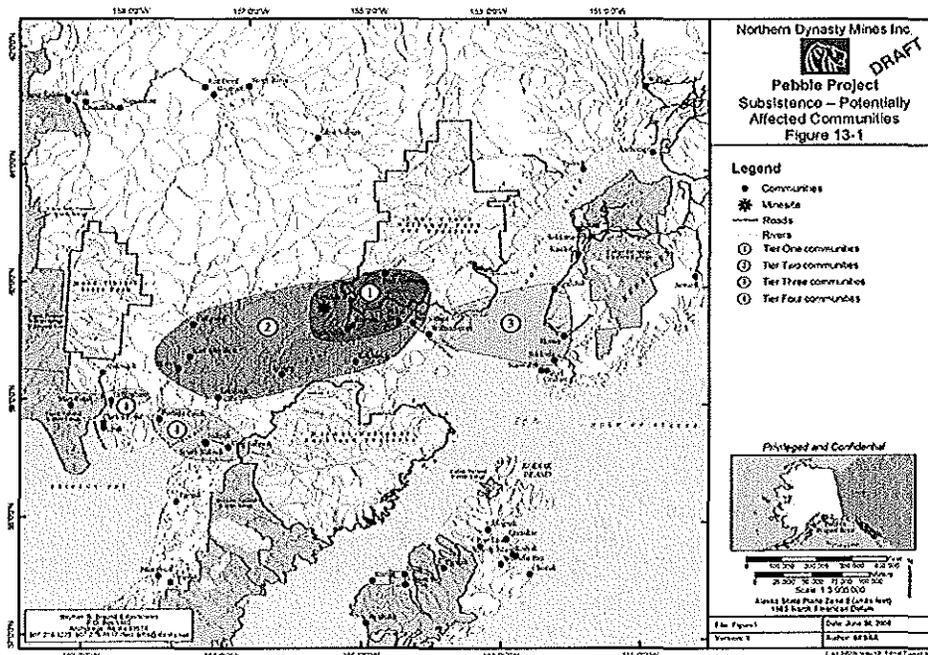
During the course of the development of the baseline studies, NDM has developed and received a number of documents related to the baseline research project. Due diligence in the development of these technical reviews would be best be accomplished by review of all these documents. Requests to NDM for these documents have met with little success to date. A category of background documents that were requested were deemed “proprietary” at the Feb. 17 meeting by NDM COO Bruce Jenkins and were not provided. PowerPoint presentations that were delivered by the contractors to meetings of agency representatives in November 2005 and February 2006 were requested. These have not been provided by NDM due to their status as “draft materials”. Below is list the documents related to these baseline studies, whether they were available for review and how they are defined by NDM or other organizations.

**Technical Review**

<u>Type of Document</u>	<u>Availability for Review</u>	<u>Status by Organization</u>
Request for proposal	No	“Proprietary”/NDM
List of firms responding to RFP	No	“Proprietary”/NDM
Proposal of SRB&A	No	“Proprietary”/NDM
Scope of Work and Research Plan	Unclear	Portions in progress report and research plan
Research Methodology for Mapping	No	Not in progress report
Household survey protocol	Yes	Provided by ADFG
Key respondent interview protocol	Yes	Provided by ADFG
Progress reports – 2004 (all topical areas)	Yes	Provided by NDM
PowerPoint presentations	No	“Draft materials”/NDM
Research plans for 2005 (all topical areas)	Yes	Provided by NDM
Socioeconomic draft report	No	“Draft materials”/NDM

**Subsistence Studies**

The subsistence scope of work calls for the conduct of household surveys, key respondent interviews, and subsistence practices mapping interviews in four phases covering the Bristol Bay communities identified in the figure below. The enumeration 1-4 in the figure indicates the sequence of the expected research activities.



The overall title of the report will be “Contemporary Patterns of Subsistence Use ...” (not complete title). The report will first of all characterize subsistence patterns during the time immediately prior to the research (2004 and 2005). The final report will include discussion of: subsistence use areas, resource abundance and distribution, and issues and concerns commented on by interviewees. The resources identified for discussion

### *Technical Review*

are divided into 1) those that would be directly affected by Pebble project activities (port, road, power, mine development) and 2) those that pass through the affected areas.

Mr. Braund then reported on two distinct research projects under his direction that comprised the research that would provide the data for the baseline report. The first of these that was reported on was research being conducted by ADFG Subsistence Division under the leadership of Jim Fall (Fall and assistant Davin Holen were present at the meeting).

ADFG Study: This study of subsistence is based on the 2004 year for the communities of Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth. The study was funded by the National Park Service (Lake Clark National Park and Preserve) with additional funds provided by Stephen R. Braund as a contractor to Northern Dynasty Mines. NPS paid for the work in Nondalton and Port Alsworth, Braund in the other three plus all the map production. The title of the report will be:

"Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay, and Port Alsworth, Alaska, 2004." Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 302. Authors: Jim Fall, Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster.

The research aim and design was presented to the communities in November, 2004 and agreements were made with all communities (tribal councils or village councils?) except Port Alsworth which is an unorganized community with no governance entity. The research was discussed at a community meeting and agreed to by those in attendance. Interviews were conducted in February, 2005. An effort was made to obtain local assistants for the research in the communities which were successful in certain places and not in others.

Subsequent to the meeting, Mr. Fall provided copies of the two interview protocols that were being used. Two basic types of data collection instruments were utilized, a household survey instrument and a key respondent interview instrument. The household interview included questions about each person (demographic information), about their subsistence production, distribution, sharing and consumption. It is also requests detailed information on the economic performance of each household member over 16 including source of income, amount of income, period of employment, hourly rate and other information. Also economic information on other sources of income such as pensions, welfare, permanent fund, and dividends is requested.

The key respondent interview was collected from active subsistence producers, hunters primarily and consists of basic demographic plus 14 open-ended questions. The primary purpose of the key respondent interviews was to obtain information on changes in subsistence activities over time and reasons and perceptions of why those changes took place. Some of the questions dealt with specific hunting and fishing areas which were mapped as were camp site locations. Others dealt with changes in the interviewees' subsistence activities through time, perceptions of changes in the abundance and location of resources, adjustments to conditions of reduced availability of resources, locations of previous and presently used campsites, harvest locations, perceptions of number of people pursuing resources now compared to the past, and the influence of subsistence regulations.

Specific harvest locations were mapped but will not be reported individually.

Mr. Fall indicated that a similar study was presently concluding its data collection phase for the Nushagak-Mulchatna villages.

SRB&A Study: Braund and Associates is presently conducting a parallel subsistence studies in for the Lake Iliamna-Lake Clark villages and the Nushagak-Mulchatna villages. Prior to the research, Braund visited the communities to describe the research and obtain community consent. Braund sought a liaison in each

### *Technical Review*

community to assist in the interview process. In some places liaisons were used but in others the liaisons were not interested in being a part of the four-hour interview process.

Mr. Braund's research focus is on the subsistence producers/harvesters and their locations of production. He has a long inventory of resources that data is collected on during an interview. On average, an interview takes four hours to conduct.

Mr. Braund showed pictures of the maps and plastic mylars that were being used to map subsistence use areas for different resources, of the interview process and examples of the types of GIS maps being produced for analysis from the interviews. None of the slides of the maps were provided as prints from the PowerPoint slides or electronically – Mr. Braund indicated that they were in draft form.

Identification of Interviewees: Mr. Braund utilized a primary contacts methodology for obtaining his interviewees. He did not seek council identification because it was possible that councils, if they have taken a position on the proposed Pebble project, might be biased in whom they identify to be interviewed. In conjunction with primary contacts, Mr. Braund then supplemented the list by a social network methodology meaning that upon completion of an interview he would ask the respondent who he recommends as additional subsistence producers to be interviewed. Mr. Braund would then contact those additional parties and solicit an interview. No enumeration or listing of names of interviewees from communities was provided.

Changes to Research Design: Mr. Braund indicated that during interviews in the Nushagak communities, interviewees indicated their feeling that it was important to document their travel routes. This item was added to the data collection and special maps are being prepared based on the travel route information.

One of Mr. Braund's field researchers is an ethnobotanist. While conducting the mapping of plant resources, and specifically berries with Nushagak community respondents, the researcher determined that there was a great deal of importance placed on the berries and that there were a large and diverse number of them being reported. She indicated to Mr. Braund the importance of collecting information on each species of berry and location was warranted due to diversity and significance of them to local residents. Mr. Braund adjusted the research design so that individual berry species distribution and use patterns would be mapped. Approximately 16 different berry species are now being mapped.

No copies of the research instrument for mapping or key respondents were provided.

Traditional Ecological Knowledge: Mr. Braund stated that this topic was given minimal attention. Given the time constraints for the interviews, he determined to focus on health and abundance aspects of key "resources". It was not explicitly stated which resources were identified.

The topical areas which were the focus of the "TEK" portion of the interviewing process were: abundance, distribution, migration, quality. No further identification of the questions actually asked in regard to these topics was provided.

Current Status of Subsistence Research: As of March 2006, Northern Dynasty Mines contractors and subcontractors are at various stages in the conduct of the social baseline studies covered by this review.

For the subsistence research:

- 1) The ADFG subsistence survey of the five Lake communities is in the draft final report stage (see title above and see below for projected delivery date).
- 2) The SRB&A household survey and subsistence practices mapping project of seven communities (Nushagak/Mulchatna and Kvichak Rivers) is presently in the data collection stage.
- 3) The SRB&A subsistence practices mapping project for 12 communities is in the data analysis stage for the five Lake communities and the data collection stage for the seven Nushagak/Mulchatna and Kvichak River communities (see below concerning delivery date).

### *Technical Review*

- 4) The SRB&A scope of work calls for subsistence household survey, key respondent interviews and subsistence practices mapping surveys to be conducted in Dillingham and the Nushagak Bay communities (Ekuk, Clark's Point, Nushagak, Aleknagik and possibly Manokotak) – no schedule has been developed for the conduct of the subsistence research in these communities.
- 5) The SRB&A scope of work calls for subsistence household survey, key respondent interviews and subsistence practices mapping surveys to be conducted in the Bristol Bay borough communities (King Salmon, Naknek, South Naknek) – no schedule has been developed for the conduct of the subsistence research in these communities.
- 6) The inclusion of Lime Village in the subsistence baseline study has been suggested by agency personnel but no decision on whether the community will be added has been made.

ADFG Technical Report Peer Review Process: In response to a query about the review process (peer and community) used by the Subsistence Division for their Technical Reports, Jim Fall replied as follows:

“We don't have a formal or standard peer review for our technical papers. If the work was funded by another agency (e.g. MMS, NPS or USFWS Fisheries Information Service), drafts are sent to them for review and in some cases, I think, these agencies send copies to outside reviewers as well as their own staff. All drafts of our TPs also go to each study community (and partner organization, e.g. BBNA, CRNA, etc) for review and comment (in addition to the community review meetings we usually have). Also, our research director, Jesse Dizard, is a reviewer of final drafts of our TPs.”

This reply indicates that the Bristol Bay Native communities and organizations will have an opportunity to review the draft report before it is finalized. It also implies, but does not state that since SRB&A and therefore NDM also have an opportunity to review and comment on the draft final report.

Subsistence Baseline Studies: Projected Dates of Completion: The ADFG Subsistence study of the five communities in the Lake Clark/Lake Iliamna region is expected approximately mid-April. Jim Fall stated that Technical Report covering the household survey conducted in the five Lake communities would be available two months from the Feb. 17 meeting date. The report will not include the subsistence activities mapping survey information as those data were independently collected by SRB&A and are presently still being analyzed.

Mr. Braund indicated in the Feb. 17 meeting that a progress report on the research including mapping analyses accomplished to that time will be submitted in November as stipulated by NDM. He commented that the GIS mapping analyses are extremely time consuming. It is not clear if a separate report for the seven Nushagak/Mulchatna villages, paralleling the ADFG report on the Lake Iliamna/Lake Clark communities would be prepared; my inference is that there will not be such a stand alone parallel report based only on the household and key respondent interviews from the Nushagak/Mulchatna River communities.

### Integration of BBNA directed and other research with NDM baseline studies:

In explaining the research design, Mr. Braund indicated that he was aware of the BBNA-directed study in the Nushagak-Mulchatna River area to prepare a Traditional Use Area Conservation Plan. It was my inference that he intended, if the data and information were available in a timely manner, to incorporate that information into the subsistence baseline report. He also indicated that he was aware of the Place Names project as well but gave no indication of whether or how information from that study might be incorporated into the subsistence baseline report.

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### **Agency Review Comments on Subsistence in the 2004 Progress Report and 2005 Research Plans**

A number of agency comments on the subsistence 2004 progress report and 2005 research plans have been obtained. The comments vary greatly in the topics they address and detail into which they go. Key issues raised are summarized below.

Timeframe: the approach of the baseline studies is that of a “snapshot” of current conditions. Missing is identification of trends through time and discussion of factors that have given rise to the present conditions. Longitudinal data on resource use at the household, community and subregional level are extremely important to develop due to radical changes in resource abundances and locations over the years. Without a baseline that includes trends and analysis of factors responsible for present conditions, identification of impacts in the EIS process and the tracking of cumulative impacts if the project is developed will be difficult if not impossible.

Special conditions: Special environmental conditions associated with climate change, volcanic activity, tectonic activity and other unique or rare environmental events are not explicitly addressed or accessed in the subsistence interview process. Key respondent interviewing of elders would be the primary means for acquiring these data.

Topical coverage: The research approach of ADFG Subsistence Division studies is standardized quantitative information. Cultural topics such as ceremonial practices, special foods, cultural heritage, linkage to cultural landscapes and cultural concepts are minimally developed and are often absent or not given sufficient importance due to the emphasis placed on the quantification of resource uses. The oral traditions associated with ancestral uses and practices and spirituality linked to the landscape as well as personal oral histories and accounts of living in the landscape are foundational elements to the cultural significance and importance of subsistence activities. Collection of this information is not contemplated in the research protocols and it is unclear whether or not these extremely important topics will be covered in the baseline study.

Landscape perception: The values and significance of present landscape perceptions to local populations are not identified nor addressed in the baseline research. Possible changes due to air quality, increased air traffic, on-ground traffic, increased access and use of the area as well as other possible impacts can not be identified as declines in quality of life and values if baseline studies do not include data on them.

Population coverage: Some of the communities have a significant number of bi-local residents who live in the communities in the summer/fall but reside elsewhere during the winter. These people are likely not to be included in subsistence baseline characterizations. It was suggested that village tribal councils be requested to identify these persons and that data be collected from them.

Missing resources: The genetically distinct freshwater seals of Lake Iliamna are not included in the household survey. Nor are the beluga whales that enter the Nushagak and Kvichak Rivers. It was recommended that the Bristol Bay members of the Marine Mammal Commission be interviewed about these populations.

Traditional ecological knowledge: It was noted that the “traditional ecological knowledge” component of the research was limited. Additional areas identified as needing research relate to feeding areas, calving areas, influence of wind patterns on species movements and other related issues.

Data Structure: In order to make it possible to conduct analyses of impacts on subsistence during the EIS phase, it was suggested that ADFG household survey information be structured and made available to future researchers in a manner that will allow tracking both individual and household levels of impact.

Domino impacts: Given the possible dislocation of major subsistence resources from the Pebble Mine development area, subsistence users from Nondalton, Newhalen, Iliamna and perhaps other communities

### *Technical Review*

may shift their efforts to other areas. If effort shifted to the north, it might impact Lime Village subsistence and therefore it was suggested that Lime Village be incorporated into the baseline subsistence research.

## **III. CULTURAL RESOURCES**

The baseline study of Cultural Resources for the proposed Pebble Mine project is also being conducted by SRB&A. Significantly more information has been reported from SRB&A and NDM on the cultural resources baseline research than on the others covered by this technical review.

### **What are Cultural Resources?**

As defined by NEPA, cultural resources consist of the prehistoric and historic remains of human activities. In addition to these physical/material remains, SRB&A have also identified Traditional Cultural Properties (TCPs) and American Indian Religious Freedom Act (AIRFAs) sites associated with spirituality as part of the package of cultural resources to be identified as part of the baseline characterization.

### **Cultural Resource Studies**

The 2004 progress report on the cultural resources baseline study provides an overview of the research plan, the research conducted in 2004 and the findings from that research.

A literature review, summarized in the progress report, of archeological research conducted in the region and an inventory of the sites reported in Alaska Historic Resources Archive was conducted to determine the number and location of prehistoric and historic sites in the area. This information was joined with an investigation of the glacial history of the region, the geological formations and the patterns of early human use of terrain at similar time periods elsewhere in Alaska. From this material, a research plan was developed that consisted of field surveys' consisting of patterned transects of different distances and intensities looking for surface evidence of past human activity. Certain areas were identified for greater attention such as ridges with exceptional view scapes where early human hunters might have traveled, areas in proximity to freshwater sources, rock faces where caves might be located and distinctive rock formations which might have attracted special attention.

Field Research: Field research in the vicinity of the proposed Pebble Mine development was conducted primarily in 2004 while field research in the proposed port area on the Alaska Peninsula side of Cook Inlet was conducted in 2005. Test pits were excavated in both areas of a meter square – a total of 58 such excavations in all.

In addition to this research designed to provide a baseline characterization of the prehistoric and historic cultural resources of the area, archeological researchers are called in to “clear” an area (make a determination that there are no cultural resources at a location) prior to drilling or other surface altering activities are undertaken. These are often small areas.

Research Findings: The foot survey transects, sampled test pits and site clearance testing in the area of the proposed mine did not reveal any new archeological sites. Only one artifact, a stone point, was obtained from the area. In the port area, two sites were located – one in a cave and another at a test pit on a ridge overlooking the ocean. Organic materials were obtained from both sites and dates obtained.

There were several finds of historic campsites and hearths in the area.

Future Research: Part of the Pebble Mine development project includes a road from the Cook Inlet port region to the mine site. No research has been conducted along this route as it has not yet been determined where the “center line” will be located. When that determination is made, then a research plan and field research of the area will be conducted.

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#### **Agency Comments on the Cultural Resources Progress Report**

Several issues were raised in the agency review comments on the cultural resources baseline progress report.

Failure to identify sites: It was commented that Nondalton residents report substantial use of the area studied in the historic period including a trapline by one of the leading elders of the village. The failure to identify archeological sites in the area was deemed problematic warranting greater discussion.

Non-tangible cultural resources: It was noted that there are numerous Nondalton place names in the area and that cultural aspects of spirituality and landscape relations were not attended to in characterizing the cultural resources of the area.

## **IV. SOCIOECONOMICS**

McDowell and Associates have been contracted to conduct the socioeconomics portion of the research. This includes characterization of the population of the region and its communities, employment patterns, income characteristics and other social identifying information. In addition, characterizations of the operation of the primary income producing activities in the region – namely government, fishing and tourism will be included in the report.

### **Socioeconomic research**

Data has been compiled from a variety of US Census and State data sets. The researchers have decided to utilize data from the 1999-2003 time frame to provide a baseline characterization of the region (see Dr. Colt's commentary below).

### **Data Collection**

In addition to the assimilation and presentation of various data sets, McDowell and Associates has divided the proposed Pebble Mine development region into two tiers for direct data collection. Five villages, termed the "Lakes communities" were separated and termed Tier I communities while another 10-12 including Nushagak/Mulchatna and Bristol Bay Borough communities were termed Tier II communities.

In the five "Lakes communities", a door to door household survey of recent and current employment and income characteristics was conducted. In association with the solicitation of economic and demographic data, a work force study designed to indicate skill levels and potential interest of residents in training and employment with some aspect of the proposed Pebble Mine project was collected.

Jim Calvin of McDowell and Associates noted that the community of Newhalen chose not to participate in the household socioeconomic survey.

In the 10-12 Tier II communities, telephone interviews were conducted with local residents on the same topics. McDowell and Associates presented no information in the PowerPoint presentation on the number of telephone interviews and refusals by community.

### **Draft Report**

A 100-page draft report on socioeconomics has been finished but was not offered to us for review. Due to the extension of the advanced exploration stage for determining the location, extent and quality of the mineral resources in the Pebble Mine area into 2006, additional research updating the draft report will be conducted during 2005.

### **Report Availability**

Kevin Waring indicated that the entire Socioeconomics report will be available by the end of the summer; it was inferred that the McDowell and Associates materials would be a part of that report.

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### **V. RECREATION**

Kevin Waring is responsible for the preparation of the Recreation baseline study. The following is based on his PowerPoint presentation given on March 9. This area will require additional scrutiny in later memos.

Information is being compiled from ADFG harvest ticket data, sports fish data, lodge owners (through telephone discussions), airlines, and community sources. Mr. Waring reported that at least some lodge owners had refused to discuss their economic data and/or other aspects of their businesses with him. This leaves a substantial hole in the effort to characterize this sector.

In addition, Mr. Waring indicated that he had obtained access to considerable unpublished data compiled by the ADFG sports hunting division on the actual locations of caribou and moose harvests. It is his intention to map those data and providing the opportunity for comparison of the mapped sports data with the subsistence mapping locations.

While on the surface this appears to be possible, it would appear that such overlapping maps may not be based on the same data unless the actual harvest site locations obtained in the ADFG subsistence surveys are used for map construction. Nevertheless, these could prove extremely helpful for considering present baseline for future impacts of increased access to the region.

One of the responsibilities in preparing the Recreation baseline study is the valuation of this sector of the economy. Mr. Waring indicated that he would be using a relatively straightforward additive methodology adjusted for missing data. He indicated a familiarity with other techniques of recreational valuation that expand the total valuation of the recreational sector but implied that he would not be using them. This is highly complex and controversial area for which a detailed discussion of available methodologies and the valuations produced by alternate methodologies should be produced in the baseline studies phase.

See Dr. Colt's memo below for further comment on the critical issue of recreational valuation.

### **VI. LAND USE**

Kevin Waring is conducting the Land Use part of the baseline study. The following characterization is based on a PowerPoint presentation given on March 2. This study consists of the compilation of land statuses within a study region comprising a "box" that extends westward to slightly beyond the Nushagak River, south to the Bristol Bay borough, and north to northern edge of the Lake Clark National Park.

#### **Land Use Research**

Within this region, Waring is developing land ownership maps. He noted that for BLM lands in the western part of the region there is currently no land use plan in place but that a process is underway to develop it. He indicated a familiarity with the Nushagak-Mulchatna Watershed Plan.

In terms of actual land use, Mr. Waring indicated little in the way of data to address this separately from the recreational data materials he is compiling (See Dr. Colt's comment on this matter).

Mr. Waring indicated that he would be including allotment and other private Native land holdings in his maps. This information is public and should be included in any baseline characterization of land use.

Land uses are subject to a variety of legal and regulatory principles that limit the kinds of uses that can be made. It was unclear if this information about different land uses would be systematically compiled and

### *Technical Review*

compared from existing land use plans, State laws and Native corporation policies. It is imperative that these be included in the baseline Land Use study to consider how activities presently being conducted.

Mr. Waring did not indicate that he would be providing any information on property values of lands away from the communities as part of the land use study.

### **Community Infrastructure Research**

An additional component of the Land Use baseline research that was not touched on is the community infrastructure. This is presumably an inventory of the infrastructure found in the various communities found in the box. Such an inventory should include the present number, characteristics and valuation of the housing stock in the communities. It should also include information on property values of lands not presently in use, the amount of available lands and recent land sale or utilization practices that have occurred as part of the advanced exploration stage of Pebble Mine development.

## **VII. DR. STEVE COLT COMMENTARY ON SOCIOECONOMICS BASELINE RESEARCH**

9 March 2006

To: Dr. Steve Langdon and BBNA/NMWC

Fr: Steve Colt

Subject: Reactions to "Socioeconomic Baseline" Presentations

Below are my reactions to the presentations by Kevin Waring (Kevin Waring and Associates), Jim Calvin (McDowell Group), and Donna Logan (McDowell Group). These presentations were given at Northern Dynasty Offices on 2 March 2006.

At the outset, it is important to keep in mind that all I saw was a PowerPoint slide show. No documents were made available. Thus, I cannot provide any sort of "technical review" of the work to date. I can only provide these reactions to a slide show.

### **General Reactions**

I have three general reactions. First, I feel that the studies, as presented in the slide show, are using sound methods and reasonably available data. Of course, this determination depends partly on the scope of work and the resources being allocated to it. As far as I know, we have not been able to obtain this information.

Second, I was concerned to hear Mr. Mike Smith (NDM director of NEPA and Permit Processes) state that the purpose of the studies was to comply with NEPA and permitting requirements and not to meet some (implicitly higher) standard of peer-reviewed social science. My concern was amplified when I read comments by Alaska Miners Association executive director Steve Borell in the 4 March edition of the *Anchorage Daily News*:

The company has hired first-rate consultants to do exhaustive studies of the area's resources and environment, he [Borell] said.

"They have done the most thorough, the most detailed job of environmental baseline studies that I have seen anywhere and they're not even finished yet," Borell said.

The juxtaposition of these two comments raises some doubts about what, in fact, are the purposes of the baseline studies and how, if at all, professional peer review is being used to improve the quality of the information.

### *Technical Review*

Third, and related to the above, I am concerned about the way that draft work is being held within the study team for long periods of time. Specifically, the economics baseline study appears to be complete in draft but is not scheduled to be released until summer. It is also not clear to whom this draft will be released. Given this scheduling, a potentially valuable opportunity for constructive feedback may be lost.

#### **Specific Reactions to the Economics Baseline Study**

The economics baseline study appears to be proceeding in a sound fashion. I am particularly reassured that the baseline is being measured as a five-year trend wherever possible. The presenters seemed to be aware of some of the common pitfalls that one encounters when trying to measure and characterize remote, small, Alaska communities. For example, the researchers are to be commended for seeking employment data at the community level from ADOLWD. When asked, they stated that they understood the limitations of these data that arise because employment is allocated to the zip code of the employer, not the employee. School teachers, for example, often do not show up on these "local employment" tabulations because the teachers work for a regional school district based somewhere else.

It remains to be seen, however, whether and how these caveats will be incorporated into the study documents. When considering remote Alaska communities, the devil truly is in the details. Because of this general challenge, it would be better for the final product if draft work products were circulated sooner rather than later, as I stated above.

#### **Specific Reactions to the Recreation Baseline Study**

I am not sure if our technical review responsibilities extend to the recreation baseline study. Measuring and describing recreation is even harder than measuring the overall economy. That's because 1) recreation is a mixture of commercial and noncommercial activities; and 2) the commercial activities are a mixture of products and services from several other industries, such as air transportation, fuel, lodging, food, etc. As with the economic study, the presenters indicated a good grasp of the available data and they have shown admirable diligence in obtaining data. My concern is the same; that the limitations of the data be properly understood, properly communicated, and properly addressed. As with the economics, this process would be more effective with earlier and wider review of draft work products.

#### **Specific Reactions to the Land Use Baseline Study**

This study is outside my core expertise. However, I was concerned that the focus seems to be on *de jure* legal ownership and/or planned uses rather than on actual *de facto* use and occupancy of the land. I am not at all sure how to rectify this problem if it is a real problem, but I do have some concern that this part of the study might end up as little more than a grandly integrated map of jurisdictions and ownership data rather than a synoptic picture of how the land is actually being used by people.

## **VIII. ISSUES CONCERNING PEBBLE MINE SOCIAL BASELINE STUDIES**

This section will bring forward in summary form issues identified concerning the Pebble Mine baseline studies based upon the information available to the reviewers as of March 2006. In the materials below, issues identified previously are brought forward. **New issues not previously discussed are placed in bold to distinguish them from issues previously raised.**

### **Subsistence Issues**

**Timeframe:** The approach of the baseline studies is that of a "snapshot" of current conditions. Missing is identification of trends through time and discussion of factors that have given rise to the present conditions. Longitudinal data on resource use at the household, community and subregional level are extremely important to develop due to radical changes in resource abundances and locations over the years. Without a baseline that includes trends and analysis of factors responsible for present conditions, identification of impacts in the EIS process and the tracking of cumulative impacts if the project is developed will be difficult

### *Technical Review*

if not impossible. Tracking of the key resources (salmon, caribou, moose) over a thirty year period through biological, commercial fishing, subsistence and long-term resident observational data is needed to provide an understanding of the fluctuations in resource levels and the potential productivity from these different resources.

Special conditions: Special environmental conditions associated with climate change, volcanic activity, tectonic activity and other unique or rare environmental events are not explicitly addressed or accessed in the subsistence interview process. Key respondent interviewing of elders would be the primary means for acquiring these data.

Topical coverage: The research approach of ADFG Subsistence Division studies places emphasis on standardized quantitative information. Cultural topics such as ceremonial practices, special foods, cultural heritage, linkage to cultural landscapes and cultural concepts are minimally developed and are often absent or not given sufficient importance due to the emphasis placed on the quantification of resource uses. The oral traditions associated with ancestral uses and practices and spirituality linked to the landscape as well as personal oral histories and accounts of living in the landscape are foundational elements to the cultural significance and importance of subsistence activities. Collection of this information is not contemplated in the research protocols and it is unclear whether or not these extremely important topics will be covered in the baseline study.

Landscape perception: The values and significance of present landscape perceptions to local populations are not identified nor addressed in the baseline research. Possible changes due to air quality, increased air traffic, on-ground traffic, increased access and use of the area as well as other possible impacts can not be identified as declines in quality of life and values if baseline studies do not include data on them.

Population coverage: Some of the communities have a significant number of bi-local residents who live in the communities in the summer/fall but reside elsewhere during the winter. These people are likely not to be included in subsistence baseline characterizations. It was suggested that village tribal councils be requested to identify these persons and that data be collected from them.

Missing resources: The genetically distinct freshwater seals of Lake Iliamna are not included in the household survey. Nor are the beluga whales that enter the Nushagak and Kvichak Rivers. It was recommended that the Bristol Bay members of the Marine Mammal Commission be interviewed about these populations, their status and use.

Traditional ecological knowledge: It was noted that the "traditional ecological knowledge" component of the research was limited. Additional areas identified as needing research relate to feeding areas, calving areas, influence of wind patterns on species movements and other related issues. **The traditional ecological knowledge component does not tap the Native languages for concepts, observations and relational inferences that arise out the linguistic/cultural context of indigenous speakers and their utilization of lands and resources. Potentially important information is being overlooked by this failure. Important in this regard as well are the Yup'ik and Dena'ina place names found in the areas. These too require detailed attention.**

Data Structure: In order to make it possible to conduct analyses of impacts on subsistence during the EIS phase, it was suggested that ADFG household survey information be structured and made available to future researchers in a manner that will allow tracking both individual and household levels of impact.

Domino impacts: Given the possible dislocation of major subsistence resources from the Pebble Mine development area, subsistence users from Nondalton, Newhalen, Iliamna and perhaps other communities may shift their efforts to other areas. If effort shifted to the north, it might impact Lime Village subsistence and therefore it was suggested that Lime Village be incorporated into the baseline subsistence research.

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Additional domino impacts: The previous topic suggests displacement of subsistence effort to the north from Pebble Mine activities and inclusion of Lime Village. It should also be noted that another domino impact could be displacement of subsistence effort to the west and call for inclusion of Togiak and Twin Hills in the subsistence baseline research. In addition, subsistence effort could be displaced to the south so that communities such as Egegik, Pilot Point and Ugashik that depend on the Peninsula caribou herd might also be effected and would call for the inclusion of these communities in the subsistence baseline research.

Cumulative impacts: Consideration of additional possible hard rock mineral development in the upper Nushagak-Mulchatna area should be identified in the baseline discussion and in particular, a focus on subsistence harvest in the areas possibly impacted by development of Liberty and other mineral finds should be explicitly inquired about in the mapping interviews.

Trapping: It was unclear if information on trapping activities -- traplines, harvests and use patterns from the past would be obtained. This information is potentially of great interest because trappers on the land in the winter provide a significantly different set of observations not only about fur bearers (abundance, distribution, health) but also about climate and the appearance, distribution and abundance of other animals. Winter habitat observations are perhaps obtainable only from elder trappers in the communities.

### **Cultural Resource Issues**

Failure to identify sites: It was commented in the agency reviews that Nondalton residents report substantial use of the area studied in the historic period including a trapline by one of the leading elders of the village. The failure to identify archeological sites in the area was deemed problematic warranting greater discussion.

Non-tangible cultural resources: It was noted that there are numerous Nondalton place names in the area and that cultural aspects of spirituality and landscape relations were not attended to in characterizing the cultural resources of the area.

Missing information/perspective: Missing from the literature review on Cultural Resources was the extensive literature on the Dena'ina language conducted by James Kari. His research indicates that Nondalton and nearby areas to the north are likely the ancient homeland of Dena'ina from which they spread eastward into the Cook Inlet drainage. In addition, Kari and Fall discuss in *Shem Pete's Alaska* in several locations, the cultural reverence with which Dena'ina hold lands at elevation such as the Pebble Mine vicinity. They point out that Shem Pete used a special language and songs at altitude and would only dance and sing certain songs at high altitude. This is an important dimension of Dena'ina heritage that does not appear in the Cultural Resources baseline.

### **Socioeconomic Issues**

Employment data: Census data is typically collected in the month of April and this may systematically skew reporting of employment, especially as it pertains to persons who are bi-local and those whose main employment is derived from the commercial salmon fishery.

Non-local dependent populations: No information in the socioeconomic discussion was provided on how the extremely large non-local and non-Alaskan salmon commercial fishing sector of population will be incorporated into the characterization of the baseline. The characteristics and dependencies of these fishermen, cannery workers and other support workers needs to be included in the baseline due to possible impacts on their employment and income that must be considered.

Other Bristol Bay and Alaskan Populations dependent on Bristol Bay salmon fisheries: No economic data on the dependence of other Bristol Bay resident and Alaskan resident participants in the Bristol Bay commercial salmon fishery.

Informal economy: The role of subsistence distribution and sharing of equipment and facilities in support of subsistence activities were not addressed as a part of the socioeconomic framework. It is important to

### *Technical Review*

develop a discussion of the importance of these informal economic activities to the overall welfare and provisioning of Bristol Bay Native and non-Native subsistence users.

### **Recreational Issues**

Valuation: Detailed discussions and application of multiple methodologies to the valuation of the Recreational sector of the regional economy are essential in the baseline study in order to identify a range of possible impacts on the values associated with the activities of this sector.

### **Land Use**

Regulations: The regulations associated with various different land ownerships and land designations should be fully treated and discussed in the baseline land use report. It is important to determine what is possible and what is not possible to enter as stipulations in the EIS phase based on the present regulations. Such an analysis would point out the more powerful possibilities of land use regulation as well as where new land use regulations would need to be established.

Property values: A full discussion of property values both in the communities and especially of the privately held areas in close proximity to the Pebble Mine development area need to be included in the baseline study. These are especially important as property values often shoot up dramatically during development and cause disruption of local communities, families and the patterns of sustainability previously characteristic of community life.

### **Additional Issues**

Data availability: A variety of raw data is being acquired by researchers in the preparation of the social baseline studies. It is important that this data be available for further analysis during the EIS phase of impact identification and characterization. Steps should be taken now to insure that these data will be made available for other researchers conducting analyses related to Pebble Mine impacts.

Health: As previously noted at the BBNA workshop in September and the NMWC Board meeting in December, there is no baseline research on the health of the human population in the area that could be affected by Pebble Mine development. This is extremely urgent and crucial to establish a baseline concerning key health conditions (cancer especially) in order to examine cumulative impacts. This should be in NDMs interest as well as the interest of Bristol Bay residents. It could well be brought to the attention of Senator Stevens that NEPA baseline and impact studies do not adequately address issues of human health, especially in areas of hard rock mining.

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**Technical Review Memo No. 2**

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## **Technical Review Memo No. 2**

### **Pebble Mine Technical Assistance Project UAA-BBNA**

Review of:  
ADFG Subsistence Division Technical Paper No. 302  
"SUBSISTENCE HARVESTS AND USES OF WILD  
RESOURCES IN ILIAMNA, NEWHALEN,  
NONDALTON, PEDRO BAY, AND  
PORT ALSWORTH, ALASKA, 2004"

Report authors:  
James A. Fall, Davin L. Holen, Brian Davis, Theodore Krieg, and David Koster  
(Draft version dated March 2006)

Reviewed by Dr. Steve J. Langdon  
Institute of Social and Economic Research  
University of Alaska Anchorage

November, 2006

#### **Introduction**

Background: The UAA/ISER Pebble Mine Technical Assistance Project with the Bristol Bay Native Association calls for technical review of baseline studies completed by Northern Dynasty Mines (NDM) as required to accompany submission of applications for permits to develop the Pebble Project north of Lake Iliamna. UAA/ISER has the responsibility to review baseline studies in sociocultural and socioeconomic areas including subsistence, cultural resources, socioeconomics, recreation and land use.

A Technical Review Framework submitted to BBNA in January, 2006 provides the basic principles for the technical reviews to be undertaken by UAA/ISER faculty. Technical Review Memo No.1 (see TR-1) submitted to BBNA in March, 2006 and revised in September, 2006 summarizes the status of the NDM baseline studies as of that date. NDM has progressively pushed back the delivery dates on the baseline studies some of which are not anticipated until late 2007 or 2008.

As part of the subsistence baseline study, NDM, through their subcontractor Stephen R. Braund and Associates, has coordinated with and/or subcontracted several studies to the Alaska Department of Fish and Game (ADFG) Subsistence Division. A discussion of those relationships can be found in Technical Review Memo #1. ADFG, with funding from Lake Clark National Park (NPS) supplemented by monies from Braund and Associates conducted a "comprehensive" subsistence study of five communities in the Lake Clark/Lake Iliamna Region in 2005 covering the 2004 year. This report, not yet finalized as of November 2006, will provide information that will be included in a comprehensive subsistence baseline study that Braund and Associates are contracted to produce for NDM.

### *Technical Review*

**Overview:** This report presents data and findings from research concerning subsistence activities of residents of the five named communities in 2004. The research methodology was based on surveys of heads of households (primarily) concerning their subsistence activities during the previous year. Mapping interviews were conducted with primary harvesters to identify areas in which various species were sought and/or harvested. Key respondent interviews were carried out with selected experienced persons on significant subsistence issues. The basic demographic and subsistence information was placed in comparative context with information, where available, from previous subsistence studies of the communities. The report is considered an example of a "comprehensive" study conducted by the ADFG Subsistence Division.

The study followed ethical standards for informing the community of the nature and intent of the study, conducting the survey with anonymity and informed consent by the study participants, review of findings by the community, and meeting community requests for inclusion of all comments provided. Local assistants were utilized in all but one of the communities during the data collection phase.

### **Description of Findings**

Some of the key findings from the report include:

**Population:** The population of the five community region has been stable from 2000 to 2004 with a total of 641 residents reported in 2004. This represents an increase of over 50% since 1980. Iliamna, Pedro Bay and Nondalton decreased slightly while Newhalen and Port Alsworth increased. The Alaska Native proportion of the population is similar to that in the 2000 census reported at 72.1% - Newhalen and Nondalton both reported 90% or greater Alaska Native population. Port Alsworth is the only community where non-Natives comprised a majority.

**Household Demography:** Household size ranged from a low of 3.3 persons per household in Iliamna and Pedro Bay to 3.8 in Nondalton and 4.0 in Newhalen. Length of residency in the communities by household heads ranged from a low of 14.8 years on average in Port Alsworth to an average of over 35 years for Nondalton and Newhalen. There were more males than females in all of the communities.

**Household Subsistence Interviews:** A total of 116 out of 175 estimated households in all the communities were interviewed. Over 70% of households in all the communities except Iliamna participated in the study. Over 25% of the households in Iliamna refused to participate.

**Household Subsistence Participation:** Over 90% of households participate in harvesting or processing of subsistence foods in the five communities. The highest rate of any subsistence category is fish where over 75% of the population participates.

**Subsistence Use Categories:** Standard subsistence division study practices were used as in other reports identifying the categories of species pursued and harvested, categories shared and received. Quantities reported harvested are then converted by standard formulas into pounds for consumption. Trends in recent usage of species are also reported according to one of three categories: greater use, lesser use or the same use.

**Household Subsistence Production:** Total pounds of subsistence food produced by an average household in the communities were reported as follows: Iliamna – 508.1, Newhalen - 691.5,

### *Technical Review*

Nondalton – 357.7, Pedro Bay – 305.5 and Port Alsworth – 132.8. The categories in which data were collected are: salmon, other fish, land mammals, marine mammals, birds and plants. Salmon comprised the largest category of subsistence food with land mammals (moose and caribou) coming in second, non salmon freshwater fish in third and berries an important fourth. Sockeye salmon, fresh and spawned out, are the single most important subsistence species comprising over 70% of the total subsistence poundage, more than 10 times the total poundage of moose and caribou combined. A small amount of salmon are taken from commercial harvest for subsistence use. Moose represent about 75% of the land mammal harvest and caribou about 25% - this is a substantial reversal from the situation 15 years ago. Between 11 and 15 different species are harvested and consumed on average in the communities.

Subsistence history: All five communities demonstrated a reduction in total subsistence production between 2004 and the previous comprehensive research conducted in the communities in the early 1980s. The greatest reduction was in Nondalton from 1175 pounds in 1983 to 358 pounds in 2004. The least reduction was in Newhalen from 747 pounds in 1991 to 692 pounds in 2004. The report provides a discussion of the reasons given by residents for changes in harvest levels and an evaluation of various sources of the variation.

Reasons for Decline in Subsistence Harvests: Community residents most frequently described declines in large mammal availability and usage as responsible for lower subsistence production and assigned changes in animal availability, population levels and weather along with increased competition with nonlocal hunters as causes for the decline.

Jobs: Information was requested on both jobs and mean weeks of employment per year by household. Newhalen and Nondalton have the lowest rates of adult jobs and mean weeks of employment. Part-time and seasonal employment was more characteristic of Newhalen, Nondalton and Pedro Bay while full-time employment was considerably higher in Iliamna and Port Alsworth. In 2004, seventeen men in Nondalton went to McGrath to fight fire while 15 men in Newhalen went to Bristol Bay to commercial fish.

Cash spent on food: Over 28% of household income was spent on food purchases in Nondalton while only 9.8% and 10% were similarly spend in Pedro Bay and Port Alsworth respectively.

Map Interviews: Map interviews were conducted with 115 households. The categories in which data were collected are the same as for household production noted above. Maps for certain species are collective community representations of areas (moose, caribou, seal) while for other species (whitefish, trout, dolly varden, other freshwater fish species) identifiable harvest locations are mapped. Two additional maps for Nondalton showing trapping areas and place names – similar information was not available for presentation from the other communities.

The maps demonstrate that current subsistence areas for several communities and numerous species fall within the proposed Pebble project area, the road corridor and the proposed port area. The most affected communities with subsistence areas falling in the Pebble impact areas are Nondalton and Newhalen however Iliamna and Pedro Bay area also affected. Because the road corridor has not been designated, it is not possible to determine the extent of the road's impact on Pedro Bay subsistence areas at this time.

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By community, the subsistence areas by species which are presently conducted in the proposed Pebble Mine area are as follows:

Newhalen – caribou, moose, brown bear, small land mammals, waterfowl harvesting

Nondalton – caribou, moose, brown bear, black bear, upland birds

Port Alsworth – caribou

Iliamna – while no mapped subsistence areas overlap directly with the proposed Pebble project, areas for numerous species are in close proximity to the proposed Pebble project area and the likely route of the road corridor will pass through subsistence areas for many species.

Harvest data reliability: The authors discuss the relative validity of different types of data on subsistence harvests. They note that harvest ticket data for the five communities significantly underreports local harvests (perhaps by 1000%!) for moose and caribou. For salmon, however, they note:

“Presently, ADF&G staff consider the permit records to provide a reliable estimate of subsistence salmon harvests...” (p. 266, footnote #3)

### **Findings related to current resource status and potential impacts of Pebble Project development**

Respondents Observations on Resource Condition: Sockeye salmon returns have been at historically low levels in the recent past but are now rebounding. Some respondents expressed concern about over escapement of sockeye salmon in earlier years causing declines in recent productivity. Caribou numbers have declined due to reductions in their forage foods locally and the Mulchatna herd has shifted north and westward, making them less available for harvest. Moose numbers while stable have not increased in recent year. A number of respondents feel that wolf and bear predation are limited the growth of the moose population.

Respondents Subsistence Concerns about Pebble Mine development activities: The report summarizes comments by respondents on the potential impacts of the development of an open pit mine and the construction of a road through their traditional subsistence areas. Concerns are identified in two related areas. First, residents are reported to be concerned about a wide range of possible environmental impacts including noise driving animals away, toxic materials in the waters and on the plants potentially being passed on to them, modification of water quality, reductions in quantities of freshwater, increased turbidity in spawning streams, reduced air quality due to dust and other related effects reducing the availability, quantity and quality of subsistence foods. Second, residents are concerned about increasing competition due to the presence and pressure from additional nonresidents and outsiders who will come to the region even if mine developers and state managers impose limitations. This may result from improved access provided by road building in the area. In their view this increased pressure will 1) reduce harvest opportunities and animals, 2) alter animals distribution and 3) require additional travel and costs to sustain subsistence harvests.

A number of interviewees reported that ongoing activities such as substantial helicopter traffic in the Pebble project area have disrupted animal movements and presence. As one interviewee stated, “The mine is already here” – at least in terms of it already having demonstrable impacts on availability of resources and subsistence activities. An area of special concern for Nondalton

### *Technical Review*

residents is the Flat Horn Lake vicinity – where trapping, hunting and other subsistence have a long history of occurrence which is in close proximity to the proposed mine site.

The report authors conclude the executive summary with the following characterization of community residents' views and concerns on their current and future subsistence activities as follows:

“Given the importance of subsistence resources and the observation of changing harvest and use patterns, it is not surprising that residents of all five study communities expressed concerns about their future opportunities to hunt, fish and gather wild resources in a manner consistent with their traditions and at levels that meet their nutritional needs. Local residents' desire to continue subsistence activities applies not only to themselves, but also to their children and to future generations.”

### **Commentary**

Subsistence trends: The report provides a limited discussion of subsistence trends and possible reasons for changes noting that past evidence shows that overall harvests and harvests for specific species fluctuate for a variety of reasons. An extended discussion is made of changes in the amount of sockeye salmon reported harvested in the region through time suggesting that the major factor in recent reduced harvest levels is due to exceptionally low returns of sockeye salmon to the Kvichak drainage over the period and not due to changes in local residents harvest goals (pp. 266-270). Rebounding abundance in 2004 was accompanied by an increase in the total amount of sockeye reported harvested, considerably above 2000 but not yet back to historic per capita levels.

Subsistence valuation: The report does not provide any estimate of the cash value of subsistence products, let alone the social and cultural value of the activities to the residents of the communities. None of the methodological approaches or issues associated with such valuation are discussed. This is in keeping with standard practice of ADF&G Subsistence Division reports.

### **Non-subsistence topics covered by the report**

Several categories of non-subsistence information collected in this report are potentially of use to other baseline studies in socioeconomics. These categories include amount of employment, types of employment by industry, and amount spent on food purchases are particularly relevant to the

It would be appropriate for researchers studying socioeconomics of the communities to examine these data for their correspondence to their baseline studies to determine if there are discrepancies or if the socioeconomic study show similar patterns.

In addition,

### **Topics not covered by the report**

There are at least four topical areas concerning subsistence use that this report does not deal with.

Nutrition: The report does not provide a detailed understanding of the use patterns for the resource in terms of consumption levels, proportions of daily diet nor nutritional contribution of subsistence foods.

Costs of subsistence and other socioeconomic relationships: The report does not identify the costs associated with subsistence production.

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The report does not examine the relationship between income, time employed and household subsistence production. It does call for further research on these topics.

The report does not examine the social networks associated with subsistence sharing, particularly the support of elderly and non- or low production households.

Cultural significance and practices associated with subsistence: The report does not link subsistence production to key cultural ceremonial occasions for consumption, to specific locations with long standing cultural, family or personal significance, to patterns of familial use and cultural transmission from one generation to the next. The authors certainly are aware of and respect the last identified gap but this type of ADFG household subsistence.

Traditional ecological knowledge: Key informant interviewing focused on a limited several topics related to environmental observation and experience. This information can be considered local ecological knowledge especially pertaining to changes in species abundance, distribution, behaviors (very limited), and observations on some environmental changes over the past 20 years.

It does not, however, qualify as a study of traditional ecological knowledge i.e. the concepts, understandings and practices that have arisen out of the long-term experiences of populations in specific environments and the transmission of this knowledge in various ways from one generation to another. This topic needs more research through in-depth interviewing, use of Native language where possible with elders, site visitations to key locations and use of personal narratives of experience in the landscape, a preferred manner in which Alaska Natives sustain and transmit knowledge of this kind. Particularly significant in this regard are establishing what Native elders have identified as physical and behavioral normalcy and abnormalcy for various species. This will allow a baseline should the Pebble Project development occur in order to monitor possible biological and environmental consequences resulting from Pebble activities.

### **Map Presentation and Limitations**

The maps presented are collective community representations of either areas or locations where species are reported as being harvested. Not shown are actual harvest locations for large and small land mammals, bears or berries. Not shown are any patterns of areas density, meaning overlap of areas reported by different hunters. The primary map data could conceivably be utilized for a number of more refined analyses to demonstrate harvest locations, density of use, travel routes, and other measures.

There is no overall integrated map for all species use areas for all communities. Given the critical concern that community residents reported over the possible impacts of Pebble Mine development, this would be an important piece of information to enter into the record.

### **Other issues**

The report does not indicate the gender of respondents nor does it examine patterns of subsistence activity by gender.

The report does not indicate the age of respondents nor does it examine patterns of subsistence activity by age.

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The report does analyze patterns of subsistence activity, harvests, and distribution by household income or employment patterns.

### **Overall assessment**

The report makes an important contribution to the baseline subsistence study for the proposed Pebble project. However, it is not sufficient in itself as a characterization of the importance subsistence to the local tribal populations. The report carefully identifies the concerns of the residents in a number of areas and recommends additional studies where data is insufficient.

It makes clear that subsistence is of critical importance for nutritional, economic, social and cultural reasons to the residents of the five communities. It makes clear that respondents wish to see their subsistence activities continue unimpaired. It states clearly residents concerns in a number of areas about the potential impact of Pebble Mine development activities on their customary and traditional subsistence activities, harvests and quantities.

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**Technical Review No. 3**

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## Technical Review Memo No. 3

### Pebble Mine Technical Assistance Project UAA-BBNA

Review of:  
"Economics of Wild Salmon Watersheds: Bristol Bay, Alaska"  
(July 2006)

Report authors:  
John Duffield, David Patterson, Chris Neher, and Oliver Scott Goldsmith

Reviewed by Dr. Steve Colt, Associate Professor of Economics and Environmental Studies  
Institute of Social and Economic Research  
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November, 2006

#### Introduction

This is a technical review of the report entitled *Economics of Wild Salmon Watersheds: Bristol Bay, Alaska*. (Final Report, July 2006). It was prepared for and funded by Trout Unlimited, by the study team of John Duffield, David Patterson, Chris Neher, and Scott Goldsmith. The document can be obtained at: [http://www.iser.uaa.alaska.edu/Publications/sg\\_bb0706.pdf](http://www.iser.uaa.alaska.edu/Publications/sg_bb0706.pdf). For clarification, I will use the italicized word *Report* to refer to the Duffield study itself.

The *Report* states its purpose as follows:

This report provides estimates of the economic values associated with sustainable use of wild salmon ecosystem resources, primarily fisheries and wildlife, of the major watersheds of the Bristol Bay, Alaska region. Both regional economic significance and social benefit-cost accounting frameworks are utilized. (p. 9)

The *Report* is based on two relatively distinct research efforts. One is a review and application of existing data and literature. The other is an original survey effort covering anglers and lodge owners.

This review is based primarily on the document itself. No additional research has been undertaken in the process. Some inquiries have been made in connection with data on sport fishing trips, as discussed in section 4, "Specific areas of concern."

#### Overall Appraisal

Overall -- with one possible major exception -- the study is technically sound. The one exception is the use of sport fishing trips data, discussed in section 4 of this review. By "technically sound" I mean the following:

- 1) Generally, the authors are careful to document the foundations for their conclusions in sufficient detail that the validity of both the foundations and the conclusions themselves can be or could be judged. (In some cases, making this judgment would require consulting the cited literature.)
- 2) Generally, the authors respect the limitations of the data they have assembled and collected.

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3) Generally, the survey research component is well-executed using up-to-date methods.

4) Given the extremely limited resources allocated for the study, those resources seem to have been used in a highly efficient manner to maximize the use of existing data while generating new data where it is most needed.

The main weakness of the study is the unevenness of the presentation. It requires diligent reading and, perhaps, significant technical expertise and experience to digest the disparate pieces of the report and to tie them together. Many tables could be effectively augmented with graphics. Some graphics, such as those pertaining to commercial fisheries, are quite difficult to read.

#### **Specific Strengths**

The survey efforts provide substantial new data about the economic activity associated with sport fishing. There are three survey components: 1) Angler survey; 2) Lodge owner survey; 3) Lodge client survey. The Lodge client effort is perhaps better classified as a "canvass" or questionnaire since the lodge client sample was decidedly non-random.

Angler survey: The angler survey is based on random sampling and provides the most useful and reliable data. The techniques are up-to-date and the sample size of 2,400 was sufficient to yield a decent number of completed surveys with information on Bristol Bay trips (246 nonresidents and 55 residents). This occurred despite some unexpectedly low visitation rates that could not have been foreseen during study design.

The authors are to be commended for assembling the angler survey data conservatively. For example, they discarded data obtained from sampling strata with small numbers of observations. As they write:

The distribution of Bristol Bay trip responses in Table 18 is so completely dominated by licenses sold in the Bristol Bay region that the decision was made to limit analysis of Bristol Bay trip characteristics to responses from this major strata. The small number of observations from other license sales areas were excluded to eliminate the possibility of a grossly disproportional impact associated with one or two observations contained in heavily weighted strata. (p. 40)

The above passage is indicative of the overall care that was taken to not "push the data" from the angler survey beyond reasonable limits. The weighting of survey responses to better reflect the underlying angler population was also carried out with care – although careful weighting is not a cure-all for possible nonresponse bias, as discussed below

They also made imaginative use of the survey data by fitting a regression model that correlates the price of a fishing package with the specific services provided in that package, such as daily fly-out. This model, just by itself, is a useful contribution to understanding the economics of recreation in Alaska because it helps to disentangle what is otherwise an economic "black box."

Lodge owner survey: The *attempt* to conduct a lodge owner survey is a welcome innovation in Alaska recreation research. With so much of total angler expenditures channeled through lodges, it is crucial that more attempts be made to understand this subsector of the economy throughout Alaska. The authors are to be commended for pushing the envelope of research by undertaking this effort. Unfortunately, it appears that the responses to this survey were insufficient to be discussed in the *Report*.

Respect for data limitations: At several junctures, the authors have wisely declined to push the data beyond its limitations. One example (discarding data from several sampling strata) was cited above. A second important example is the treatment of so-called "existence values" associated with the Bristol Bay ecosystem. The authors discuss these values and indicate a possible order of magnitude for them based on the economics literature, but they do not incorporate these speculations into their aggregated numbers or summary tables. This was a wise decision.

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Application of economic theory: Generally, there is consistently correct application of economic theory. Examples include: 1) use of up-to-date analysis methods ("maximum likelihood" estimators) applied to the survey data on willingness to pay (p. 59); 2) avoiding double-counting, as when aggregating fish harvesting with fish processing (p. 19); 3) attention to possible "displacement effects" associated with local spending (p. 107); 4) careful attention to units of measure, such as full-time equivalent jobs (rather than just "jobs"); 5) use of meaningful terminology such as "expenditures," "income," "payroll," and other precise terms rather than opaque references to "pumping dollars" into or through the economy.

#### Specific areas of concern

The following general caveats need to be kept in mind by readers and users of the results. They are generally the result of inherent difficulties in data collection and/or limited resources to collect new data.

Flawed estimates of total sport fishing expenditures: There appears to be a problem with the procedure used to estimate total angler spending (*Report* pp. 53-58). Total spending is calculated as:

$$\text{Total spending} = [\text{spending per trip}] \times [\text{number of trips}]$$

The problem lies with the definition of a "trip." It appears that the surveys collected data on "spending per trip" with the "trip" defined as the multiday package. However, the Alaska Department of Fish and Game data on "number of trips" is based on a "trip" defined as a visit to a distinct fishing site. To further complicate the problem, it also appears that a visit by two or three people from the same household to a distinct fishing site counts as *one* trip in the ADF&G data. Thus, it is not obvious whether this difference in the definition of a trip has resulted in an underestimate or overestimate of total spending by sport fishers.

As noted by ISER economists,<sup>1</sup> it may be possible to correct this problem by re-interpreting the survey results to yield numbers for **expenditures per angler-day** rather than expenditures per trip. There is good data from ADF&G on the number of angler days that could be used to estimate total expenditures.

Flawed estimates of total net willingness to pay for sport fishing: The same problem affects the calculation of total net willingness to pay for sport fishing. The contingent valuation (CV) study generated values per trip. It appears that the CV data could be re-analyzed to yield values per angler-day, although this exercise might be significantly more time-consuming than re-interpreting the expenditure data.

Potential nonresponse bias: Given the low response rate from certain angler survey groups, especially the Alaska resident group, one must be cognizant of possible nonresponse bias.<sup>2</sup> The authors were only able to adjust their sample of responses (by application of weighting factors) for age, type of fishing license, and gender. These adjustments are reassuringly small, but they do not address or correct for any inherent self-selection bias that might reflect general concern for the environment, for Alaska wildlands, for sustainable fisheries management, or any of several other factors that would likely affect some of the data. The following claim is - at least potentially - slightly misleading:

In addition to weighting so the sample reflected the actual population, responses were also weighted to correct for possible non-response bias. While the response rates to the survey were representative of rates from similar Alaska angling surveys, it is possible that non-respondents are significantly

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<sup>1</sup> Lexi Hill, ISER, personal communication, 29 November 2006.

<sup>2</sup> Nonresponse bias can be illustrated with the following example. Suppose a customer satisfaction survey is distributed to all passengers on an airplane flight, and everyone is "invited" to complete it. It is quite likely that the people willing to take the time to fill out the survey are those with an "axe to grind" about their flying experience. The responses collected will not yield an accurate picture of overall passenger satisfaction. (They might, however, be useful as an indicator of what specific problems seem to bother people the most.)

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different in some characteristics from survey respondents. In order to test for and correct for any such non-response bias a comparison of respondents and the total sample of potential respondents was conducted using three variables available in the ADF&G database for all license holders: age, type of fishing, and gender (p. 42)

Clearly the authors did not (and could not) test for “any such” nonresponse bias. They only tested and corrected for the possible bias due to age, gender, and type of fishing license. In my view there are two practical implications of the possible nonresponse bias that remains after these corrections. First, it is unlikely (although not impossible) that remaining bias will affect the expenditure data, simply because people cannot get a different price by announcing that they have certain attitudes or a lower income. However, (second), it could well be the case that the questions about peoples’ attitudes toward future development could suffer from significant nonresponse bias.

Net economic value of subsistence: Subsistence accounts for about 75 percent of the total estimated net economic value in the *Report* (between \$78 million and \$143 million per year)(Table 84, p. 117). Total subsistence net economic value is estimated by a single computation:

Total value = [total pounds] x [average value per pound]

The per-pound estimates used in this *Report* (between \$32.48 to \$59.68) are taken from one study by Duffield that was presented as an affidavit in the Exxon Valdez proceedings. Only the conclusion (\$32 per pound average value) was presented in the 1997 journal article that is cited in this *Report* in support of the numbers. *The actual hedonic study that generated the value per pound numbers appears neither to have been peer-reviewed nor published as academic literature.* It is unfortunate that readers of the *Report* may assume, erroneously, that the reference to “Duffield 1997” refers to the actual hedonic study that generated the estimated values per pound. Given the current very limited knowledge, readers will need to judge for themselves whether a value of \$50 or more per pound for all pounds of subsistence harvests is commensurate with related commercial fish values and with common sense. More fundamentally, more accurate estimates of the net economic value of subsistence require substantial additional research.

Discussion of net economic value concepts: The discussion of “net economic value analysis methods” (section 2.2) is incomplete and fails to provide a useful overview of the concept as it is applied to the various sectors of the Bristol Bay economy. Thus, while the actual numbers for net economic value are well-supported, readers may be unsure of what they mean and how they can or cannot be used for further analysis or making decisions.

Discounting to a present value: The authors are to be commended for being cognizant of recent literature on gamma discounting, which provides new evidence that low discount rates may be appropriate in some circumstances. However, the illustrative results from the key Weitzman paper on gamma discounting relate to climate change mitigation, not sportfishing benefits. The authors of this *Report* should have assumed a greater burden of proof before transferring the low discount rate from a climate change context to the present application. In addition, the commercial fisheries permit values were first annualized using discount rates of 7 and 14% and then “recapitalized” using the rate of 1.75%. This procedure is odd at best. The possible implication (to a professional economist) is that fishers discount their future earnings at a much higher rate than society should discount future salmon consumption. This proposition requires discussion, or else the initial data on permit values should just be used directly as one component of present discounted value in Table 84.

Lodge owner survey: The lodge owner survey is mentioned in section 3 and the start of section 4, but the results are never discussed. The lodge owner survey literally disappears from the rest of the *Report*. Even though the responses may have been insufficient to yield valid statistical results, a discussion of this pioneering effort would be very valuable as a means of informing future research.

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Presentation: The following concerns relate to presentation.

- The survey instruments (the questions) are not included with the *Report*.
- The initial vectors of direct expenditures that feed the input-output model could be presented. These would be very useful as a means for assessing the results and as a foundation for further research.
- Several tables have important “messages” that would be effectively presented by an accompanying chart.
- The executive summary emphasizes angler attitudes toward possible development, which is not purported to be a purpose of the study.

### **Suggestions for interpretation**

The following specific suggestions are intended to help interested readers get the most value out of the *Report* and the research that underlies it. The suggestions are organized in parallel with the sections of the *Report*.

Survey data (sections 3 and 4): Readers should keep in mind the following:

- The angler survey is based on a substantial sample and the results on angler characteristics and expenditures are likely to be little affected by nonresponse bias.
- As the authors note, the survey results exclude information based on licenses sold outside of Bristol Bay. The effect is to under-report the characteristics of non-local Alaska residents making fishing trips.
- The results from the angler survey about attitudes may be affected by nonresponse bias that could not be eliminated by the authors’ adjustments
- The lodge client survey is not a true random sample; results from this survey must be interpreted with more caution.

Sport fishing results (section 5)

- Results are driven primarily by local Alaska residents and non-Alaskans; non-local Alaska residents are underrepresented in the data.
- Table 36, “Estimated aggregate direct expenditures from sportfishing in the Bristol Bay region” reflects the problem with the definition of a “trip” discussed above. The results on this table should be used with extreme caution.
- Table 37 also reflects the trip definition problem. The results on this table should be used with extreme caution.
- Net willingness to pay results (Tables 38 and 39) are valid when considered as relating to a trip to Bristol Bay, or a trip within Bristol Bay, but aggregate WTP results reported in section 11.3 (Table 82) reflect the trip definition problem.
- The results on attitudes toward development projects (section 5.5) are subject to potential nonresponse bias.

Subsistence and sport hunting (sections 7 and 8)

- These results are based on somewhat outdated data. In particular, the McCollum & Miller surveys on sport hunting expenditures were conducted 12 years ago.

Economic significance (section 10)

- The trip definition problem is reflected in all results related to total sport fishing expenditures. (Tables 68, 74, 75, 76). All of these results for jobs and income from sport fishing must be used with extreme caution, at least until this problem can be quantified or fixed.
- The *Report* considers total values for economic significance and net economic value. The jobs, income, and net value numbers indicate what might be lost if the entire set of ecosystem services was wiped out. Readers must judge for themselves how much of the total suite of ecosystem services are

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at risk from any possible threat. It is conceptually possible, although unlikely, that total expenditures for sport fishing could go up if slightly fewer opportunities were available. The main point is that the estimates of total value are a good starting point for policy discussions and choices. They cannot be used in direct comparison to an environmental threat unless that threat would eliminate the entire flow of ecosystem services.

Net economic value (section 11)

- The trip definition problem is reflected in all results related to total willingness to pay for sport fishing. (Tables 82, 84).
- The net value of subsistence is based on a single hedonic pricing study that was not peer reviewed, as discussed above. Readers should carefully consider the values per pound for subsistence resources presented in Table 81 and page 114 when interpreting these results. Subsistence net value is about 75% of total estimated net value.
- Existence values are discussed in the text but not quantified in the tables. Readers should keep this firmly in mind when considering the overall values associated with Bristol Bay ecosystems.

## **CAPACITY BUILDING**

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Tribal Capacity Building Summary  
Strategic Options & Considerations for Capacity Building Training

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## **Tribal Capacity Building: Summary of Workshops**

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**Tribal Capacity Building  
Summary of Workshops**

**Margaret King, Program Manager.  
Resource Solutions/UAA**

**National Environmental Policy Act Building Workshops**

This area was one of the primary tasks in which the Bristol Bay Native Association contracted with the University of Alaska Anchorage (UAA) on the BBNA Pebble Mine Technical Assistance Project. A major deliverable was the area of capacity building on the National Environmental Policy Act (NEPA) and environmental impact statement (EIS) process.

Three workshops and one presentation were held in the BBNA region in southwest Alaska. Following is a summary of workshops held over the course of the project.

- December 15-16, 2005 in Dillingham, AK presentation made to the Nushagak Mulchatna Watershed Council;
- March 10-11, 2006 in King Salmon, AK workshop conducted for tribal and other residents in the BBNA region;
- May 4 – 6, 2006 in Port Alsworth, AK workshop session held for tribal and other residents in the BBNA region
- November 16 - 18, 2006 in Dillingham, AK workshop conducted for tribal and other residents in the BBNA region

UAA worked in collaboration with its sister campus—the Bristol Bay Campus center, located in Dillingham, to better understand the needs of the BBNA area and to ensure the workshops delivered the content to meet those needs.

**Government-to-Government Consultations and Environmental Conflict Resolution**

UAA's role in the workshops and presentation was to provide information on the NEPA and EIS process, with a specific focus on:

- tribal and community involvement, including government-to-government consultations
- environmental conflict resolution and collaborative processes, which both the federal Office of Management and Budget (OMB) and the Council on Environmental Quality (CEQ) have directed agencies to use in the NEPA/EIS process (refer to Appendix .

The Bristol Bay Center contracted with other experts in socio-economics to present at the workshops. These experts provided information about what baseline data should be collected for the NEPA/EIS process to adequately address tribal and rural residents' concerns. These experts identified with the BBNA tribes and residents as their area of expertise is in documenting and presenting information in EIS processes on the impacts to subsistence resources, including ecological habitats, fish and wildlife, and vegetation for berry and other food production.

**Presentation Materials**

A number of highly useful and pertinent documents were used during these workshops. We have included copies of this material in the Appendix C. Those documents are summarized below.

Presentation materials developed and provided by UAA were:

- Government to Government Consultations and NEPA
- NEPA as a Collaborative Tool: Understanding Environmental Assessment Documents for Rural Alaska Projects

### *Capacity Building*

Federal documents including a policy memorandum on environmental conflict resolution (ECR), directs agencies to increase the effective use of ECR and their institutional capacity for collaborative problem solving. Distributed and discussed by UAA were:

- Joint Statement from the President's Council on Environmental Quality (CEQ) and Office of Management and Budget (OMB), signed November 28, 2005

U.S. Environmental Protection Agency Region 10 - Alaska Operations Office documents distributed and discussed by UAA were:

- Pogo Gold Mine EIS – US EPA Government to Government Consultation Plan
- NEPA Tribal Involvement

### **“Empowering Native Voices” Workshop**

On May 6 and 7, 2006, UAA also facilitated Empowering Native Voices, an interactive workshop with those attending the session in Port Alsworth immediately following the NEPA session. Empowering Native Voices was sponsored by the Native American Fish & Wildlife Society - Alaska Office.

Topics discussed were:

- Workshop expectations and benefits of *Empowering Native Voices* through collaborations
- What “We value about the land”
- Healthy traditional communities and what this is
- Strategies to protect traditional ways of life and the environment
- Strategies for being a part of the process
- Create own process
- Ideas for having a say in projects that are proposed for development
- Identify what resources are available and those that are needed
- How participants would use workshop and the information gained back in their home communities

### **Suggestions for Upcoming Workshops**

Residents from various communities who live in the Bristol Bay region were invited to attend a three-day workshop session designed to enhance their knowledge of NEPA/EIS. Responses from the workshop evaluations suggest respondents believe they gained substantial information and understanding about what NEPA/EIS process is. However, the workshop presenters, knowing how complicated the NEPA/EIS process is and how technical the science-based information and documentation is, suggested that there should be at least two additional workshops. These succeeding workshops would be helpful for two primary reasons. The team suggested:

- 1) A complementary workshop focusing on biological and ecological components of a NEPA/EIS process.
- 2) Once the permit application is made and the baseline data is available, a five-day workshop to:
  - Review what the baseline data is, the planned, proposed design of the Pebble Mine,
  - How the construction of and mining operation is anticipated to impact environmental and socio-economic resources, what the proposed mitigation and avoidance measures are, and
  - Review, by an impartial expert, about what baseline data, possible impacts, and mitigation measures may be missing from the EIS application.

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## **Strategic Options and Considerations for Capacity Building Training**

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*Strategic Options*

**Strategic Options and Considerations for Capacity-Building Training for Bristol Bay Tribes and Communities:**

**Responding to Economic and Extractive Resource Development Challenges**

**Dr. Steve J. Langdon, Professor, Chair  
Department of Anthropology  
University of Alaska**

**Margaret J. King, Program Manager  
Resource Solutions  
University of Alaska  
September 2006**

***Introduction***

Mineral deposits are presently being investigated for extractive development activities in various parts of the Bristol Bay region. The largest and potentially most significant of these is the proposed Pebble Mine development. These possible developments pose significant issues for Bristol Bay Natives, especially those located in proximity to the sites of these potential mines. One of the "unmet needs" identified by the Bristol Bay Native Association (BBNA) concerning these activities is capacity-building for local populations to participate in the federal and state regulatory processes that are required for these projects. The Pebble Mine Technical Assistance project between BBNA and UAA/ISER calls capacity-building and training activities to be delivered to BBNA identified populations.

From project initiation in September 2005, discussions and planning for capacity-building training have been an important activity. While initially the training was oriented toward a regulatory process getting underway in late 2006, recent announcements concerning Pebble deposits by Northern Dynasty Minerals now appear to have delayed their filing of permits until the second half of 2007. This provides additional time for capacity-building while at the same time posing other issues.

Key issues that emerge are: 1) the timing of capacity building/training and its relation to budget timetables; 2) the continuity of participants in training to insure that those trained will be involved when the process begins; 3) possible decay of skills and knowledge if there is a significant gap between training and the time that regulatory activities begin.

Another critical issue that has been identified and discussed in various meetings is that there are now a variety of possible sources of capacity-building training for Bristol Bay Natives through several sources. It is our view that coordinating various kinds of training is needed to: 1) reach the most important target audience; 2) that the trainings build on each other rather than duplicate, and; 3) that the trainings provide similar, integrated information rather than confusing or contradictory information.

In thinking about the process of coordination of capacity-building, the possible sources now contemplated include NAFWS, UAA/ISER, UAF-Bristol Bay and as mentioned several times throughout this project, US EPA. EPA involvement needs to be further investigated to determine intentions and timing. What follows are two strategies that BBNA might wish to consider.

**Capacity Building Strategy I: Phased Approach to Capacity Building**

By structuring capacity-building efforts through a sequence, greater and more detailed skills will be developed, as well as opportunities to integrate views among Bristol Bay participants. One possible sequence looks as follows.

*Strategic Options*

**Phase I: Foundational Workshops:** Provide foundational workshops that look to establish core values of village residents and relationships that are based on those values with a commitment to pursue those values in the process. Introduction of the resource development proposals and the regulatory processes that will be further developed. Initiate a discussion concerning formation of organization/coalitions that can engage in integrated strategic thinking from a village-based coalition perspective. One such workshop was held in May 2006 in Pt. Alsworth, hosted by the NAFWS, and can be used as an example.

Spurred from this workshop was the concept that these facilitated discussions should be held in numerous/all BBNA communities in a relatively short timeframe. The resulting outcome should be a “book” that provides the specifics from each community, but highlighting the similarities among communities.

**Phase II: Technical and Regulatory Training:** Based on the outcomes from the Foundation Workshops, technical and regulatory process training needs will be clearer, in particular trainings on collaborative problem solving and consensus building as well as on NEPA/EIS activities, and regulatory process training concerning State Permitting activities.

**Phase III: Scenario Building:** NEPA scenario building training, would use detailed investigation of issues and the development of tools – such as GIS, the perspectives and positions that relate specifically to resource development activities and their intersection with the lives and concerns of Bristol Bay native residents.

**Phase IV: Integrated, Village-Based Plan:** Development of integrated Bristol Bay region village-based strategic visions related to all aspects of development. The purpose of this phase would be to develop an integrated plan or proposal of what Bristol Bay residents believe will serve them and their region best. This would range from environmental quality protections, risk management, mitigation through community/regional economic benefits. How do III and IV differ – can they be combined?

**Capacity Building Strategy II: Basic Training Program**

During a forum for capacity building, participants from BBNA Villages identified some basic training needs. (see pages CB2-3)

There are a number of considerations regarding development and delivery of these trainings that will need to be addressed in order to successfully implement a Basic Training Program.

CONSIDERATIONS TO DEVELOP AN EFFECTIVE BASIC TRAINING PROGRAM			
Issue	Options		
How to deliver	Identify geographic locations	Distance-Electronic Delivery	
Content of the training	Technical	Administrative	Community Building (Leadership)
Ensuring capacity is built and retained	Individuals	Cohorts	Community
Target audience	Managers/TA	First line supervisors	Staff
Format of training	Workshops	2 year degrees	4 year degrees
Developing and delivering trainings economically	Identify possible funding sources	Pool resources	
Frequency of trainings	Quarterly	Semi-annually	Annually

### *Strategic Options*

Beyond development and delivery is the need to ensure that participants use or apply the skills or capabilities from a training. Bridging or facilitating the transfer or application for participants to use the skills successfully is an important aspect of success.

Our recommendation is that each training or course should include an applied aspect. For some, this may be possible to do within the class/workshop itself, but for others, there may need to be an additional assignment or coaching beyond the class time.

### ***Training Needs as Identified by Participants at NEPA Basics Workshop - SAVEC***

#### **NEPA and Related Trainings**

- Case study of community changes due to large scale development projects
- Writing meaningful public comments and making sure your voice is heard
- How to require or request translation of technical information (by Northern Dynasty and associates) into indigenous languages (Yup'ik, Dena'ina, Aleut)
- Review of baseline documents, once available
- How to find information and/or expertise for minimizing impacts for those environmental impacts already identified and for those that will be identified during assessment/construction.
- Training in the villages, examples, computers, NEPA 1 day for village councils or half day when NEPA starts
- Who are the players? How do we reach them? What do they do? RE: Resource guide
- Specific permit examples, what they are, how they work, how are decisions made?
- Having information available to show, RE: video, DVD, audio conference, or web
- Oral History Training- Collection, Interpretation, Review
- Create guidance to invite proponent (Northern Dynasty and/or other developers) to your community

#### **Employment/Jobs**

- How are folks going to get trained to be employable? What jobs are needed at a mine, looking forward...How are locals trained to be 'white coats'?

#### **Leadership and Community Building**

- Constructive, effective communication skills
- Collaborative problem solving
- Community involvement and decision making
- Critical thinking

#### **General Training Needs**

- Internet-based research techniques and personal computing skills
- Data interpretation courses, for graphs, tables, statistics, etc.
- Networking, email lists (NMWC, IGAP, North Slope Borough, Maniilaq, etc.)  
-amongst and between user groups
- Community contact information, to know who has access to web information

## COMMUNICATIONS

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Resource Handbook for Bristol Bay Residents  
Permits Required and Points of Contact for Pebble Project  
2005 Survey Summary  
Article Listing on Pebble Mine Issues  
Selected Literature and Abstracts

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## Resource Handbook for Bristol Bay Area Residents

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**RESOURCE HANDBOOK FOR  
BRISTOL BAY AREA RESIDENTS**

PREPARED BY  
BBNA PEBBLE MINE TECHNICAL ASSISTANCE PROJECT

PREPARED FOR  
BRISTOL BAY NATIVE ASSOCIATION

NOVEMBER 30, 2006

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**Introduction**

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**Resource Handbook for Bristol Bay Area Residents:  
Information on Mineral Development Issues and Agency Contacts**

The proposed Pebble mine and other potential mineral development in this region have raised many questions and concerns among the people who make the Bristol Bay area their home. This resource handbook has been prepared to help equip residents to learn about mineral development issues and find out who to contact with questions about those matters. Other people may also find this handbook useful, but it is specifically intended to help the people who live in the Bristol Bay region get answers to their questions about mineral development.

We first describe the range of potential mineral developments in the Bristol Bay region. We then discuss federal-tribal trust responsibilities in the region and provide an overview of local, state, and federal regulatory and permitting processes for mineral development, including information on the environmental review process.

Next is a list of contacts for local, state, and federal agencies; a description about the roles of those agencies and departments in mineral development; and a description of the types of information they are likely to provide. Keep in mind that the people holding specific agency jobs may change—so individual contact persons named in this document may change. But the phone numbers listed will likely remain the same.

The handbook also provides a helpful list of Web sites and general information with addresses for local, state, federal government agencies and tribal organizations.

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## **Proposed Developments in the Bristol Bay Area**

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Several major mineral developments are being explored in this region. The principal is the Pebble project being proposed for development by Northern Dynasty Mining (NDM). Other projects include Pebble South, which Full Metal Minerals (Vancouver, Canada based mining company) has entered into an agreement with Bristol Bay Native Corporation (BBNC) and village corporations in the lower Alaska Peninsula to explore for copper and gold deposits. Shell Offshore is currently exploring oil and gas in Bristol Bay waters.

The U.S. Environmental Protection Agency (EPA) will most likely be the lead federal agency to regulate compliance with environmental laws for new mining permits such as the National Pollutant Discharge Elimination System (NPDES) and (Clean Water Act - CWA 402). EPA's role is to review permit application in order to determine if the methods to ensure compliance with environmental laws are met, and then to approve or disapprove permits for impacts to water quality. In addition, EPA also reviews the state's water quality standards and revisions to ensure compliance.

NDM expects to submit permit applications to state and federal agencies in 2008 or later. Submitting permit applications will then trigger or begin the Environmental Impact Statement (EIS) process, which will follow the protocols set out in the National Environmental Policy Act (NEPA). Refer to page 12 for a summary of information about key regulatory agencies and the implementation of environmental laws.

### **Pebble Gold Copper Project**

The Pebble deposit is a copper-gold deposit about 15 miles northwest of the village of Iliamna and Newhalen, in the foothills of the Mulchatna River drainage. It is located within the Lake & Peninsula Borough boundaries, on state-owned land, and situated within a 55,800 acre mining claims block. The right to develop the Pebble deposit is owned by NDM, Inc. which is a subsidiary of the Canadian company Hunter Dickinson. NDM is proposing to construct an open pit mine and milling operation to produce gold, copper, molybdenum, and silver.

The deposit is estimated to contain 26.5 million ounces of gold and 16.5 billion pounds of copper with lesser amounts of molybdenum and silver. According to these estimates, the deposit ranks as the largest gold deposit in North America and the second largest deposit of copper. If the mine is developed, it would become both North America's and Alaska's largest open pit mine and one of the largest mines in the world. Current assessments recommend that the optimum amount of ore that should be milled per day range from 90,000 to 200,000 tons over the life of the mine, which is estimated from 30 to 60 years. Mining experts anticipate it will take 8 to 12 years to construct or develop the mine. The project is in the pre-EIS stage of development, and NDM is collecting baseline environment and socio-economic information to use when it applies for permits to begin constructing the mining operation. For more information, see:  
[www.northerndynastyminerals.com/ndm/Home.asp](http://www.northerndynastyminerals.com/ndm/Home.asp)

### **Pebble South**

Full Metal Minerals has made agreements with Bristol Bay Native Corporation (BBNC) and the village corporations of the lower Alaska Peninsula to explore for copper and gold deposits near Perryville and the Chigniks. Full Metal owns a 100% interest in the Pebble South project, and is situated east, south and west of Northern Dynasty's massive Pebble Copper Deposit.

For more information about Pebble South, see: [www.fullmetalminerals.com/properties-pebblesouth.php](http://www.fullmetalminerals.com/properties-pebblesouth.php)

For other Alaska properties (10 locations) see: [www.fullmetalminerals.com/properties-locationmap.php](http://www.fullmetalminerals.com/properties-locationmap.php)

### **Oil and Gas Exploration in Bristol Bay Area**

For more information about the history and potential of oil and gas development visit the Bristol Bay Native Corporation's website at: [www.bbnc.net/uploads/File/pdf/O&G\\_Prospect.pdf](http://www.bbnc.net/uploads/File/pdf/O&G_Prospect.pdf)

### **U.S. Dept. of Interior, Bureau of Land Management (BLM)**

A resource management draft plan and associated EIS by BLM proposes to open the area for oil and gas and hard rock mineral exploration in southwest Alaska. This plan will provide a comprehensive framework for managing and allocating uses of the BLM administered public lands and resources within the Bristol Bay and Goodnews Bay areas of southwest Alaska. The plan will also provide direction for site-specific activity planning in the future. The 23-million-acre Bristol Bay planning area includes approximately 3.6 million acres of BLM-administered lands. These are large blocks of land and scattered small tracts. These lands include 1.7 million acres of unencumbered BLM lands, 979,000 acres of Alaska Native-selected lands, and 915,000 acres of state-selected lands. Due to over-selections, portions of the Native- and state-selected lands will ultimately be retained as public land.

The work in progress is outlined on the BLM Web site at: [www.blm.gov/ak/ado/BayRMP01.html](http://www.blm.gov/ak/ado/BayRMP01.html)

Alaska Contact: Mark Fullmer, NEPA Coordinator, P (907) 267-1264, Email: [akbayrmp@blm.gov](mailto:akbayrmp@blm.gov)

### **U.S. Department of Interior, Minerals Management Service (MMS)**

In August 2006, the MMS, the federal agency in charge of leasing offshore oil and gas development rights, released its 5-Year Outer Continental Shelf (OCS) Proposed Leasing Program and Draft Environmental Impact Statement (EIS). The department is receiving comments through November 22, 2006.

MMS has proposed two lease sales in Bristol Bay, one in 2010 and in 2012. MMS is accepting comments on both the proposed program and the Draft EIS.

*Resource Handbook*

Alaska MMS Contact: Paul Stang, P (907) 334-5230, Email: paul.stang@mms.gov

For a current press release, see:

[www.mms.gov/oc/press/2006/press0926.htm](http://www.mms.gov/oc/press/2006/press0926.htm)

To view the 5-year plan, go to:

[www.mms.gov/5-year/](http://www.mms.gov/5-year/)

See information supporting MMS draft lease plan at this site:

[www.aapg.org/geoDC/ActionAlert/06-08-28mms.cfm](http://www.aapg.org/geoDC/ActionAlert/06-08-28mms.cfm)

For information opposing MMS draft lease plan, see:

[www.akmarine.org/getinvolved/alerts/1006-bristol%20bay.shtml](http://www.akmarine.org/getinvolved/alerts/1006-bristol%20bay.shtml)

**Alaska State Oil and Gas Lease Sale - Alaska Peninsula**

This lease sale was held on October 26, 2005 and Shell Offshore, Inc. received 33 out of the 37 tracts sold.

View Alaska Peninsula Area-wide 2005 Final Sale Results at:

[www.dog.dnr.state.ak.us/oil/products/publications/akpeninsula/ak\\_peninsula.htm](http://www.dog.dnr.state.ak.us/oil/products/publications/akpeninsula/ak_peninsula.htm)

See Memorandum of Understanding between ADNR and Aleutians East Borough, Bristol Bay Borough, and Lake & Peninsula Borough at:

[www.dog.dnr.state.ak.us/oil/products/publications/bristolbay/mou\\_3boroughs.pdf](http://www.dog.dnr.state.ak.us/oil/products/publications/bristolbay/mou_3boroughs.pdf)

For Memorandum of Understanding between ADNR and BBNC, see:

[www.dog.dnr.state.ak.us/oil/products/publications/bristolbay/mou\\_dnr-bb.pdf](http://www.dog.dnr.state.ak.us/oil/products/publications/bristolbay/mou_dnr-bb.pdf)

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## Federal-Tribal Trust Responsibilities

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This section summarizes government-to-government trust responsibilities.

The federal government has a unique legal and political relationship with tribes, and a special relationship with Alaska Native tribal entities. This trust responsibility is provided for through legal instruments such as the U.S. constitution, judicial statutes, and executive orders issued by the U.S. President. The importance of this unique relationship is that federal agencies must work with 31 federally recognized tribes in the Bristol Bay region on a government-to-government level. For centuries, they have lived and used their lands extensively for subsistence and traditional purposes. Tribes have expressed increasing uncertainty over potentially significant environmental impacts, health and safety risks, and effects to the subsistence resources.

### Tribal Consultation

For this report, *Tribal Consultation* is defined as a collaborative effort between the federal government and tribes seeking to reach consensus on how to proceed. Government-to-government consultation is a federal agency responsibility for all large mining projects in Alaska. See page 13 for further description of federal agency roles and laws with respect to mining. A useful resource guide on government-to-government consultation is a *Guide on Consultation and Collaboration with Indian Tribal Governments and the Public Participation of Indigenous Groups and Tribal Members in Environmental Decision Making*

See:

[www.fm.doe.gov/env\\_justice/pdf/ips\\_consultation\\_guide.pdf#search=%22Guide%20On%20Consultation%20and%20Collaboration%20with%20Indian%20Tribal%20Governments%22](http://www.fm.doe.gov/env_justice/pdf/ips_consultation_guide.pdf#search=%22Guide%20On%20Consultation%20and%20Collaboration%20with%20Indian%20Tribal%20Governments%22)

Another helpful resource on government-to-government consultation is detailed in a 2006 PowerPoint presentation to the Nushagak Mulchatna Watershed Council members by Dianne Soderlund entitled: *National Environmental Policy Act (NEPA): Tribal Involvement* (refer to Appendix A). This resource covers EPA's authorities related to NEPA including: 1) EPA Tribal Responsibilities Related to NEPA; 2) Tribal Consultation vs. Public Involvement; 3) EPA's General Principles of Tribal Involvement in NEPA; 4) Tribal Government Roles; and 5) Effective Communication tools. Practical principles for tribal involvement related to NEPA as listed in this resource include:

- Invitation to engage in consultation any time – formal or informal
- Make sure EPA understands what the Tribal Government expectations are for Government-to-Government consultation and what a Tribe considers
- Meet at any time in the process (by phone or in person – if possible)
- Plan consultation strategies and mechanisms with the Tribal Government
- Put strategies in a Government-to-Government Consultation Plan
- If agreed upon, provide preliminary draft copies of EIS or EA in advance of formal public notice
- Answer questions tribal representatives have about EPA's actions regarding the project
- Communicate questions about the project to the project proponent, as appropriate
- Report back to the tribes in a meaningful and credible way
- Be very clear and honest on what EPA can and cannot do

## *Resource Handbook*

- Draft the Government-to-Government plan and finalize with tribal input
- As much as possible provide project staff continuity
- Conduct all conversations in a respectful way
- Be flexible and ready to adjust as necessary
- Change the approach if what we are doing isn't working – but first talk with Tribal representatives

### **References for trust responsibilities –US EPA**

- Presidential Executive Orders (13084 and 13175) – *Consultation and Coordination with Indian Tribal Governments*
- Tribal Office Mission Statement
- Region 10 Tribal Consultation Framework
- Programmatic Consultation Guidance

### **Major Federal laws passed by Congress requiring tribal consultation**

- National Environmental Policy Act (NEPA)
- National Historic Preservation Act – Section 106
- Native American Graves Protection and Repatriation Act
- Federal Power Act (FERC)
- Nuclear Waste Policy Act of 1982
- Intermodal Surface Transportation Efficiency Act of 1991 and TEA 21 (1998)
- Alaska National Interest Lands Conservation Act

### **More information on Government-to-Government Consultation**

Advisory Council for Historic Preservation. (2000) *ACHP Policy Statement Regarding ACHP's Relationship with Indian Tribes*. See:

[www.achp.gov/policystatement-tribes.html](http://www.achp.gov/policystatement-tribes.html)

Bonneville Power Administration. (1996) *BPA Tribal Policy*. See:

[www.bpa.gov/corporate/kt/tribpolx.shtml](http://www.bpa.gov/corporate/kt/tribpolx.shtml)

Federal Energy Regulatory Commission. (2003). *Policy Statement on Consultation with Indian Tribes in Commission Proceedings*. See:

[www.ferc.gov/industries/hydropower/Indus-act/hydrerule-tribal-policy.pdf](http://www.ferc.gov/industries/hydropower/Indus-act/hydrerule-tribal-policy.pdf)

Government to Government Documents. See: [www.alaskanativeresources.com/gtog.html](http://www.alaskanativeresources.com/gtog.html)

National Environmental Justice Advisory Council Indigenous Peoples Subcommittee. (2000). *Guide on Consultation and Collaboration with Indian Tribal Governments and the Public Participation of Indigenous Groups and Tribal Members in Environmental Decision Making*.

[www.epa.gov/compliance/environmentaljustice/nejac/indigenous\\_subcommittee.html](http://www.epa.gov/compliance/environmentaljustice/nejac/indigenous_subcommittee.html)

U.S. Bureau of Land Management. (1994). *Manual H-8160-1 General Procedural Guidance for Native American Consultation*. Go to:

[www.blm.gov/heritage/docum/manual/81601x.pdf](http://www.blm.gov/heritage/docum/manual/81601x.pdf)

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U.S. Bureau of Reclamation. (1998). *Indian Policy of the Bureau of Reclamation*. <http://usbr.gov/native/naao/policies/protguide.pdf>

U.S. Department of Defense. (1998). *American Indian and Alaska Native Policy*. [www.denix.osd.mil/denix/Public/Native/Outreach/policy.html](http://www.denix.osd.mil/denix/Public/Native/Outreach/policy.html)

U.S. Department of Energy. (2001). *Why does the American Indian Policy Exist?* (<http://web.em.doe.gov/public/tribal/policy2.html>)

U.S. Department of Energy. (2000). *A Guide for DOE Employees Working with Indian Tribal Nations*. See: <http://web.em.doe.gov/ftplink/public/tribal.pdf>

U.S. Department of Energy. (2000). *Policy on American Indian & Alaska Native Tribal Governance Policy*. See: [www.ci.doe.gov/indianbk.pdf](http://www.ci.doe.gov/indianbk.pdf)

U.S. Department of Energy. Office of Environmental Management. Office of Intergovernmental and Public Accountability. *Tribal Nations Web site*: <http://web.em.doe.gov/public/tribal/index.html>

U.S. Department of the Interior. (1995). *Departmental Responsibilities for Indian Trust Resources*. See: <http://elips.doi.gov/elips/release/3049.htm>

U.S. Department of Justice. (1999). *Department of Justice Policy on Indian Sovereignty and Government-to-Government Relations with Indian Tribes*. See: [www.usdoj.gov/otj/sovtrb.htm](http://www.usdoj.gov/otj/sovtrb.htm)

U.S. Department of the Navy. (1999). *Department of the Navy Policy for Consultation with Federally Recognized Indian Tribes*. See: [http://neds.nebt.daps.mil/Directives/11010\\_14.pdf](http://neds.nebt.daps.mil/Directives/11010_14.pdf)

U.S. Department of Transportation. Federal Aviation Administration. (2004). *American Indian and Alaska Native Tribal Consultation Policy and Procedures*. See: [www.aec.faa.gov/aec-200/1210.pdf](http://www.aec.faa.gov/aec-200/1210.pdf)

U.S. Environmental Protection Agency. (2003). *Public Involvement Policy of the U.S. Environmental Protection Agency*. See: [www.epa.gov/publicinvolvement/policy2003/policy2003.pdf](http://www.epa.gov/publicinvolvement/policy2003/policy2003.pdf)

U.S. Environmental Protection Agency. (1984). *EPA Policy for the Administration of Environmental Programs on Indian Reservations*. See: [www.epa.gov/indian/pdfs/reaffirmindpol01.pdf](http://www.epa.gov/indian/pdfs/reaffirmindpol01.pdf)

U.S. Environmental Protection Agency. (1984). *Region 8 Policy for Environmental Protection in Indian Country*. See: [www.epa.gov/indian/r8pol.htm](http://www.epa.gov/indian/r8pol.htm)

U.S. Geological Survey. (1995). *U.S. Geological Survey Manual, Section 500.4 Policy on Employee Responsibility Towards American Indians and Alaska Natives*. See: [www.usgs.gov/usgs-manual/500/500-4.html](http://www.usgs.gov/usgs-manual/500/500-4.html)

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U.S. Geological Survey. (1997). *U.S. Geological Survey Manual, Section 500.6 American Indian and Alaska Native Sacred Sites*. See: [www.usgs.gov/usgs-manual/500/500-6.html](http://www.usgs.gov/usgs-manual/500/500-6.html)

U.S. National Park Service. (2001). *A compilation of NPS management policies pertaining to Native Americans*. See: [www.nps.gov/policy/NativeAmericanPolicies.htm](http://www.nps.gov/policy/NativeAmericanPolicies.htm)

U.S. National Park Service. *Native American Consultation Database*. See: [www.cast.uark.edu/other/nps/nacd/](http://www.cast.uark.edu/other/nps/nacd/)

**Key resources not available electronically**

U.S. Bureau of Indian Affairs. (2000). *Government-to-Government Consultation Policy*.

U.S. Environmental Protection Agency. (2000). *Working Effectively with Federally Recognized Indian Tribes: A Practical Guide for EPA Employees*. EPA 305-K-99-006.

White House Council on Environmental Quality. (February 4, 2003). *Memorandum for Tribal Leaders: Cooperating Agencies in Implementing the Procedural Requirements of the National Environmental Policy Act*.

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## **Regulatory Framework for Mining & Permitting Agencies**

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This section summarizes information about key regulatory agencies that implement various environmental laws such as the National Environmental Policy Act (NEPA), the Clean Water Act (CWA), the Clean Air Act (CAA), the Safe Drinking Water Act (SDWA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Resource Conservation and Recovery Act (RCRA).

### **Role of the State of Alaska**

Alaska Department of Natural Resources (ADNR) is the lead state agency responsible for regulating mining. ADNR oversee regulations on both mining and reclamation. Another primary state agency is the Alaska Department of Environmental Conservation (ADEC) with oversight for water quality standards and wastewater treatment requirements, and cleanup of inactive and abandoned mine sites. EPA works closely with the ADEC on water quality standards. ADEC and EPA, through a Performance Partnership Agreement (PPA) commits both to appoint a primary point of contact who will meet to review the status of ongoing projects, review federal and state legal and policy requirements, and identify any issues needing review.

2007 Alaska Performance Partnership see:

<http://yosemite.epa.gov/r10/aoo.nsf/1887fc8b0c8f2aee8825648f00528583/6127ef457d1d0389882564b90066d63e!OpenDocument>

### **Interagency Mining Teams - Large Mine Project Team (LMPT)**

The interagency team is made up of key contacts from federal and state agencies. The purpose of the team is to coordinate and communicate on issues relating to permitting mining projects in Alaska. The goal of the LMPT is to coordinate the timing and completion of the numerous permits, in order to streamline the time it takes for permits to be approved and issued. The team members review all the technical documents generated during the process and provide coordinated comments to the mine developer or operator. The LMPT also coordinates stakeholder involvement and provides a single point of contact for the public. This coordinated process provides the public, agencies and the applicant the opportunity to view the project as a whole. When there are federal permits required for a project, in order to determine the stipulations by which permits will be issues, an Environmental Impact Statement (EIS) is frequently required, especially for a mining project. An EIS is required by the National Environmental Policy Act (NEPA) when significant environmental impacts are anticipated due to a proposed development.

Although the EIS/NEPA process is based on federal laws and regulations, the state usually participates as a cooperating agency in the EIS process, and the LMPT endeavors to dovetail the state's permitting process with the federal, EIS process. The LMPT also coordinates, to the extent possible, with local governments.

## **Understanding What NEPA is**

EIS and NEPA terminologies are often misunderstood. These are not avenues to make a decision about whether a project should be developed or not; they are, however, about the stipulations, or requirements that a developer must agree to which will minimize the environmental impacts brought on by the development. The agreement then allows the developer to receive the permits to legally develop a project.

### **Lead Federal Agencies: Laws and Roles**

For large mining projects, EPA and other federal agencies, appoint points of contacts, often referred to as Project Managers to coordinate permitting activities within their agencies as well as other agencies and to participate in development of Environmental Impact Statements.

Specifically, EPA is responsible for issuing National Pollutant Discharge Elimination System (NPDES) permits as authorized in Section 402 of the Clean Water Act (CWA 402). These permits allow discharge of wastewater into Alaska waterbodies in compliance with federal regulations and state water quality standards.

For facilities where CWA New Source Performance Standards have been promulgated, such as some hardrock mining operations, EPA must comply with the National Environmental Policy Act, which requires preparation of an Environmental Impact Statement or an Environmental Assessment.

The lead federal agency for preparation of this document will be determined by the involved federal agencies based on the necessary major permitting actions and agency resources. Under Section 309 of the Clean Air Act, EPA is required to review all federal EIS's. Therefore, EPA may be a lead NEPA agency, cooperating agency, or reviewing agency.

EPA Region 10 has issued a handbook that describes the CWA permitting processes and NEPA environmental review requirements for metal mining operations in Region 10. EPA is the agency responsible for reviewing and approving or disapproving state water quality standards revisions and total maximum daily loads (TMDLs). In addition, EPA maintains the Toxics Release Inventory (TRI), which requires mining operators to disclose the amount of metals and other pollutants generated by mining activities such as disposal tailings and wasterock and wastewater discharges.

### **Section 404 of Clean Water Act**

The head agency responsible for issuing permits under Section 404 of the CWA for the discharge of dredge and fill materials into wetlands and waters of the United States is the Army Corps of Engineers (ACOE). EPA role is to review section 404 (wetland) permit applications and also has a responsibility to ensure 404 compliance.

EPA is also responsible for regulation of ocean disposal and Safe Drinking Water Act (SDWA) Underground Injection Control (UIC) programs in the state. EPA is responsible for administering the Resource Conservation & Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) (CERCLA) programs in Alaska. In administering

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these laws, EPA performs site assessment, removal, and remedial work. EPA reviews site assessment plans prepared by other federal and state agencies, such as the Bureau of Land Management and the U.S. Forest Service and scores these sites under CERCLA to determine if the sites are worthy for consideration on the National Priority List (NPL) for Superfund designation.

Two other federal agencies also need to be mentioned. The consultation requirements for Endangered Species Act (ESA) apply to all federal agencies and to be complete The US Fish and Wildlife Service (US F&WS) and National Marine Fisheries Service (NMFS) should prepare a section on their responsibilities for any EIS document.

### **Mixing Zones**

According the Alaska State Department of Environmental Conservation, "Mixing zones are areas within water bodies where treated wastewater does not have to meet (the) strictest water quality standards. To qualify for a mixing zone, a discharge must first be treated...and then pass a multiple-part test to ensure that there are no significant impacts to fish, other aquatic life, humans and other water uses."

A major concern by many residents who live in the Bristol Bay area is that water discharged from a mine will have significant impacts to fish, other aquatic life, humans and others, even if the discharge is treated as prescribed in a permit. This is the essential the concern with current mixing zone policies. Note that discharge is not allowed when salmon are spawning, however, it is allowed after eggs have developed in a stream or waterbody.

#### **Key Mixing Zone references**

Guidance on Mixing Zones in EPA:

[www.epa.gov/waterscience/standards/handbook/](http://www.epa.gov/waterscience/standards/handbook/)

New Mixing Zone regulations, 18 AAC 70, Water Quality Standards Mixing Zone Regulation Changes, Adopted January 12, 2006. See:

[www.dec.state.ak.us/water/wqsar/trireview/pdfs/Mixing\\_Zones\\_with\\_TitlePage1.pdf](http://www.dec.state.ak.us/water/wqsar/trireview/pdfs/Mixing_Zones_with_TitlePage1.pdf)

DEC draft implementation guidance to 2005 proposed mixing zone regulations, wastewater discharge. Go to:

[www.dec.state.ak.us/water/wqsar/pdfs/mxguidance100405.pdf](http://www.dec.state.ak.us/water/wqsar/pdfs/mxguidance100405.pdf)

Current Mixing Zone Policy within Alaska Water Quality Standards, Alaska State Regulations: 18 AAC 70.240-270

[www.dec.state.ak.us/regulations/pdfs/70mas.pdf](http://www.dec.state.ak.us/regulations/pdfs/70mas.pdf)

## **NEPA Review and Compliance: EPA's Regulatory Role**

EPA will most likely be the lead federal agency on the proposed Pebble mine as water bodies will likely be impacted with this mining development. If so then a NPDES permit will be required in order to meet EIS/NEPA compliance. NDM plans to submit this application when it has financing in place for the Pebble mine and the baseline studies it believes are necessary have been completed. The current project manager for the Pebble Project at EPA is located in the Anchorage Operations Office, Dianne Soderlund, P: (907) 271-3425. This contact may change in the future, but the phone reference should remain the same.

### **Major Federal Laws Required Under NEPA**

- Clean Water Act (CWA)
- Clean Air Act (CAA)
- Safe Drinking Water Act (SDWA)
- Marine Protection, Research, and Sanctuaries Act (MPRSA)
- Coastal Zone Management Act (CZMA)
- Wild and Scenic Rivers Act (WSRA)
- Endangered Species Act (ESA)
- National Historic Preservation Act (NHRA)
- Marine Mammal Protection Act (MMPA)
- Magnuson-Stevens Fisheries Management Act
- Section 106 of the National Historic Preservation Act
- Fish & Wildlife Coordination Act
- Endangered Species Act - Section 7
- Resource Conservation & Recovery Act
- Federal Insecticide, Fungicide & Rodenticide Act
- Toxic Substances Control Act
- Asbestos Hazard Emergency Response Act (AHERA on Asbestos in schools)
- American Indian Religious Freedom Act

### **Regulatory framework references**

ADNR, Office of Project Management & Permitting, "Permitting Large Mine Projects in Alaska."  
See: [www.dnr.state.ak.us/mlw/mining/largemine/lmpt\\_process.pdf](http://www.dnr.state.ak.us/mlw/mining/largemine/lmpt_process.pdf)

US EPA. "EPA & Hardrock Mining: A Source Book for Industry in the Northwest and Alaska."

See:

[http://yosemite.epa.gov/R10/WATER.NSF/840a5de5d0a8d1418825650f00715a27/e4ba15715e97ef2188256d2c00783a8e/\\$FILE/Maintext.pdf](http://yosemite.epa.gov/R10/WATER.NSF/840a5de5d0a8d1418825650f00715a27/e4ba15715e97ef2188256d2c00783a8e/$FILE/Maintext.pdf)

## Permits Required & Points of Contact for Pebble Project

The following is a summary of major state, federal and local government permits that may be required before a large mine project in Alaska could begin construction and operation. The permits are listed by agency and chronologically for the purpose of tracking only, not by order of when permits are submitted. Information was acquired from various local, state and federal departmental representatives and staff members who were asked to review permit information and provide points of contact for their respective departments.

**Table 1: Summary of State Agency Permits & Approvals**

This table represents a listing of state permits, and point of contacts for individuals and organizations directly responsible for those permits. Generally, the state's Large Mine Coordinator serves as the overall point of contact for state mining projects. The Large Mine Coordinator is responsible for managing and coordinating the permitting process, but not the actual issuance of permits. More information about the state's large mine permitting process and roles between state and federal permitting processes is available at:

[www.dnr.state.ak.us/mlw/mining/largemine/lmpt\\_process.pdf](http://www.dnr.state.ak.us/mlw/mining/largemine/lmpt_process.pdf)

[www.state.ak.us/local/akdir1.shtml](http://www.state.ak.us/local/akdir1.shtml)

	Agency	Regulated Activity	Permit/Approval	Point of Contact
1	ADNR <a href="http://www.dnr.state.ak.us/">http://www.dnr.state.ak.us/</a>	*Plan of Operations Approval, may consist of: 1) Project Description 2) Reclamation Plan & Bonding 3) Monitoring Plan (surface/groundwater and/or wildlife) 4) <sup>1</sup> Transportation plan 5) Road maintenance agreements	Mine site must be returned to stable condition compatible with post-mining land use; financial assurance (bond) must ensure state can do reclamation even if company cannot	Division of Mining, Land & Water, Mining Section, <a href="http://www.dnr.state.ak.us/mlw/mining/largemine/index.htm">http://www.dnr.state.ak.us/mlw/mining/largemine/index.htm</a>  Contact: Rick Fredericksen, Mining Section Chief Email: <a href="mailto:Rick_fredericksen@dnr.state.ak.us">Rick_fredericksen@dnr.state.ak.us</a> Phone: 269-8621 Fax: 269-8930
2	ADNR	Required lease for mineral production from the mining <sup>2</sup> claim	Upland Mining lease	Division of Mining, Land & Water, Mining Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Fredericksen, Mining Section Chief Email: <a href="mailto:Rick_fredericksen@dnr.state.ak.us">Rick_fredericksen@dnr.state.ak.us</a> Phone: 269-8621 Fax: 269-8930
3	ADNR	Surface property right for facilities & infrastructure areas (buildings, waste rock piles, tailings pond)	Millsite Lease	Division of Mining, Land & Water, Mining Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Fredericksen, Mining Section Chief Email: <a href="mailto:Rick_fredericksen@dnr.state.ak.us">Rick_fredericksen@dnr.state.ak.us</a> Phone: 269-8621 Fax: 269-8930
4	ADNR	ROW access for infrastructure (roads, pipelines, powerlines)	Access Road Right of Way (ROW) & Road Maintenance Agreement (DOT)	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913

<sup>1</sup> If roads are on private property, then DOT is most likely not involved.

<sup>2</sup> An upland mining lease is not required for mineral production. Such a lease consolidates the rights from a group of mining claims. Most companies opt to convert the relevant mining claims to a lease because it simplifies the management of their property rights and has some other advantages, but it's not a requirement. The rents, royalties, fees for an upland mining lease, on a per acre basis, are the same as for mining claims.

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5	ADNR	Transportation and staging facilities (upland) & marine facilities i.e. docks (tideland)	Upland or Tideland Leases	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913
6	ADNR		<sup>3</sup> Transportation Plan or Road Use Plan Approval	
7	ADNR	Required permit across state lands; DMLW on state land (lands section)	Rights of Way for Powerline	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913
8	ADNR	Required for construction, enlargement, alteration, repair or abandonment; dam safety and operation	Certificate of Approval to Construct a Dam	Division of Mining, Land & Water, Water Section, Dam Safety & Construction Unit <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Charlie Cobb, Dam Safety Engineer Email: <a href="mailto:charlesc@dnr.state.ak.us">charlesc@dnr.state.ak.us</a> Phone: 269-8636 Fax: 269-8947
9	ADNR	Dam (tailings & water storage) design and operation safety	Certificate of Approval to Operate a Dam	Division of Mining, Land & Water, Mining Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Charlie Cobb, Dam Safety Engineer Email: <a href="mailto:charlesc@dnr.state.ak.us">charlesc@dnr.state.ak.us</a> Phone: 269-8636 Fax: 269-8947
10	ADNR	Required water rights permit for use of public surface & subsurface waters	Permit to Appropriate Water	Division of Mining, Land & Water <a href="http://www.dnr.state.ak.us/mlw/water/index.htm">http://www.dnr.state.ak.us/mlw/water/index.htm</a>  Contact: Gary Prokosch, Chief of the Water Resources Section Email: <a href="mailto:garyp@dnr.state.ak.us">garyp@dnr.state.ak.us</a> Phone: 269-8645 Fax: 269-8947
11	ADNR	Temporary use of a significant volume up to 5 yrs requires this permit	Temporary Water Use Permit	Division of Mining, Land & Water <a href="http://www.dnr.state.ak.us/mlw/water/index.htm">http://www.dnr.state.ak.us/mlw/water/index.htm</a>  Contact: Gary Prokosch, Chief of the Water Resources Section Email: <a href="mailto:garyp@dnr.state.ak.us">garyp@dnr.state.ak.us</a> Phone: 269-8645 Fax: 269-8947
12	ADNR	For off millsite material (sand, rock, gravel)	Material Sale	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913
13	ADNR	Any roads (snow or ice) used for travel to stage equipment and	Winter travel permits	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>

<sup>3</sup> This permit for road use plan depends on DOT or director of DMLW

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		supplies; additional authorization required from OHMP on crossings of fish-bearing waters by snow or ice roads		Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913
14	ADNR	*Projects within Alaska's coastal zone reviewed for ACMP policies	Coastal zone consistency review	Office of Project Mgt & Permitting, Alaska Coastal Mgt. Program <a href="http://www.alaskacoast.state.ak.us/Contacts/acmpwgelist.html">http://www.alaskacoast.state.ak.us/Contacts/acmpwgelist.html</a>  Contact: Kim Kruse, Coastal Project Mgr. Email: <a href="mailto:kim_kruse@dnr.state.ak.us">kim_kruse@dnr.state.ak.us</a> Phone: 269-7473 Fax: 269-3981
15	ADNR	*Activities such as bridges, culverts, fords, material sites, tailings facilities, water withdrawal structures in waters containing anadromous (rear in the ocean & spawn in fresh water) fish	Fish Habitat Permit under <sup>4</sup> AS 41.14.870	Office of Habitat Mgt. & Permitting <a href="http://www.dnr.state.ak.us/habitat/">http://www.dnr.state.ak.us/habitat/</a>  Contact: Al Ott, Operations Mgr. Email: <a href="mailto:Al_Ott@dnr.state.ak.us">Al_Ott@dnr.state.ak.us</a> Phone: 459-7279 Fax: 456-3091
16	ADNR	*Activities that affect free passage of fish up and down stream	Fish Passage Permit under AS 41.14.840	Office of Habitat Mgt. & Permitting <a href="http://www.dnr.state.ak.us/habitat/">http://www.dnr.state.ak.us/habitat/</a>  Contact: Al Ott, Operations Mgr. Email: <a href="mailto:Al_Ott@dnr.state.ak.us">Al_Ott@dnr.state.ak.us</a> Phone: 459-7279 Fax: 456-3091
17	ADNR	Cultural Resource Authorizations: Issued from the SHPO for archaeological field work on state lands. The SHPO also is consulted by the COE as it exercises its National Historic Preservation Act Section 106 responsibilities. The SHPO must concur that cultural resources would not be adversely impacted, or that proper procedures would be used to minimize or mitigate impacts that may occur.	Field Archaeology Permit and, potentially, Section 106 on National Historic Preservation Act review	Office of History and Archaeology State Historic Preservation Office (SHPO) <a href="http://www.dnr.state.ak.us/parks/oha/shpo/shpo.htm">http://www.dnr.state.ak.us/parks/oha/shpo/shpo.htm</a>  Contact: Judy Bittner, State Historic Preservation Officer Email: <a href="mailto:judy_bittner@dnr.state.ak.us">judy_bittner@dnr.state.ak.us</a> Phone: (907) 269-8715 Fax: (907) 269-8908
18	ADNR	Cultural and archaeology resource protection; compensation strategy required for significant disturbances	Field Archaeology Permit  See application: <a href="http://www.dnr.state.ak.us/parks/oha/archsurv/archpermit.pdf">http://www.dnr.state.ak.us/parks/oha/archsurv/archpermit.pdf</a>  See regulations: <a href="http://www.dnr.state.ak.us/parks/oha/archsurv/archregs.pdf">http://www.dnr.state.ak.us/parks/oha/archsurv/archregs.pdf</a>	State Historic Preservation Office, Office of History & Archaeology, Division of Parks & Outdoor Recreation <a href="http://www.dnr.state.ak.us/parks/oha/">http://www.dnr.state.ak.us/parks/oha/</a>  Contact: Judy Bittner, Chief, Office of History & Archaeology, & State Historic Preservation Officer Email: <a href="mailto:Judy_Bittner@dnr.state.ak.us">Judy_Bittner@dnr.state.ak.us</a> Phone: 269-8715 Fax: 269-8908
19	ADFG	Required for projects in state refuge, sanctuary, or critical habitat for any mining activity	Special areas permit	Division of Sport Fish <a href="http://www.sf.adfg.state.ak.us/statewide/contact_SF.cfm">http://www.sf.adfg.state.ak.us/statewide/contact_SF.cfm</a>  Contact: Mark Fink, Permitting Supervisor Email: <a href="mailto:mark_fink@fishgame.state.ak.us">mark_fink@fishgame.state.ak.us</a> Phone: 267-2338 Fax: 267-2464
20	ADEC <a href="http://www.de">http://www.de</a>	<sup>5</sup> Dewatering of construction areas	<sup>6</sup> If discharged to subsurface or land, a wastewater permit under	Division of Water <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>

<sup>4</sup> Title 41 refers to AS statutes that permit activities for fish passage & fish habitats

<sup>5</sup> this permit is part of #34 State permit authorizations

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	<a href="http://c.state.ak.us/">c.state.ak.us/</a>		18AAC72.500 may be required. If discharged to surface water and is not contaminated, may be covered under the storm water discharge permit (#35 below and #6 in the Federal authorizations). Otherwise, may be covered under an individual NPDES permit (#1 in the Federal authorizations), then requiring a Certificate of Reasonable Assurance (Section 401 Water Quality Certification) from DEC the EPA Section 402 (NPDES) Permit.	Contact: David Johnson, Environmental Engineer Email: <a href="mailto:david_johnson@dec.state.ak.us">david_johnson@dec.state.ak.us</a> Phone: 262-5210 ext 238 Fax: 262-2294
21	ADEC	Waste rock dumps and tailings storage facilities	*Solid Waste Disposal Permit for Dry stack Tailings	Division of Environmental Health, Solid Waste Program <a href="http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm">http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm</a> Contact: Bob Blankenburg, Solid Waste Program Coord. Email: <a href="mailto:Bob_Blankenburg@dec.state.ak.us">Bob_Blankenburg@dec.state.ak.us</a> Phone: 269-7690 Fax: 269-7600
22	ADEC	*This permit may be issued in coordination with EPA (hazardous waste)	*Solid Waste Disposal Permit for Construction Debris and Garbage	Division of Environmental Health, Solid Waste Program <a href="http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm">http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm</a> Contact: Bob Blankenburg, Solid Waste Program Coord. Email: <a href="mailto:Bob_Blankenburg@dec.state.ak.us">Bob_Blankenburg@dec.state.ak.us</a> Phone: 269-7690 Fax: 269-7600
23	ADEC	*This permit may issued in coordination with EPA (hazardous waste)	*Solid Waste Disposal Permit for Tailings with Cyanide Residual	Division of Environmental Health, Solid Waste Program <a href="http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm">http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm</a> Contact: Lori Aldrich, Envir. Program Specialist Email: <a href="mailto:Lori_aldrich@dec.state.ak.us">Lori_aldrich@dec.state.ak.us</a> Phone: 269-7622 Fax: 269-7600
24	ADEC	Emissions sources (power plants) during construction; road dust; equipment over a threshold need a permit; facility will generate power or lines;	Air Quality Control Permit to Construct	Division of Air Quality, Air Permits Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a> Contact: Bill Walker, Constr. Permits Mgr. Email: <a href="mailto:Bill_Walker@dec.state.ak.us">Bill_Walker@dec.state.ak.us</a> Phone: 465-5100 Fax: 465-5129
25	ADEC	Requirement under Clean Air act for pollutants into atmosphere	Air Quality Control Permit to Operate	Division of Air Quality, Air Permits Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a> Contact: Cynthia Espinoza, Title V Sup. Email: <a href="mailto:Cynthia_Espinoza@dec.state.ak.us">Cynthia_Espinoza@dec.state.ak.us</a> Phone: 269-7577 Fax: 269-7508
26	ADEC	Regulation of industrial and domestic waste streams; mine site would most likely have a solid waste facility (incinerator) for	Air Quality Permit to Open Burn	Division of Air Quality, Air Permits Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a> Contact: Chris Kent, ES II

<sup>6</sup> This description gives three possible approaches this could be permitted for discharge, however there are potentially other ways it could be permitted.

<sup>7</sup> Covered in #34 State authorizations

<sup>8</sup> This would likely be covered in #31 State Authorizations, but could also be issued as a stand-alone permit

<sup>9</sup> This would be covered in #31 State authorizations

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		getting rid of hazardous waste; permit restricts black smoke or production of hazardous materials		Email: <a href="mailto:Chris_Kent@dec.state.ak.us">Chris_Kent@dec.state.ak.us</a> Phone: 269-6847 Fax: 269-7508
27	ADEC	Water system is submitted as formal plan; approval is based on conditions met in plan review checklist for construction approval	Construction Approval for Public Water Supply System  See Plan Review Checklist for drinking water systems: <a href="http://www.dec.state.ak.us/eh/dw/dwmain/engineering.html">http://www.dec.state.ak.us/eh/dw/dwmain/engineering.html</a>	Division of Environmental Health, Drinking Water Program <a href="http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html">http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html</a>  Contact: Allan Nakanishi, Plan Review Engineer Email: <a href="mailto:Allan_Nikanishi@dec.state.ak.us">Allan_Nikanishi@dec.state.ak.us</a> Phone: 269-7516 Fax: 269-7650
28	ADEC	Design of public water system is reviewed for state drinking water regulations & federal regulation guidelines	Operation Approval for Public Water Supply System	Division of Environmental Health, Drinking Water Program <a href="http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html">http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html</a>  Contact: Allan Nakanishi, Plan Review Engineer Email: <a href="mailto:Allan_Nikanishi@dec.state.ak.us">Allan_Nikanishi@dec.state.ak.us</a> Phone: 269-7516 Fax: 269-7650
29	ADEC	*Mining company needs significant amount of cash (bonding) to operate permit in case mine site is closed earlier than planned (becomes insolvent or forecloses), <sup>10</sup>	<sup>11</sup> Bonding & financial assurance	Division of Water, Wastewater Discharge Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: David Johnson, Environmental Engineer Email: <a href="mailto:david_johnson@dec.state.ak.us">david_johnson@dec.state.ak.us</a> Phone: 262-5210 ext 238 Fax: 262-2294
30	ADEC	For tailings & waste rock at mine site; permit regulates disposal of waste substances (i.e. need to place & dispose of waste); may be dry stack or tailings pond most likely on site (versus off site) due to sheer amount of waste expected)	Solid Waste Permit (also referred to as Waste Management Permit)	Division of Water, Wastewater Discharge Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: David Johnson, Environmental Engineer Email: <a href="mailto:david_johnson@dec.state.ak.us">david_johnson@dec.state.ak.us</a> Phone: 262-5210 ext 238 Fax: 262-2294
31	ADEC	Discharge of non-domestic wastewater (i.e. non-sewage); design of system is reviewed ensuring standard technology and regulatory requirements are met (i.e. water is treated properly)	<sup>12</sup> Plan Review for Non-Domestic Wastewater Treatment System State plan review occurs outside of EPA permit requirement (#1 Federal Authorizations)	Division of Water, Wastewater Discharge Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: David Johnson, Environmental Engineer Email: <a href="mailto:david_johnson@dec.state.ak.us">david_johnson@dec.state.ak.us</a> Phone: 262-5210 ext 238 Fax: 262-2294
32	ADEC	*Discharge of fill in waters of the US (wetlands)	<sup>13</sup> Certificate of Reasonable Assurance (Section 401 Water Quality Certification) for COE Section 404 Permit (corresponds to #8 Federal Authorizations)	Division of Water, Nonpoint Source Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: William Ashton, Stormwater and Wetlands Section Email: <a href="mailto:william_ashton@dec.state.ak.us">william_ashton@dec.state.ak.us</a> Phone: 269-7564 Fax: 334-2415
33	ADEC	*Discharges to of non-domestic wastewater to surface water (stream & lakes, ocean).	Certificate of Reasonable Assurance (Section 401 Water Quality Certification) for Section 402 (NPDES) Permit	Division of Water, Wastewater Discharge Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: Sharon Stambaugh, Program Mgr. of Industrial

<sup>10</sup> ADNR and ADEC work together though ADEC is overarching agency; ADNR assures monitoring for 30 years making sure no long term problems remain and area is reclaimed in stable condition; central part of waste permit for tailings disposal permit as well as significant monitoring & reporting requirements in permit

<sup>11</sup> bond amount is significant i.e. Pogo is \$22 million; Greens Creek \$20 million; Rock Creek \$7million; bonding may come in various forms such as letter of credit or cash bond that the department of revenue manages

<sup>12</sup> 18AC72.500 is the regulatory authority for this permit; 18AC72.600 refers to the plan review

<sup>13</sup> DEC certifies 404 permit which Army Corps of Engineers (USACE) issues

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			<p>Based on permit application, EPA will write an NPDES permit<sup>14</sup> and the state will certify that it meets Alaska state quality standards</p> <p>ADEC must provide certification under section 401 of the CWA for EPA permits to assure they comply with state quality standards including approval of mixing zone (dilution of pollutants) requirements; ADEC authorizes mixing zones in the certification (Cert); EPA has no authority to do this in Alaska</p>	<p>Waste Section                  Email: <a href="mailto:Sharon.stambaugh@dec.state.ak.us">Sharon.stambaugh@dec.state.ak.us</a>                  Phone: 269-7565                  Fax: 269-3487</p>
34	ADEC	Discharge of storm water from construction and operation activities to surface waters.	<p>Submit Storm Water Pollution Prevention Plan to DEC as required under EPA permit.</p> <p>-If Pebble project is eligible for EPA's <sup>15</sup>MultiSector General Permit (corresponds to #6 Federal authorization), no state 401 certification is needed because it will be completed under a separate review.</p> <p>-If project is not eligible for the EPA MultiSector General Permit, authorization for storm water discharges can be included in the individual permit for the project (#1 Federal authorization). DEC would issue a 401 Certificate for an individual permit (#34 state authorization).</p>	<p>Division of WaterNonPoint Source Program  <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a></p> <p>Contact:                  Greg Drzewiecki, Stormwater &amp; Wetlands Program                  Email: <a href="mailto:mcl_langdon@dec.state.ak.us">mcl_langdon@dec.state.ak.us</a>                  Phone: 269-6283                  Fax: 334-2415</p>
35	ADEC	Disposal of treated domestic waste water, the plan approval is for treatment facility	Plan Review & Construction Approval for Domestic Sewage System	<p>Division of Water, Wastewater Discharge Program  <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a></p> <p>Contact:                  Tim Wingerter, Domestic Wastewater Section Mgr.                  Email: <a href="mailto:Tim_Wingerter@dec.state.ak.us">Tim_Wingerter@dec.state.ak.us</a>                  Phone: 451-2116                  Fax: 451-2183</p>
36	ADEC	*This is for tanks greater than 400,000 gal.; EPA (Matt Carr, 271-5083) Contingency Plan larger tanks storage of fuels greater than 400,00 like Red Dog	SPCC Plan Review Approval	<p>Division of Spill Prevention &amp; Response  <a href="http://www.dec.state.ak.us/spar/index.htm">http://www.dec.state.ak.us/spar/index.htm</a></p> <p>Contact:                  Ed Meggert, Envir Program Mgr.                  Email: <a href="mailto:Ed_Meggert@dec.state.ak.us">Ed_Meggert@dec.state.ak.us</a>                  Phone: 451-2124                  Fax: 451-2362</p>
37	ADEC	Operation of vessels and oil barges on state waters or oil terminal facilities above or below ground; reviewed every 3 yrs	Oil Discharge Prevention and Contingency Plan (winter road option only)	<p>Division of Spill Prevention &amp; Response  <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a></p> <p>Contact:                  Eric Brightenburger, title                  Phone: 451-2144                  Fax: 451-2362</p>

<sup>14</sup> corresponds to #1 Federal authorization

<sup>15</sup> the Multisector general permit that may be used is currently not in effect, but EPA plans to have it ready by the end of the year. If issued in the draft form, it could cover storm water discharges from both the construction and operation phases of the mine project. Alternatively, storm water could be written into the NPDES permit for non-domestic (i.e. industrial or process) wastewater. Storm water generally is not discharged to land or subsurface, so this will have to be an NPDES permit, not a state permit. For non-domestic wastewater – this is required if the project discharges water used in processing the ore to surface waters, but this depends on NDM mine plans. In the Rock Creek mine case, this permit was not needed, but Kensington did require this. If discharged to surface water, this will definitely be an NPDES permit, not a state permit. This permit could possibly include storm water and/or dewatering, depending on how the application is written and what EPA decides to include in the permit.

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38	ADEC	*Review of blueprints of facilities design on structure, equipment; coordinate with wastewater team on source of water supply, well number; septic system	Food Sanitation Permit	Division of Environmental Health <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: Mike Tierney, Environmental Health Officer Email: <a href="mailto:Mike_Tierney@dec.state.ak.us">Mike_Tierney@dec.state.ak.us</a> Phone: 269-3004 Fax: 269-7510
39	ADOT <a href="http://www.dot.state.ak.us/">http://www.dot.state.ak.us/</a>	For access to state highway. \$5000 fee required for commercial approach road as performance deposit; site is inspected for requirements (i.e. site distance, location, width, use, return radius, clearance); commercial process may have special considerations; approval from Native corp. is required for approach road on lands other than state lands	Driveway Permit  See online permit regulations for approach road <a href="http://www.dot.state.ak.us/permits/RowdysUsersGuide/drivewayreg.html">http://www.dot.state.ak.us/permits/RowdysUsersGuide/drivewayreg.html</a>	Right of Way <a href="http://www.dot.state.ak.us/permits">www.dot.state.ak.us/permits</a>  Contact: Dawn Hancock, Right of Way Agent Email: <a href="mailto:Dawn_Hancock@dot.state.ak.us">Dawn_Hancock@dot.state.ak.us</a> Phone: 269-0700 Toll Free: 1800-770-5263 Fax: 248-9456
40	ADOT		Right of Way/Access (on state roads)	Right of Way <a href="http://www.dot.state.ak.us/permits">www.dot.state.ak.us/permits</a> Contact: Dawn Hancock, Right of Way Agent Email: <a href="mailto:Dawn_Hancock@dot.state.ak.us">Dawn_Hancock@dot.state.ak.us</a> Phone: 269-0700 Toll Free: 1800-770-5263 Fax: 248-9456
41	ADOT	Generation of contaminated materials during construction	Approval to Transport Hazardous Materials	Division of Measurement Standards & Commercial Vehicle Enforcement <a href="http://www.dot.state.ak.us/mscve/index.shtml">http://www.dot.state.ak.us/mscve/index.shtml</a>  Contact: Dan Breeden, Chief of MSCVE Email: <a href="mailto:Dan_Breeden@dot.state.ak.us">Dan_Breeden@dot.state.ak.us</a> Phone: 365-1210 Fax: 365-1220
42	ADPS <a href="http://www.dps.state.ak.us/">http://www.dps.state.ak.us/</a>	This entails a review of commercial building for safety purposes	Life & Fire Safety Plan Check  From ADPS website, looks like maybe item 43 and item 44 should be one item.	Alaska State Fire Marshall's Office, Division of Fire Prevention <a href="http://www.dps.state.ak.us/fire/asp/offices.asp">http://www.dps.state.ak.us/fire/asp/offices.asp</a>  Contact: Don Cuthbert, Life Safety Inspection Bureau Supervisor Email: <a href="mailto:Donald_Cuthbert@dps.state.ak.us">Donald_Cuthbert@dps.state.ak.us</a> Phone: 269-5637 Fax: 269- 5018
43	ADPS	*Building construction; may require municipality or borough coordination; review for fire and life safety for facilities (buildings)	Plan Review Certificate of Approval for each Building	Alaska State Fire Marshall's Office, Plan Review Bureau <a href="http://www.dps.state.ak.us/fire/asp/offices.asp">http://www.dps.state.ak.us/fire/asp/offices.asp</a>  Contact: Tim Fisher, Building Plans Examiner Email: <a href="mailto:Timothy_Fisher@dps.state.ak.us">Timothy_Fisher@dps.state.ak.us</a> Phone: 269-5486 Fax: 269-0098
44	ADL <a href="http://www.labor.state.ak.us/home.htm">http://www.labor.state.ak.us/home.htm</a>	Boiler operation and safety	Certificate of Inspection for Fired and Unfired Pressure Vessel	Division of Labor Standards & Safety <a href="http://www.labor.state.ak.us/lss/contacts.htm">http://www.labor.state.ak.us/lss/contacts.htm</a> Contact: Mark Peterson, Chief Boiler & Pressure Vessel Inspector Email: <a href="mailto:Rudy_peterson@labor.state.ak.us">Rudy_peterson@labor.state.ak.us</a> Phone: 269-4934 Fax: 269-4932
45	ADL	Required for payroll purposes	Employer Identification Number	Division of Labor & Workforce Dev. <a href="http://labor.state.ak.us/">http://labor.state.ak.us/</a> Contact: Judy Smathers, Labor & Workforce Dev. Act. Sup. Email: <a href="mailto:judy_smathers@labor.state.ak.us">judy_smathers@labor.state.ak.us</a> Phone: 465-5919 Toll Free: 1888-448-3527 Fax: 465-2374

\* indicates permit may be consulted with other local, state and/or federal agencies

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### **Table 2: Summary of Federal Agency Permits & Approvals**

The following table lists federal permits that may be required for the proposed Pebble mine.<sup>16</sup> The state's Department of Natural Resources, Office of Project Management & Permitting coordinates activities with major federal agencies such as US Environmental Protection Agency and US Army Corps of Engineers. In addition, EPA, and all other federal agencies, also must comply with numerous federal executive orders. Two notable ones that apply would be EO's regarding environmental justice and Consultation with Tribal governments. Additionally, the federal Clean Air Act has been delegated to the State of Alaska, therefore federal air requirements are largely enforced by the state.<sup>17</sup>

For federal authorizations, there are two main permits: NPDES permit (section 402) for industrial wastewater, and the USACE (section 404) permit for fill, and then consultation required by federal regulations for each of them. Any time a Section 402 or 404 permit is issued, the EPA or USACE needs a 401 certification from the state.

EPA assigns a project manager for large projects in Alaska who serve as the primary agency contact for all activities related to that project. Currently, Dianne Soderlund is the EPA Pebble Project Manager. Her role is to coordinate EPA actions on Pebble project including permitting, review and comment of documents as well as public education and outreach. The Alaska Mining Coordinator is Cindi Godsey who serves as the permitting contact. For more information see:

<http://yosemite.epa.gov/r10/aoo.nsf/60b16ceeacd447c38825650f0071652d/20342812a0bef67b882564b9006fcb12?OpenDocument>

Currently, EPA is responsible for issuing NPDES (CWA 402) permits for dischargers in Alaska and responsible for reviewing and approving or disapproving state water quality standards revisions and total maximum daily loads. EPA does have a significant federal role in mine permitting but (dependent on the requested permits) the state of Alaska or another federal agency could have a lead role.

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<sup>16</sup> Note that Northern Dynasty Mines may, or may not apply for a NPDES permit or UIC permits. Since NDM does not anticipate applications being submitted until at least 2008, it is not possible to identify with absolute certainty what permits will be requested.

<sup>17</sup> Contact John Pavitt, EPA, at 271-5083 for more information.

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	Agency	Regulated Activity	Permit/Approval	Point of Agency Contact
1	USEPA	Discharge of industrial wastewater into waters of the U.S.  ADEC must provide certification under section 401 of the CWA for EPA permits to assure that they comply with state quality standards including approval of mixing. <sup>18</sup>	<sup>19</sup> NPDES permitting, which incorporates *Section 301 & 306 of CWA, requiring industry to develop and meet wastewater standards under New Source Performance Standards (NSPS).  See link: <a href="http://yosemite.epa.gov/r10/aoo.nsf/34090d07b77d50bd88256b79006529e8/20342812a0bef67b882564b9006fcb12/\$FILE/NPDES%20&amp;%20Mining.pdf">http://yosemite.epa.gov/r10/aoo.nsf/34090d07b77d50bd88256b79006529e8/20342812a0bef67b882564b9006fcb12/\$FILE/NPDES%20&amp;%20Mining.pdf</a>	EPA Region 10  Contact: Cindi Godsey, Alaska Mining Coordinator Email: <a href="mailto:Godsey.cindi@epa.gov">Godsey.cindi@epa.gov</a> Phone: 271-6561 Fax: 271-3424
2	USEPA	NPDES permit actions for new sources are subject to NEPA; a Record of Decision (ROC) would be issued prior to the final permit action	Section 511 (c) of CWA	EPA Region 10  Contact: Hanh Shaw, NEPA Compliance Officer Email: <a href="mailto:Shaw.hanh@epa.gov">Shaw.hanh@epa.gov</a> Phone: (206) 553-0171 Fax: (206) 553-0165
3	USEPA	Issuance of permit to allow discharge of fill into waters of the U.S.	Review of COE CWA Section 404 Permit	EPA Region 10  Contact: Phil North Email: <a href="mailto:North.phillip@epa.gov">North.phillip@epa.gov</a> Phone: 260-4872 Fax: 260-5992
4	USEPA	Authorized under CWA for review of SPCC plan for large quantities of oil	Spill Prevention, Control, and Countermeasure (SPCC) Plan	EPA Region 10, Environmental Clean-up Office, Envir. Response Unit  Contact: Matt Carr, Email: <a href="mailto:carr.matthew@epa.gov">carr.matthew@epa.gov</a> Phone: 271-3616 Fax: 271-3424
5	USEPA	Discharge of storm water from industrial activities into waters of the U.S.	<sup>20</sup> Coverage under the Storm water MultiSector General Permit (if eligible).	Submit Notice of Intent to EPA Headquarters  EPA Region 10 contact: Misha Vakoc Email: <a href="mailto:vakoc.misha@epa.gov">vakoc.misha@epa.gov</a> Phone: (206) 553-6650
6	USEPA	Discharge of wastewater, including storm water, to the subsurface	Class V Underground Injection Control (UIC) Permit	EPA Region 10  Contact: Peter Mogolske Email: <a href="mailto:magolske.peter@epa.gov">magolske.peter@epa.gov</a> Phone: (206) 553-2964 Fax: (206) 553-0165
7	USACE	Discharge of fill into wetlands and waters of the U.S. (including construction for roads, bridges, dams for tailings storage, & water storage dams or stream diversion structures)	<sup>21</sup> Permit under Section 404 of CWA for Discharge of Dredge or Fill Materials (mine tailings) into waters or wetlands of the U.S.	US Army Corps of Engineers, Alaska District, Regulatory Branch <a href="http://www.poa.usace.army.mil/hnm/">http://www.poa.usace.army.mil/hnm/</a>  Contact: Leroy Phillips, Team Leader

<sup>18</sup> Corresponds to #34 under State authorizations

<sup>19</sup> The state of Alaska has applied for authorization to run the NPDES permitting program in the state of Alaska (see <http://www.dec.state.ak.us/water/npdes/npdes.htm> for status of NPDES Primacy) however, this will have no affect on EPA's responsibility for approving Water Quality Standards. See also: <http://yosemite.epa.gov/R10/WATER.NSF/840a5de5d0a8d1418825650f00715a27/df12a6b6c1adebe28825687900599d131OpenDocument&Highlight=0.alaska> for EPA's Current NPDES Permits in Alaska.

<sup>20</sup> Corresponds to #35 State authorizations

<sup>21</sup> Corresponds with #33 under State authorizations

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				Email: <a href="mailto:leroy.phillips@poa02.usace.army.mil">leroy.phillips@poa02.usace.army.mil</a> Phone: 753-2712 Phone Toll Free: 1800-478-2712 Fax: 753-5567
8	USACE	Any structure and/or work that could obstruct traditionally navigable waters of U.S. (including artificial islands, installations, etc.)	Permit under Section 10 of Rivers & Harbors Act of 1899	US Army Corps of Engineers, Alaska District, Regulatory Branch <a href="http://www.poa.usace.army.mil/hmf/">http://www.poa.usace.army.mil/hmf/</a>  Contact: Leroy Phillips, Team Leader Email: <a href="mailto:leroy.phillips@poa02.usace.army.mil">leroy.phillips@poa02.usace.army.mil</a> Phone: 753-2712 Phone Toll Free: 1800-478-2712 Fax: 753-5567
9	<sup>22</sup> USACE	Impacts to cultural resources	Consultation under Section 106 Historical and Cultural Resources Protection	US Army Corps of Engineers, Alaska District, Regulatory Branch <a href="http://www.poa.usace.army.mil/hmf/">http://www.poa.usace.army.mil/hmf/</a>  Contact: Leroy Phillips, Team Leader Email: <a href="mailto:leroy.phillips@poa02.usace.army.mil">leroy.phillips@poa02.usace.army.mil</a> Phone: 753-2712 Phone Toll Free: 1800-478-2712 Fax: 753-5567
10	NMFS <a href="http://www.fakr.noaa.gov/contactinfo.htm">http://www.fakr.noaa.gov/contactinfo.htm</a>	Issuance of permits for discharges of wastewater or fill to waters of the U.S.	Consultation with federal agencies for adverse effects on essential fish habitat (including habitat for spawning, breeding, feeding, growth to maturity); EPA must provide a EFH assessment to NMFS for the NPDES permit, and USACE must for the Section 404 permit. Essential Fish Habitat (EFH)	National Marine Fisheries Service, Alaska Region  Contact: Matt Eagleton, Fishery Biologist Email: <a href="mailto:matthew.eagleton@noaa.gov">matthew.eagleton@noaa.gov</a> Phone: 271-6354 Fax: 271-3030
11	NMFS	Issuance of permits for discharges of wastewater or fill to waters of the U.S.	Consultation under Section 7 of Threatened and Endangered Species Act (ESA). ESA requires federal agencies issuing permits to conduct consultation for impacts to threatened or endangered marine species (EPA for the NPDES permit, and USACE for the Section 404 permit.)	National Marine Fisheries Service, Alaska Region  Contact: Matt Eagleton, Fishery Biologist I am not sure Matt is the right contact for marine mammals like the Beluga - Email: <a href="mailto:matthew.eagleton@noaa.gov">matthew.eagleton@noaa.gov</a> Phone: 271-6354 Fax: 271-3030
12	USFWS <a href="http://alaska.fws.gov/">http://alaska.fws.gov/</a>	Issuance of permits for discharges of wastewater or fill to waters of the U.S. Permits for Native Endangered & Threatened Species link: <a href="http://www.fws.gov/endangered/permits/index.html">http://www.fws.gov/endangered/permits/index.html</a>	<sup>23</sup> Threatened & Endangered Species Act Consultation	US Fish & Wildlife Service, Alaska Region <a href="http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2">http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2</a>  Contact: Greg Balogh, Endangered Species Branch Chief Email: <a href="mailto:greg_balogh@fws.gov">greg_balogh@fws.gov</a> Phone: 271-2778 Fax: 271-2786
13	USFWS <a href="http://alaska.fws.gov/">http://alaska.fws.gov/</a>	Impacts to raptors nesting in area	Consultation under the Bald Eagle Protection Act Clearance	US Fish & Wildlife Service, Alaska Region <a href="http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2">http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2</a>

<sup>22</sup> This may be the responsibility of all federal agencies, however, with Pogo for example, the Army Corps of Engineers agreed to be the lead for that particular project.

<sup>23</sup> Same as #11 Federal authorizations

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				Contact: Joe Connor, Project Planning Biologist Email: <a href="mailto:joseph_connor@fws.gov">joseph_connor@fws.gov</a> Phone: 271-3764 Fax: 271-3030
14	USFWS <a href="http://alaska.fws.gov/">http://alaska.fws.gov/</a>	Impacts to migratory birds in area  See Migratory Bird & Eagle Permits link: <a href="http://www.fws.gov/permits/mbpermits/birdbasics.html">http://www.fws.gov/permits/mbpermits/birdbasics.html</a>	Consultation under Migratory Bird Protection	US Fish & Wildlife Service, Alaska Region <a href="http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2">http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2</a>  Contact: Meg Laws, Wildlife Biologist/Permits Email: <a href="mailto:meg_laws@fws.gov">meg_laws@fws.gov</a> Phone: 786-3693 Fax: 786-3495
15	USBATF <a href="http://www.atf.gov/index.htm">http://www.atf.gov/index.htm</a>	Use of high (type 33) blasting agents; need permit to set off or purchase explosives or if any mixing of explosives occurs on site; permits gives right to create explosives and combine ingredients	Permit and License for Use of Explosives	US Department of Justice, Bureau of ATF, Anchorage Field Office <a href="http://www.atf.gov/field/seattle/ak.htm">http://www.atf.gov/field/seattle/ak.htm</a>  Contact: Peggy Dreeszen Email: <a href="mailto:peggy.dreeszen@atf.gov">peggy.dreeszen@atf.gov</a> Phone: 271-5701 Fax: 271-5704
16	USMSHA <a href="http://www.msha.gov">http://www.msha.gov</a>	This is a 1-page application filled out by the mining company legally required indicating they are a mining operation; the mining company is assigned an identity number	Notification of Legal Identity	US Mining, Safety, Health Administration, Anchorage Field Office <a href="http://www.msha.gov/CONTACTS/MNMWEST.HTM#FO">http://www.msha.gov/CONTACTS/MNMWEST.HTM#FO</a>  Contact: Scott Horn, Supervisor Email: <a href="mailto:horn.donald@dol.gov">horn.donald@dol.gov</a> Phone: 271-1250 or 250-0267 Fax: 271-1252
17	USMSHA	Each individual mining company is required to have training (i.e. primarily safety issues)	Training and Retraining of Miners Plan	US Mining, Safety, Health Administration, Anchorage Field Office <a href="http://www.msha.gov/CONTACTS/MNMWEST.HTM#FO">http://www.msha.gov/CONTACTS/MNMWEST.HTM#FO</a>  Contact: Scott Horn, Supervisor Email: <a href="mailto:horn.donald@dol.gov">horn.donald@dol.gov</a> Phone: 271-1250 or 250-0267 Fax: 271-1252

\* indicates permit may be consulted with other state and/or federal agencies

**Table 3: Summary of Local Permits & Approvals Needed**

The primary local government organization with authoritative power (under Alaska state statute) to issue ordinances, conditional use permits for this part of the region is the Lake & Peninsula Borough (L&PB). Other regional governments such as the Bristol Bay Borough will be directly impacted by the Pebble mine, but because it falls outside borough boundaries, this entity can only provide comment and opinions about this major development. Other local permits may include Native corporate lands, however this depends on which transportation route is chosen by NDM. This may include land owned by the Bristol Bay Native Corporation and possibly other village corporation lands.

Other political agencies such as the Bristol Bay Coastal Resources Service Area (BBCRSA) can review mine plans for consistency of their current plan, but does not have ordinance power. If BBCRS finds regulations inconsistent with their plan, this does not preclude the mine from being developed. For inconsistent plans, BBCRS would offer suggestions on what would make regulations consistent with plan. The extent of their involvement is primarily an advisory role.

The current mining ordinance is now under review by L&PB which has authority to review permits before development of mine takes place. The L&PB Planning commission program would approve with the option for approval by the borough assembly. The significance of the development permit application requires that all other permits to be in place when submitted by the mining company.

More information about L&PB development permit regulations is available at:  
[www.lakeandpen.com/index.asp?Type=B\\_BASIC&SEC={DE7FEF9F-AF75-4492-8CB5-B08694573926}](http://www.lakeandpen.com/index.asp?Type=B_BASIC&SEC={DE7FEF9F-AF75-4492-8CB5-B08694573926})

	Agency	Regulated Activity	Permit/Approval	Point of Agency Contact
1	Lake & Peninsula Borough  <a href="http://www.lakeandpen.com/">http://www.lakeandpen.com/</a>	Local government authorizations:  Mining company must provide documentation of all other permits which must be in place; this is the last permit where all other (state & federal) permits are reviewed	Development Use permits Development permit regulation application link: <a href="http://www.lakeandpen.com/index.asp?Type=B_BASIC&amp;SEC={DE7FEF9F-AF75-4492-8CB5-B08694573926}">http://www.lakeandpen.com/index.asp?Type=B_BASIC&amp;SEC={DE7FEF9F-AF75-4492-8CB5-B08694573926}</a>	Contact: Marv Smith, Community Development Coord. Email: <a href="mailto:marvsmith.lpboro@starband.net">marvsmith.lpboro@starband.net</a> Phone: 246-3421 Phone Toll Free: 1800764-3421 Fax: 246-6602  Alternate Contact: Sheila Bergey, Borough Clerk Email: <a href="mailto:lpboro@bristolbay.com">lpboro@bristolbay.com</a>
2		Authorizations on non-state owned land for ROW for road infrastructures	Village corporate lands access authorizations	
3	Bristol Bay Coastal Resources Service Area  <a href="http://www.alaskacoast.state.ak.us/Contacts/cdistcont.htm">http://www.alaskacoast.state.ak.us/Contacts/cdistcont.htm</a>	<sup>24</sup> Activities in the coastal zone	Consistency with local coastal zone requirements	Contact: Andrew DeValpine, Program Director BBCRSA Email: <a href="mailto:bbcrsant@nushtel.com">bbcrsant@nushtel.com</a> Phone: 842-2666 Fax: 842-2776

<sup>24</sup> Under new state regulations, changes to the local coastal district's review power has resulted in coastal districts no longer having review power. Currently there is contention about due deference in regulations and what this consists of and how authoritative is it – but for now it is interpreted as advisory only. Contact Kim Kruse for more information at 269-7473.

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**Nushagak-Mulchatna Watershed Council Resource Data Collection Projects**

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This section lists projects NMWC is partnering with various organizations to provide important resource data for villages, communities, village corporations, local governments, and others developing land management plans, community planning projects and for other uses and activities in the Bristol Bay area.

**Native Place Names Project**, Coordinator, Francisca Yanez, Resource Specialist, Bristol Bay Native Corporation, 111 West 16th Avenue, Suite 400, Anchorage, AK 99501, P (907) 278-3602, F (907) 276-3925, Toll Free 1-800-426-3602, Email: [fyanez@bbnc.net](mailto:fyanez@bbnc.net), web site: <http://www.bristolbayonline.com/bbplacenames/>

- o Tiel Smith, Land & Resources Manager, Bristol Bay Native Corp., 111 W. 16<sup>th</sup> Ave., Suite 400, Anchorage, AK 99501, P (907) 278-3602, F (907) 276-3925, Toll Free 1800-426-3602, Email: [tsmith@bbnc.net](mailto:tsmith@bbnc.net), web site: <http://www.bbnc.net/>

**Nushagak Water Quality Monitoring Project**, Anchorage Field Office, USDA Natural Resource Conservation Service, Alaska Soil & Water Conservation District, 510 L St., St. 280, Anchorage, AK 99501, P (907) 271-2424 x 126; F (907) 271-4099, Email:, web site: <http://www.alaskaswcds.org/index.html>

**Lower Koktuli River Instream Flow Reservation Project**, Cathy Flanagan, Biohydrologist, P (907) 786-3903, Email: [cathyflanagan@gmail.com](mailto:cathyflanagan@gmail.com)

- o The Nature Conservancy, 715 L St., St. 100, Anchorage, AK 99501, P (907) 276-3133 x120, F (907) 276-2584, Email: [ttroll@tnc.org](mailto:ttroll@tnc.org), web site: <http://www.nature.org/wherewework/northamerica/states/alaska/>
- o Sue Flensburg, Environmental Program Manager, Bristol Bay Native Association, Box 310, Dillingham, AK 99576, P (907) 842-5257, F (907) 842-5932, Email: [sflensburg@bbna.com](mailto:sflensburg@bbna.com), web site: [www.bbna.com/](http://www.bbna.com/)

**Soils Survey for the Nushagak Mulchatna Watershed Area**, Joe Moore, State Soil Scientist, USDA Natural Resource Conservation Service (NRCS), 800 W. Evergreen St., St. 100, Palmer, AK, 99645, P (907) 761-7759, F (907) 761-7790, Email: [jmoore@ak.nrcs.usda.gov](mailto:jmoore@ak.nrcs.usda.gov), web site: <http://www.ak.nrcs.usda.gov/>

- o Tom Thomas, District Conservationist, USDA Natural Resource Conservation Service (NRCS), Dillingham, AK 99576, P (907) 842-3240, F (907) 842-3922, Email: [Thomas.Thomas@ak.usda.gov](mailto:Thomas.Thomas@ak.usda.gov)

**Traditional Use Conservation Planning Project (TUACP)**, Tim Troll, Director of Southwest Alaska Programs, The Nature Conservancy, 715 L St., St. 100, Anchorage, AK 99501, P (907) 276-3133 x120, F (907) 276-2584, Email: [ttroll@tnc.org](mailto:ttroll@tnc.org), web site:

- o Curyung Tribal Council, Billy Maines, Environmental Coordinator, Box 216, Dillingham, AK 99576, P (907) 842- 1751, F (907) 842-4510, Email: [curyung@starband.net](mailto:curyung@starband.net), web site: <http://www.curyung.com/pages/1/index.htm>
- o Sue Flensburg, Environmental Program Manager, Bristol Bay Native Association, Box 310, Dillingham, AK 99576, P (907) 842-5257, F (907) 842-5932, Email: [sflensburg@bbna.com](mailto:sflensburg@bbna.com), web site: [www.bbna.com/](http://www.bbna.com/)

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**Contact Information Listings**

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This section below provides contact information listings for tribal, regional, state and federal agencies. Tribal contacts are listed alphabetically by Tribe with EPA-IGAP program coordinator and NMWC representative and alternate contacts.

**Bristol Bay Area Tribal Contacts**

**Native Village of Aleknagik**, Box 115, Aleknagik, AK 99555, P (907) 842-2080, F (907)842-2081, Email: [alektrad@nushtel.com](mailto:alektrad@nushtel.com)

**EPA-IGAP Coordinator:** Daniel Chythlook, P (907) 842-4407, F (907) 842-4534, Email: [aleknagiktraditional@starband.net](mailto:aleknagiktraditional@starband.net); Tina Carr, P (907) 842-4407, F (907) 842-4534, Email: [aleknagik@starband.net](mailto:aleknagik@starband.net)

**Nushagak Mulchatna Watershed Council:** Daniel Chythlook

**Native Village of Chignik Bay**, Box 48, Chignik, AK 99564, P (907) 749-2445, F (907) 749-2423, Email: [cbaytc@aol.com](mailto:cbaytc@aol.com)

**EPA-IGAP Coordinator:** Jeanette Carlson, Box 48, Chignik Bay, AK 99564, P (907) 749-2481, F (907) 749-2423, Email: [jcar205840@aol.com](mailto:jcar205840@aol.com)

**Native Village of Chignik Lagoon**, Box 57, Chignik Lagoon, AK 99565, P (907) 840-2281, F (907) 840-2217, Email: [clvc101@aol.com](mailto:clvc101@aol.com)

**EPA-IGAP Coordinator:** Carol Grunert, Box 9, Chignik Lagoon, AK 99565, P (907) 840-2301, F (907) 840-2217, Email: [frankiekarl2360@yahoo.com](mailto:frankiekarl2360@yahoo.com)

**Chignik Lake Village**, Box 33, Chignik Lake, AK 99548, P (907) 845-2212, F (907) 845-2217, Email: [chigniklake@yahoo.com](mailto:chigniklake@yahoo.com)

**EPA-IGAP Coordinator:** Miranda Shangin, Box 50, Chignik Lake, AK 99564, P (907) 845-2888, F (907) 845-2885, Email: [chigniklake\\_igap@hotmail.com](mailto:chigniklake_igap@hotmail.com)

Julia Kuchenoff, Email: [chigniklake\\_igap@hotmail.com](mailto:chigniklake_igap@hotmail.com)

**Village of Clark's Point**, Box 90, Clarks Point, AK 99569, P (907) 236-1263, F (907) 236-1428, Email: [sharonclark@starband.net](mailto:sharonclark@starband.net)

**EPA-IGAP Coordinator and Tribal Environmental Staff:** Emily Olsen, (907) 236-1452, F (907) 236-1453, Email: [renekka@starband.net](mailto:renekka@starband.net); and Robert Wassily (907) 236-1454, F (907) 236-1453, Email: [roberdoo@starband.net](mailto:roberdoo@starband.net)

**Nushagak Mulchatna Watershed Council:** Harry Wassily, Representative

**Curyung Traditional Council**, Box 216, Dillingham, AK 99576, P (907) 842-2384, F (907) 4510, Email: [curyung@starband.net](mailto:curyung@starband.net)

**EPA-IGAP Coordinator and NMWC member:** Billy J. Maines, (907) 842-1751, F (907) 842-4510, Email: [curyung@starband.net](mailto:curyung@starband.net); Adolph Roehl Sr., (Alt), (907) 842-4084

**Nushagak Mulchatna Watershed Council:** Billy Maines, Representative and Adolph Roehl, Sr., Alternate

**Egegik Village**, Box 29, Egegik, AK 99579, P (907) 233-2211, F (907) 233-2312, Email: [cityofegegik@starband.net](mailto:cityofegegik@starband.net)

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**EPA-IGAP Coordinator:** Scott Olsen, (907) 233-2293, F (907) 233-2295, Email: [egkepa@starband.net](mailto:egkepa@starband.net)

**Native Village of Ekuk**, Box 530, Dillingham, AK 99576, P (907) 842-3842, F (907) 842-3843, Email: [ekuktrib@starband.net](mailto:ekuktrib@starband.net)

Village Council Environmental Program Contact Louie Jones, Coordinator, P (907) 842-4314 [ekenvr@starband.net](mailto:ekenvr@starband.net)

**Ekwok Village**, Box 70, Ekwok, AK 99580, P (907) 464-3336, F (907) 464-3378, Email: [ekwokvillagecouncil@starband.net](mailto:ekwokvillagecouncil@starband.net)

**EPA-IGAP Coordinators:** Lorraine King, Box 70, Ekwok, AK 99580, P (907) 464-3300, F (907) 464-3397/3378, Email: [king2lorraine@yahoo.com](mailto:king2lorraine@yahoo.com); and Sylvia Kazimirowicz, P (907) 464-3359, F (907) 464-3397/3378, Email: [ekwokvillagecouncil@starband.net](mailto:ekwokvillagecouncil@starband.net)

**Nushagak Mulchatna Watershed Council:** Sylvia Kazimirowicz, Representative

**Igiugig Village**, Box 4008, Igiugig, AK 99613, P (907) 533-3211, F (907) 533-3217, Email: [igiugig@starband.net](mailto:igiugig@starband.net)

**EPA-IGAP Coordinator:** Lydia Olympic, P (907) 533-3260, F (907) 533-3229

**Village of Iliamna**, Box 286, Iliamna, AK 99606, P (907) 571-1246, F (907) 571-1256, Email: [ilive@aol.com](mailto:ilive@aol.com)

**EPA-IGAP Coordinator:** Trefim Andrew, P (907) 571-1246, F (907) 571-1654, Email: [trefsue@starband.net](mailto:trefsue@starband.net)

**Ivanof Bay Village**, 2518 E. Tudor Rd., St. 210, Anchorage, AK 99507, (907) 522-2263, F (907) 522-2363

**EPA IGAP Coordinator:** Joe Frank, Email: [jjfrank88@hotmail.com](mailto:jjfrank88@hotmail.com)

**Native Village of Kanatak**, 702 West 32nd Ave, Suite 100, Anchorage, AK 99503, P (907) 336-7271, F (907) 7272, Email: [anatak@acsalaska.net](mailto:anatak@acsalaska.net)

**King Salmon Tribe**, Box 68, King Salmon, AK 99613, P (907) 246-3553, F (907) 246-3449, Email: [kstvc@starband.net](mailto:kstvc@starband.net)

**Kokhanok Village**, Box 1007, Kokhanok, AK 99606, P (907) 282-2202, F (907) 282-2264, Email: [kokhanokvc@yahoo.com](mailto:kokhanokvc@yahoo.com)

**EPA-IGAP Coordinator:** Tina Mann, P (907) 282-2325, F (907) 282-2264

**New Koliganek Village**, Box 5057, Koliganek, AK 99576, P (907) 596-3434, F (907) 596-3462, Email: [nancylarson87@yahoo.com](mailto:nancylarson87@yahoo.com)

**EPA-IGAP Coordinators:** Frances Nelson, Box 5057, Koliganek, AK 99576, P (907) 596-3314, F (907) 596-3462/3362, Email: [aturtagirl@yahoo.com](mailto:aturtagirl@yahoo.com); Dixie Tunguing, P (907) 596-3316, F (907) 596-3462/3362, Email: [dixietunguing@yahoo.com](mailto:dixietunguing@yahoo.com)

**Nushagak Mulchatna Watershed Council:** Natalia Kishnook, Representative

**Levelock Village**, Box 70, Levelock, AK 99625, P (907) 287-3030, F (907) 287-3032, Email: [levelockak@starband.net](mailto:levelockak@starband.net)

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**EPA-IGAP Coordinator:** Shirley Andrew, P (907) 287-3067, F (907) 287-3167, Email: [Shirley\\_Andrew@hotmail.com](mailto:Shirley_Andrew@hotmail.com)

**Manokotak Village**, Box 169, Manokotak, AK 99628, P (907) 289-2067, F (907) 289-1235, Email: [inalakayak@yahoo.com](mailto:inalakayak@yahoo.com)

**EPA-IGAP Coordinator:** Nancy George, Box 169, Manokotak, AK 99628, P (907) 289-1437, F (907) 289-1235, Email: [mvcgap@gci.net](mailto:mvcgap@gci.net); Bibiana Gloko, Email: [mvcgap@gci.net](mailto:mvcgap@gci.net)

**Native Village of Naknek**, Box 106, Naknek, AK 99633, P (907) 246-4210, F (907) 246-3463, Email: [nnvcak@bristolbay.com](mailto:nnvcak@bristolbay.com)

**Nivalena Tribal Consortium (Iliamna Lake Area)**

**EPA-IGAP Coordinator:** Trefim Andrew, Nivalena, Box 286, Iliamna, AK 99606, P (907) 571-1750, F (907) 571-1751/1654, Email: [trefsue@starband.net](mailto:trefsue@starband.net)

**New Stuyahok Village**, Box 96, New Stuyahok, AK 99636, P (907) 693-3173, F (907) 693-3100, Email: [knwvc@starband.net](mailto:knwvc@starband.net)

**EPA-IGAP Coordinator:** Peter Gumlickpuk, P (907) 693-3242, F (907) 693-3241/3243, Email: [nsigap@starband.net](mailto:nsigap@starband.net); and Wassillie Chunak, Jr., Assistant, P (907) 693-3242

**Nushagak Mulchatna Watershed Council:** vacant

**Newhalen Village**, Box 207, Newhalen, AK 99606, P (907) 571-1410, F (907) 571-1537, Email: [newhalentribal@starband.net](mailto:newhalentribal@starband.net)

**EPA-IGAP Coordinators:** Ronald Wassillie, P (907) 571-1720, F (907) 571-1778, Email: [ronwassillie@hotmail.com](mailto:ronwassillie@hotmail.com); and Ray Wassillie, Email: [wassilliera4@email.com](mailto:wassilliera4@email.com)

**Nushagak Mulchatna Watershed Council:** Terry Wassillie, Representative; Ray Wassillie, Alternate

**Nondalton Village**, PO Box 115, Nondalton, AK 99640, P (907) 294-2220, F (907) 2234

**EPA-IGAP Coordinator:** Charlotte Balluta, P (907) 294-2288, F (907) 294-2299, Email: [c\\_balluta@yahoo.com](mailto:c_balluta@yahoo.com); and Kristy Balluta, Assistant, P (907) 294-2288

**Nushagak Mulchatna Watershed Council:** vacant

**Pedro Bay Village**, Box 4720, Pedro Bay, AK 99647, P (907) 850-2225, F (907) 850-2221, Email: [thecouncil@pedrobay.com](mailto:thecouncil@pedrobay.com)

**EPA-IGAP Coordinator:** Ben Foss

**Native Village of Perryville**, Box 101, Perryville, AK 99648, P (907) 853-2203, F (907) 853-2230, Email: [nvofperry@aol.com](mailto:nvofperry@aol.com)

**EPA-IGAP Coordinator:** Darcy Yagie, Box 89, Perryville, AK 99648, P (907) 853-2241, F (907) 853-2257, Email: [pvl\\_environmental@hotmail.com](mailto:pvl_environmental@hotmail.com)

**Native Village of Pilot Point**, Box 449, Pilot Point, AK 99649, P (907) 797-2208, F (907) 797-2258, Email: [pipecouncil@aol.com](mailto:pipecouncil@aol.com)

**EPA-IGAP Coordinator:** Greg Kingsley, P (907) 797-2273, F (907) 797-2258, Email: [gkingsleypip@yahoo.com](mailto:gkingsleypip@yahoo.com)

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**Native Village of Port Heiden**, Box 49007, Port Heiden, AK 99549, P (907) 837-2296, F (907) 837-2297, Email: [lcarlson@starband.net](mailto:lcarlson@starband.net)

**EPA-IGAP Coordinator:** Scott Andersen, P (907) 837-2441, F (907) 837-2440, Email: [pth@starband.net](mailto:pth@starband.net)

**Portage Creek Village Council**, 6436 Carlos Ct., Anchorage, AK 99504, P (907) 277-1105 or 333-5429, F (907) 277-1104

**EPA-IGAP Coordinator:** Charlie Johnson, Box PCA, Portage Creek, AK 99576, P (907) 842-2564, F (907) 842-2564, Email: [cjohnson\\_pca@yahoo.com](mailto:cjohnson_pca@yahoo.com)

**Nushagak Mulchatna Watershed Council:** Charlie Johnson, Representative

**South Naknek Village**, Box 70106, South Naknek, AK 99670, P (907) 246-8614, F (907) 246-8613, Email: [southnaknek@starband.net](mailto:southnaknek@starband.net)

**EPA-IGAP Coordinator:** Daniel Stewart, Box 70029, South Naknek, AK 99670, P (907) 246-8750, F (907) 246-8613, Email: [raven@bristolbay.com](mailto:raven@bristolbay.com)

**Village of Togiak**, Togiak, Alaska), Box 83, Togiak, AK 99678, P (907) 493-5003, F (907) 493-5005, Email: [tradcounciltogiak@starband.net](mailto:tradcounciltogiak@starband.net)

**EPA-IGAP Coordinator:** Francisca Kamkahpak, Box 310, Togiak, AK 99678, P (907) 493-5821, F (907) 493-5822, Email: [togiakenvironmental@starband.net](mailto:togiakenvironmental@starband.net); Phyllis Ayojiak, P (907) 493-5821, F (907) 493-5822

**Twin Hills Village**, Box TWA, Twin Hills, AK 99576-8996, P (907) 525-4821, F (907) 525-4822, Email: [maalu@starband.net](mailto:maalu@starband.net)

**EPA-IGAP Coordinator:** Debbie Hoseth, P (907) 525-4831, F (907) 525-4832, Email: [piipital@hotmail.com](mailto:piipital@hotmail.com)

**Village of Ugashik**, 206 E. Fireweed Ln., # 204, Anchorage, AK 99503, P (907) 338-7611, F (907) 338-7659, Email: [ugashik@alaska.net](mailto:ugashik@alaska.net)

**EPA-IGAP Coordinator:** Hattie Albecker, P (907) 797-2331, F (907) 797-2300/2280, Email: [hattieutvenv@starband.net](mailto:hattieutvenv@starband.net)

**Regional & Village Corporation Contacts on the  
Nushagak Mulchatna Watershed Council**

**Bristol Bay Borough**, Box 189, Naknek, AK 99633, P (907) 246-4224, F (907) 246-6633, Email: [admin@theborough.com](mailto:admin@theborough.com), web site: <http://www.theborough.com/index.html>  
Bristol Bay Borough communities: King Salmon, Naknek, South Naknek

**Bristol Bay Native Association**, Sue Flensburg, BBNA Environmental Program Coordinator, Box 310, Dillingham, AK 99576, P (907) 842-5257, F (907) 842-5932, Email: [sflensburg@bbna.com](mailto:sflensburg@bbna.com), web site: [bbna.com](http://bbna.com), Courtenay Carty Peirce, Natural Resource-Environmental Specialist, P (907) 842-5257 x 339, F (907) 842-5932, Email: [cpeirce@bbna.com](mailto:cpeirce@bbna.com), web site: [www.bbna.com/](http://www.bbna.com/)

**Nushagak Mulchatna Watershed Council**: Tom Hoseth, representative, Andy Golia, alternate P (907) 842-5257, F (907) 842-5932

**Bristol Bay Native Corporation**, Tiel Smith, Land, Land & Resource Manager (and NMWC representative), 111 West 16th Avenue, Suite 400 Anchorage, AK 99501, P (907) 278-3602, F (907) 276-3925, Toll Free 1-800-426-3602, Email: [tsmith@bbnc.net](mailto:tsmith@bbnc.net), web site: [www.bbnc.net/](http://www.bbnc.net/)

**Nushagak Mulchatna Watershed Council**: Hjalmar Olson, representative, Tiel Smith, alternate

**Bristol Bay Economic Development Corporation (BBEDC)**, Box 1464, Dillingham, AK 99576, P (907) 842-4370, F (907) 842-4336, Toll Free: 1-800-478-4370, web site: [www.bbedc.com/](http://www.bbedc.com/) or for the Program Directory: [www.bbedc.com/documents/BBEDCProgramDirectoryUPDATED10-05-05.pdf](http://www.bbedc.com/documents/BBEDCProgramDirectoryUPDATED10-05-05.pdf)

**Bristol Bay Coastal Resource Service Area**, Andy DeValpine, Bristol Bay Coastal Resource Area, Dillingham, AK 99576, P (907) 842-2666, F (907) 842-2776; Robert Heyano (Alt), BBCRA, P (907) 842-1053, F (907) 842-1355

Member Villages: Aleknagik, Clarks Point, Dillingham, Ekuk, Ekwook, Koliganek, Manakotak, New Stuyahok, Togiak

**Nushagak Mulchatna Watershed Council**: Andy DeValpine, representative

**Choggiung, Ltd.**, Rick Tennyson P.O. Box 330, 104 Main Street, Dillingham, Alaska, 99576; P (907) 842-5532, F (907) 842-5462

**Nushagak Mulchatna Watershed Council**: Rick Tennyson, representative

**Department of Natural Resources**

**Nushagak Mulchatna Watershed Council**: David Griffin, representative, 550 W. 7<sup>th</sup> Ave., Anchorage, AK 99501 P (907) 269-8913, F (907) 269-8913

**City of Dillingham – Dillingham City Council**

**Nushagak Mulchatna Watershed Council**: Chris Napoli, representative P (907) 842-3348, F (907) 842-3349

**Ekwook City Council**, P (907) 464-3311, F (907) 464-3328

**Nushagak Mulchatna Watershed Council**: Vacant, representative

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**Ekwok Natives, Ltd.,** P (907) 464-3317, F (907) 464-3305

**Nushagak Mulchatna Watershed Council:** Luki Akelkok, representative

**New Stuyahok Tribal Council,** New Stuyahok, AK 99636; P (907) 693-3171; F (907) 693-3179

**Nushagak Mulchatna Watershed Council:** Randy Hasting, representative

**Nushagak Mulchatna Watershed Council** – c/o Bristol Bay Native Association, contact for general information: Sue Flensburg, Box 310, Dillingham, AK 99576, Toll Free 1-800-842-5257, F (907) 842-5932

**Lake & Peninsula Borough,** Box 495, King Salmon, AK 99613, P (907) 246-3421, Toll Free: 1800-764-3421, F (907) 246-6602, Email: [lpboro@bristolbay.com](mailto:lpboro@bristolbay.com), web site: <http://www.lakeandpen.com/>

Lake-Area Villages: Iliamna, Igiugig, Kokhanok, Levelock, Newhalen, Nondalton, Pedro Bay

Upper Peninsula Area Villages: Egegik, Pilot Point, Port Heiden, Ugashik, Chignik Area Villages – Chignik, Chignik Lagoon, Chignik Lake

**Nushagak Mulchatna Watershed Council:** Marv Smith, representative contact information same as above; Dan Salmon, alternate P (907) 533-3211, F (907) 533-3217

**Kaliganek Natives, Ltd.,** P (907) 596-3434; F (907) 596-3462

**Nushagak Mulchatna Watershed Council:** George Nelson, representative

**Nunamta Aulukestai,** (Bristol Bay Area Village Corporation Association)

Dillingham, AK 99576, P (907) 693-3244, F (907) 693-3243

**Nushagak Mulchatna Watershed Council:** Peter Christopher, representative, Bobby Andrew, alternate P (907) 842-5983, F (907) 842-2057

**Stuyahok, Ltd.,** Box 49, Stuyahok, AK 99636 P (907) 693-2238, F (907) 693-3179

**Nushagak Mulchatna Watershed Council:** Tim Wonhola, representative; Evan Wonhola, alternate

**Southwest Alaska Municipal Conference (SWAMC),** Wanetta Ayers, Executive Director, 3300 Arctic Blvd., Suite 203, Anchorage, AK 99503, P (907) 562-7380, F (907) 562-0438, Email: [wayers@swamc.org](mailto:wayers@swamc.org), web site: <http://www.swamc.org/index.html>

## State Agency Contacts

### Mining

**Alaska Department of Natural Resources**, 550 W. 7<sup>th</sup> Ave., St. 900D, Anchorage, AK, 99501-3577, Office of Project Management & Permitting, Tom Crafford, Acting Large Mine Coordinator, P (907) 269-8629, F (907) 269-8930, Email: [tom\\_crafford@dnr.state.ak.us](mailto:tom_crafford@dnr.state.ak.us), web site: [www.dnr.state.ak.us/](http://www.dnr.state.ak.us/)

- o Division of Oil & Gas, 550 W. 7<sup>th</sup> Ave., Anchorage, AK 99501, P (907) 269-8800, F (907) 269-8938, web site: [www.dog.dnr.state.ak.us/oil/](http://www.dog.dnr.state.ak.us/oil/)
- o Division of Mining, Land & Water, Mining Section Chief, P (907) 269-8621, F (907) 269-8930, web site: [www.dnr.state.ak.us/mlw/mining/largemine/index.htm](http://www.dnr.state.ak.us/mlw/mining/largemine/index.htm)
- o Office of Habitat Management & Permitting, Scott MacLean, Habitat Biologist; P (907) 269-6778, Email: [scott\\_maclean@dnr.state.ak.us](mailto:scott_maclean@dnr.state.ak.us); Al Ott, Operations Manager, Email: [Al\\_Ott@dnr.state.ak.us](mailto:Al_Ott@dnr.state.ak.us); P (907) 459-7279, F (907) 456-3091 web site: [www.dnr.state.ak.us/habitat/](http://www.dnr.state.ak.us/habitat/)

**Alaska Department of Environmental Conservation (ADEC)**, Southcentral Alaska, Anchorage Office, 555 Cordova, Anchorage, AK 99501, P (907) 269-7500, F (907) 269-7600

- o Southeast Alaska, Juneau Office, 410 Willoughby Ave., Juneau, AK 99801-1795, P (907) 465-5010, F (907) 465-5097
- o Division of Water, Sharon Morgan, Environmental Program Specialist, P (907) 465-5530, F (907) 465- Email: [sharon\\_morgan@dec.state.ak.us](mailto:sharon_morgan@dec.state.ak.us), web site: [www.dec.state.ak.us/water/npdes/npdes.htm](http://www.dec.state.ak.us/water/npdes/npdes.htm)

### Mixing Zones

**Alaska Department of Environmental Conservation**, Division of Water, Nancy Sonafrank, Environmental Program Mgr., 610 University Ave., Fairbanks, AK 99709, P (907) 451-2726, F (907) 451-2187, Email: [Nancy\\_Sonafrank@dec.state.ak.us](mailto:Nancy_Sonafrank@dec.state.ak.us), web site: <http://www.alaska.gov/local/akpages/ENV.CONSERV/water/wqsar/trireview/trireview.htm>

### Water Rights

**Alaska Department of Natural Resources**, Gary Prokosch, Chief of Water Resources Section, Division of Mining, Land & Water, P (907) 269-8645, F (907) 269-8930, Email: [gary\\_prokosch@dnr.state.ak.us](mailto:gary_prokosch@dnr.state.ak.us), web site: [www.dnr.state.ak.us/mlw/mining/largemine/index.htm](http://www.dnr.state.ak.us/mlw/mining/largemine/index.htm)

### Water Quality

**Alaska Department of Environmental Conservation**, Division of Water, Pete McGee, Section Manager, 610 University Ave., Fairbanks, AK 99709-3643, P (907) 451-2101, F (907) 451-2187, Email: [Pete\\_McGee@dec.state.ak.us](mailto:Pete_McGee@dec.state.ak.us)

## Resource Handbook

- Division of Water, Wastewater Discharge Permits Program, Sharmon Stambaugh, Program Manager; 410 Willoughby Ave., Ste 303, P.O. Box 111800; Juneau, AK 99811-1800, P (907) 465-5308, F (907) 465-5274, Email: [Sharmon\\_Stambaugh@dec.state.ak.us](mailto:Sharmon_Stambaugh@dec.state.ak.us)
- David Johnson, Environmental Engineer, P (907) 262-5210 ext 238, F (907) 262-2294, Email: [david\\_johnson@dec.state.ak.us](mailto:david_johnson@dec.state.ak.us)

### Water Quantity

**Alaska Department of Environmental Conservation, Division of Water, Pete McGee, Section Manager, 610 University Ave., Fairbanks, AK 99709-3643, P (907) 451-2101, F (907) 451-2187, Email: [Pete\\_McGee@dec.state.ak.us](mailto:Pete_McGee@dec.state.ak.us)**

### Sport Fish, Wildlife & Subsistence

**Alaska Department of Fish & Game (ADF&G), Division of Sport Fish, Contact: Mark Fink, Permitting Supervisor; P (907) 267-2338, F (907) 267-2464; Email: [mark\\_fink@fishgame.state.ak.us](mailto:mark_fink@fishgame.state.ak.us), web site: [www.sf.adfg.state.ak.us/statewide/contact\\_SF.cfm](http://www.sf.adfg.state.ak.us/statewide/contact_SF.cfm)**

- Division of Wildlife Conservation, Matt Robus, Director, Box 115526, Juneau, AK 99811-5526, P (907) 465-4190, F (907) 465-6142, Email: [matt\\_robust@fishgame.state.ak.us](mailto:matt_robust@fishgame.state.ak.us)
- ADF&G, Region 2, Southcentral Regional Office, Division of Wildlife Conservation, Grant Hilderbrand, Regional Supervisor, 333 Raspberry Rd., Anchorage, AK, 99518-1599, P (907) 267-2182, F (907) 267-2433, Email: [grant\\_hilderbrand@fishgame.state.ak.us](mailto:grant_hilderbrand@fishgame.state.ak.us)
- ADF&G, Division of Subsistence, Elizabeth Andrews, Director; Capital Office Park, 1255 W 8th St., Juneau, AK 99802-5526, PO BOX 25526, Juneau, AK 99802-5526, Phone (907) 465-4146, Fax (907) 465-2066, Email: [elizabeth\\_andrews@fishgame.state.ak.us](mailto:elizabeth_andrews@fishgame.state.ak.us)
- James Fall, Subsistence Regional Program Manager, 333 Raspberry Rd Anchorage, AK 99518-1599, P (907) 267-2450, F (907) 267-2359, Email: [Jim\\_Fall@fishgame.state.ak.us](mailto:Jim_Fall@fishgame.state.ak.us)

### Coastal Zone Issues

**State Coastal Zone Management Office, Office of Management & Permitting, 302 Gold Street, Ste.202, Box 111030, Juneau, AK, 99811-1030, P (907) 465-3562, F (907) 465-3075, web site: [www.alaskacoast.state.ak.us/](http://www.alaskacoast.state.ak.us/)**

### Cultural Resources

**Alaska Historic Preservation Office, Alaska Department of Natural Resources, Division of Parks & Outdoor Recreation, 550 W. 7th Ave. Ste, 1310, Anchorage, AK 99501-3565, P (907) 269-8721, F (907) 269-8908, Email contacts on web site at:**

## Resource Handbook

<http://www.dnr.state.ak.us/parks/oha/misc/ohastaff.htm> see also:  
[www.dnr.state.ak.us/parks/oha/shpo/shpo.htm](http://www.dnr.state.ak.us/parks/oha/shpo/shpo.htm)

### Other State Agency Contacts

**Department of Transportation & Public Facilities, Southwest Alaska Area Planners, Rich Sewell, 4111 Aviation Ave., Anchorage, AK 99519, P (907) 269-0516, Email: [rich\\_sewell@dot.state.ak.us](mailto:rich_sewell@dot.state.ak.us), OR Alan Kemplen, P (907) 269-0509, Email: [allen\\_kemplen@dot.state.ak.us](mailto:allen_kemplen@dot.state.ak.us)**

**Department of Commerce, Community & Economic Development, Division of Community Advocacy, Sally Russell Cox, Planner, 550 W.7th Ave., St.1770, Anchorage, AK 99501, P (907) 269-4588, F (907) 269-4563, Email: [Sally\\_Cox@commerce.state.ak.us](mailto:Sally_Cox@commerce.state.ak.us); OR Peter McKay, Planner, Division of Community Advocacy, DCCED, Box 110809, Juneau, AK, 99811-0809, P (907) 465-5550, F (907) 465-4761, Email: [Peter\\_McKay@commerce.state.ak.us](mailto:Peter_McKay@commerce.state.ak.us)**

### Federal Agency Contacts

**Department of the Interior, Bureau of Indian Affairs, Alaska Region Office, Juneau, AK 99802 Kristin K'ait, Environmental Scientist, P (907) 586-7423, F (907) 586-7044**

- o OR Valerie Thomas, Environmental Protection Specialist and NEPA Coordinator, P (907) 586-7146, F (907) 586-7044
- o OR Pat Petrivelli, Subsistence Anthropologist, Subsistence Branch – Anchorage, P (907) 786-3361, F (907) 786-3898

**US Fish and Wildlife Service, Alaska Region Office, 1011 E. Tudor Rd., Anchorage, AK 99503, P (907) 786-3542, National FWS site: [www.fws.gov](http://www.fws.gov), Alaska FWS web site: <http://alaska.fws.gov/>**

**Minerals Management Service, Alaska Region Office - Centerpoint Building, 3801 Centerpoint Dr., Suite 500, Anchorage, AK 99503, P (907) 334-5200, F (907) 334-5202, National web site: [www.mms.gov/](http://www.mms.gov/), Alaska MMS web site: [www.mms.gov/alaska/](http://www.mms.gov/alaska/)**

**National Park Service, Alaska Region, 240 West 5th Av., Rm. 114, Anchorage AK, 99501, National web site: [www.nps.gov](http://www.nps.gov), Alaska NPS Web site: [www.nps.gov/akso/](http://www.nps.gov/akso/)**

**National Marine Fisheries Service Offices (NMFS), Alaska Regional Office, 709 W. 9th St., Rm 420, Box 21668, Juneau, AK 99802-1668, P (907) 586-7221, F (907) 586-7249**

- o NMFS, Protected Resources Division and Habitat Conservation Division, 222 West 7th Avenue, Box 43, Anchorage, AK 99513, P (907) 271-5006, F (907) 271-3030
- o NMFS, Enforcement Alaska Headquarters, Juneau, Box 21767, Juneau, AK 99802-1767, P (907) 586-7225
- o NMFS, Enforcement Alaska Headquarters, Anchorage, 222 West 7th Ave., Box 10, Anchorage, AK 99513-7577, P (907) 271-1823

## Resource Handbook

**US Army Corps of Engineers, Box 898, Anchorage, AK, 99506-0898, P (907) 753-2504, F (907) 753-2526, web site: [www.poa.usace.army.mil](http://www.poa.usace.army.mil)**

- o Ernest Young, Tribal Liaison, P (907) 753-5674, Email: [Ernest.A.Young@poa02.usace.army.mil](mailto:Ernest.A.Young@poa02.usace.army.mil)
- o Public Affairs Office, Patricia Richardson, Anchorage, AK 99506, P (907) 753-2520, Email: [patricia.l.richardson@poa02.usace.army.mil](mailto:patricia.l.richardson@poa02.usace.army.mil)

**US Environmental Protection Agency, Alaska Operations Office, Federal Bldg, Rm. 537, 222 W. 7<sup>th</sup> Ave, Box 19, Anchorage, AK 99513-7588, , P (907) 271-5083, F (907) 271-3424, web site: [http://yosemite.epa.gov/R10/tribal.NSF/4b1d54516ad8884f8825682400645235/7dd80419783eda13882566420066bc9a/\\$FILE/GAPSuccessStories\\_Alaska2004.pdf](http://yosemite.epa.gov/R10/tribal.NSF/4b1d54516ad8884f8825682400645235/7dd80419783eda13882566420066bc9a/$FILE/GAPSuccessStories_Alaska2004.pdf)**

- o Dianne Soderlund, EPA Pebble Project Mgr., 222 W. 7<sup>th</sup> Ave., Anchorage, AK 99513-7588, P (907) 271-3425, F (907) 271-3424, Email: [soderlund.dianne@epa.gov](mailto:soderlund.dianne@epa.gov)
- o Michelle Davis, Tribal Coordinator & Tribe Team Lead for NPDES Delegation, 222 W. 7<sup>th</sup> Ave., Anchorage, AK 99513-7588, P (907) 271-3434, F (907) 271-3424, Email: [davis.michelle@epa.gov](mailto:davis.michelle@epa.gov)
- o Cindi Godsey, Alaska Mining Coordinator, P (907) 271-6561, F (907) 271-3424, Toll Free: 1-800-781-0983, Email: [godsey.cindi@epa.gov](mailto:godsey.cindi@epa.gov)
- o Jennifer Curtis, P (907) 271-6324, F (907) 271-3424, Email: [curtis.jennifer@epa.gov](mailto:curtis.jennifer@epa.gov)

**US EPA Region 10 Project Lead for Mixing Zone Review, Lisa McGuire, 200 6<sup>th</sup> Ave., Seattle, WA 98101, P (206) 553-0226, F (206) 553-0165, Email: [m McGuire.lisa@epa.gov](mailto:m McGuire.lisa@epa.gov)**

**US EPA Region 10, Tribal Trust & Assistance Unit, Lewis A. McLeod, Washington Tribal Coordinator, , 1200 6<sup>th</sup> Ave., ETPA-08, Seattle, WA, 98101, P (206) 553-0527, F (206) 553-0151, Toll Free 1-800-424-4372 x0527, Email: [mcleod.lewis@epa.gov](mailto:mcleod.lewis@epa.gov)**

**US EPA Clean Water Regional Offices, EPA Region 10, 1200 Sixth Ave, Seattle, WA 98101, P (206) 553-1200, Alaska Operations Office, 709 W. 9<sup>th</sup> St., Rm 223, Box 20370, Juneau, AK 99802-9998**

## Industry Contacts

**Northern Dynasty Mines, Anchorage Office, Ella Ede, Environmental Project Manager, 3201 C St., St. 604, Anchorage, AK 99503, P (907) 339-2600, F (907) 339-2601, Toll Free: 1-877-450-2600, Email: [ellae@northerndynasty.com](mailto:ellae@northerndynasty.com), web site: [www.ndmpebblemine.com/project\\_information/overview\\_history](http://www.ndmpebblemine.com/project_information/overview_history)**

**Full Metal Minerals, Rob McLeod, Vice-President, Suite 1500 - 409 Granville Street, Vancouver, BC, Canada, V6C 1T2, P (604) 484-7855, F (604) 484-7155, Email: [info@fullmetalminerals.com](mailto:info@fullmetalminerals.com), web site: [www.fullmetalminerals.com/properties-pebblesouth.php](http://www.fullmetalminerals.com/properties-pebblesouth.php)**

**Resource Development Council for Alaska, Inc. (resource development association/advocacy organization), Jason Brune, Executive Director, 121 West Fireweed, Suite 250, Anchorage, AK 99503, P (907) 276-0700, F (907) 276-3887, Email: [resources@akrdc.org](mailto:resources@akrdc.org), web site: [www.akrdc.org/issues/](http://www.akrdc.org/issues/)**

## Helpful Web sites

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### Tribal

[Index of Native American Resources on the Internet, www.hanksville.org/NAresources/](http://www.hanksville.org/NAresources/)  
[Inter-Tribal Environmental Council, www.itcmembers.org](http://www.itcmembers.org)  
[Inter-Tribal Timber Council, www.itcnet.org/](http://www.itcnet.org/)  
[Native American Fish & Wildlife Society, www.nafws.org](http://www.nafws.org)  
[National Congress of American Indians, www.ncai.org/](http://www.ncai.org/)  
[Native American Nations, www.nativeculturelinks.com/nations.html](http://www.nativeculturelinks.com/nations.html)  
[Native American Treaties and Information, www-libraries.colorado.edu/ps/gov/us/native.htm](http://www-libraries.colorado.edu/ps/gov/us/native.htm)  
[Native American Rights Fund, www.narf.org](http://www.narf.org)

### Federal

#### **Bureau of Indian Affairs**

[www.doi.gov/bureau-indian-affairs.html](http://www.doi.gov/bureau-indian-affairs.html)  
[Office of Self-Governance  
http://64.58.34.34/](http://64.58.34.34/)  
[Office of the Special Trustee for American Indians  
www.ost.doi.gov/](http://www.ost.doi.gov/)

#### **Environmental Protection Agency**

[Environmental Protection Agency \(homepage\)  
www.epa.gov/](http://www.epa.gov/)

#### [Environmental Protection Agency - American Indian Environmental Office](#)

[Informative Links for Tribes:  
http://yosemite.epa.gov/R10/tribal.NSF/webpage/informative+links+for+tribes](http://yosemite.epa.gov/R10/tribal.NSF/webpage/informative+links+for+tribes)

[Environmental Protection Agency - Waste Management in Indian Country  
www.epa.gov/tribalmsw/](http://www.epa.gov/tribalmsw/)

[Environmental Protection Agency - Tribal Air  
www.epa.gov/oar/tribal/](http://www.epa.gov/oar/tribal/)

#### **Fish & Wildlife Service Training**

[American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered  
Species Act: www.fws.gov/endangered/tribal/index.html](http://www.fws.gov/endangered/tribal/index.html)  
[www.fws.gov/endangered/tribal/2003\\_tribes.pdf](http://www.fws.gov/endangered/tribal/2003_tribes.pdf)

[Office of the Native American Liaison, Regional Contacts  
www.fws.gov/nativeamerican/regions.htm](http://www.fws.gov/nativeamerican/regions.htm)

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### **Health & Human Services**

Agency for Toxic Substances and Disease Registry  
[www.atsdr.cdc.gov/](http://www.atsdr.cdc.gov/)

Indian Health Services  
[www.ihs.gov/](http://www.ihs.gov/)

Housing and Urban Development Office of Native American Programs  
[www.hud.gov/offices/pih/ih/codetalk/onap/](http://www.hud.gov/offices/pih/ih/codetalk/onap/)

### **Homeland Security**

Federal Emergency Management Administration - American Indian and Native Alaskan Policy  
[www.fema.gov/government/tribal/index.shtm](http://www.fema.gov/government/tribal/index.shtm)

### **Department of Justice**

Department of Justice - Office of Tribal Justice  
[www.usdoj.gov/otj/index.html](http://www.usdoj.gov/otj/index.html)

### **List of Federally Recognized American Indian Tribes & Alaska Natives (*Federal***

*Register: November 25, 2005 [Volume 70, Number 226])*  
[www.doi.gov/leaders.pdf](http://www.doi.gov/leaders.pdf)

### **National Association of Tribal Historic Preservation Officers**

Advisory Council on Historic Preservation - Tribal Historic Preservation Officers  
[www.achp.gov/thpo.html](http://www.achp.gov/thpo.html)

### **National Park Service**

National Park Service - Tribal Preservation Program  
[www.cr.nps.gov/hps/tribal/](http://www.cr.nps.gov/hps/tribal/)

National Park Service - American Indian Liaison Office  
[www.cr.nps.gov/ailo/](http://www.cr.nps.gov/ailo/)

National Park Service- Native American Graves Protection and Repatriation Act  
[www.cast.uark.edu/other/nps/nagpra/](http://www.cast.uark.edu/other/nps/nagpra/)

## **Other Federal Offices**

Federal Communications Commission - Indian Initiatives  
[www.fcc.gov/indians/](http://www.fcc.gov/indians/)

National Archives and Records Administration - American Indians  
[www.archives.gov/research/alic/reference/native-americans.html](http://www.archives.gov/research/alic/reference/native-americans.html)

Small Business Administration - Office of Native Affairs  
[www.sba.gov/naa/](http://www.sba.gov/naa/)

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Smithsonian Institution - National Museum of the American Indian  
[www.nmai.si.edu/](http://www.nmai.si.edu/)

U.S. House of Representatives Committee on Resources  
<http://resourcescommittee.house.gov/>

U.S. Senate - Committee on Indian Affairs  
<http://indian.senate.gov/public/>

**National Environmental Policy Act (NEPA)**

Council on Environmental Quality  
[www.whitehouse.gov/ceq/](http://www.whitehouse.gov/ceq/)

NOAA NEPA  
[www.nepa.noaa.gov](http://www.nepa.noaa.gov)

NOAA NEPA Handbook  
[www.nepa.noaa.gov/NEPA\\_HANBOOK.pdf](http://www.nepa.noaa.gov/NEPA_HANBOOK.pdf)

NEPAnet (Council on Environmental Quality)  
<http://ceq.eh.doe.gov/nepa/nepanet.htm>

**Alaska State Government**

Alaska State Homepage  
[www.state.ak.us/](http://www.state.ak.us/)

Alaska State Employee Directory  
[www.state.ak.us/local/whtpage1.html](http://www.state.ak.us/local/whtpage1.html)

Alaska Community Database Online  
[www.commerce.state.ak.us/dca/commdb/CF\\_COMDB.htm](http://www.commerce.state.ak.us/dca/commdb/CF_COMDB.htm)

Additional State Government Links  
[www.statelocalgov.net/state-ak.cfm](http://www.statelocalgov.net/state-ak.cfm)

**Environmental**

The Nature Conservancy  
[www.nature.org/wherewework/northamerica/states/alaska](http://www.nature.org/wherewework/northamerica/states/alaska)

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Nushagak-Mulchatna Wood-Tikchik Land Trust  
[www.nmwlandtrust.org/index.php](http://www.nmwlandtrust.org/index.php)

Clean Water Action and Clean Water Fund  
[www.cleanwater.org/](http://www.cleanwater.org/)

Environmental Impact Analysis Data Links  
[http://water.usgs.gov/eap/env\\_data.html](http://water.usgs.gov/eap/env_data.html)

Electronic Environmental Resource Library  
[www.eerl.org/](http://www.eerl.org/)

Indigenous Environmental Network  
[www.ienearth.org/](http://www.ienearth.org/)

Institute for Tribal Environmental Professionals  
[www4.nau.edu/itep/](http://www4.nau.edu/itep/)

National Council for Science and the Environment  
<http://ncseonline.org/>

National Library for the Environment  
<http://ncseonline.org/NLE/>

National Tribal Environmental Council  
[www.ntec.org/](http://www.ntec.org/)

Native Americans and the Environment  
<http://cnie.org/NAE/>

Salmon Information Center (Puget Sound)  
[www.salmoninfo.org/](http://www.salmoninfo.org/)

7 Generations Training Information on Addressing Village Environmental Issues for the Future Generations of Rural Alaska (Link at)  
[www.apiai.com/community.asp?page=community](http://www.apiai.com/community.asp?page=community)

NAEPC - Native American Environmental Protection Coalition  
[www.naepc.com/cgi-bin/jobscript/job.pl?action=links](http://www.naepc.com/cgi-bin/jobscript/job.pl?action=links)

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**Acronyms for (state & federal agencies & NEPA terms)**

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**State of Alaska Agencies**

ACMP:	Alaska Coastal Management Program
ADCEED:	Alaska Department of Commerce, Community & Economic Development
ADEC:	Alaska Department of Environmental Conservation
ADL:	Alaska Department of Law
ADNR:	Alaska Department of Natural Resources
ADOT&PF	Alaska Department of Transportation & Public Facilities
CZMA:	Coastal Zone Management Act
LMPT:	Large Mine Project Team

**Federal (including NEPA terms)**

ARO:	Alaska Regional Office
BIA:	Bureau of Indian Affairs
BLM:	Bureau of Land Management
CATEX:	Categorical Exclusion
CE:	Categorical Exclusion
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act
CEQ:	Council on Environmental Quality
CFR:	Code of Federal Regulations
CAA:	Clean Air Act
CWA:	Clean Water Act
DM:	Decision Memorandum
DOI:	Department of the Interior
EA:	Environmental Assessment

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EIS:	Environmental Impact Statement
ESA:	Endangered Species Act
FONSI:	Finding Of No Significant Impact
FWS:	(United States) Fish and Wildlife Service
MMPA:	Marine Mammal Protection Act
MPRSA:	Marine Protection, Research, and Sanctuaries Act
NEPA:	National Environmental Policy Act
NOAA:	National Oceanographic and Atmospheric Administration
NHPA:	National Historic Preservation Act
NOA:	Notice of Availability
NPDES:	National Pollutant Discharge Elimination System
NRCS:	Natural Resources Conservation Service
PPA:	Performance Partnership Agreement
RCRA:	Resource Conservation and Recovery Act
RD:	Regional Director
ROD:	Record of Decision
SDWA:	Safe Drinking Water Act
TMDL's:	Total Maximum Daily Loads
TRI:	Toxic Release Inventory
USC:	United States Code
USACOE:	United States Army Corps of Engineers
USDA:	United States Department of Agriculture
USF&WS:	United States Fish and Wildlife Service
WSRA:	Wild and Scenic Rivers Act

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**Appendix A: Sources Used for Handbook Information**

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- Alaska Department of Natural Resources. 2006. "Permitting Large Mine Projects in Alaska." Document prepared by the Office of Project Management & Permitting.
- Alaska Department of Natural Resources, Office of Project Management & Permitting. 2006. "Large Mine Permitting: How it Works." Panel discussion with Ed Fogels at the Bristol Bay Native Corporation Annual Meeting.
- Alaska Department of Natural Resources, Division of Mining, Land & Water. 2005. "How Large Mine Projects are Permitted & Regulated in Alaska." Presentation made to the Bristol Bay Native Association, Board Meeting, Tom Crafford, Acting Large Mine Manager, Office of Project Management & Permitting.
- U.S. Bureau of Indian Affairs. 2006. "NEPA History, CE and EA Overview for the 2006 Alaska Forum on the Environment." Powerpoint presentation to Alaska Forum on the Environment conference by Valerie Thomas, Environmental Protection Specialist, Bureau of Indian Affairs, Alaska Region.
- U.S. Department of Interior, U.S. Department of Commerce. 1996. "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act." Joint Secretarial Order #3206. Final Draft.
- U.S. Environmental Protection Agency. 2005. EPA Region 10, "Region 10 Mining Strategy 2006-2008." Draft version.
- U.S. Environmental Protection Agency. 2003. "EPA & Hardrock Mining: A Source Book for Industry in the Northwest and Alaska."

**PERMITS REQUIRED & POINTS OF  
CONTACT FOR PEBBLE PROJECT**

PREPARED BY  
BBNA PEBBLE MINE TECHNICAL ASSISTANCE PROJECT

PREPARED FOR  
BRISTOL BAY NATIVE ASSOCIATION

NOVEMBER 30, 2006

**Introduction**

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**Permits Required & Points of Contact for Pebble Project  
Information You Will Find**

We gathered summaries of major state, federal and local government permits that may be required before a large mine project in Alaska could begin construction and operation. Permit information is listed by agency and for chronological and tracking purposes only—not by order of when permits are submitted. Information was acquired from various local, state and federal departmental representatives and staff members who were asked to review permit information and provide points of contact for their respective departments. This material is organized in four main categories: by agency, regulated activity, permit/approval and finally point of contact. You will find this same information integrated in the resource handbook (see page CM1-1)—the only difference is that table one is not included in the resource handbook version.

**Permits Required & Points of Contact for Pebble Project**

The following is a summary of major state, federal and local government permits that may be required before a large mine project in Alaska could begin construction and operation. The permits are listed by agency and chronologically for the purpose of tracking only, not by order of when permits are submitted. Information was acquired from various local, state and federal departmental representatives and staff members who were asked to review permit information and provide points of contact for their respective departments.

**Table 1: Summary of State Agency Permits & Approvals**

This table represents a listing of state permits, and point of contacts for individuals and organizations directly responsible for those permits. Generally, the state's Large Mine Coordinator serves as the overall point of contact for state mining projects. The Large Mine Coordinator is responsible for managing and coordinating the permitting process, but not the actual issuance of permits. More information about the state's large mine permitting process and roles between state and federal permitting processes is available at:

[www.dnr.state.ak.us/mlw/mining/largemine/lmpt\\_process.pdf](http://www.dnr.state.ak.us/mlw/mining/largemine/lmpt_process.pdf)

[www.state.ak.us/local/akdir1.shtml](http://www.state.ak.us/local/akdir1.shtml)

	Agency	Regulated Activity	Permit/Approval	Point of Contact
1	ADNR <a href="http://www.dnr.state.ak.us/">http://www.dnr.state.ak.us/</a>	*Plan of Operations Approval, may consist of: 1) Project Description 2) Reclamation Plan & Bonding 3) Monitoring Plan (surface/groundwater and/or wildlife) 4) <sup>1</sup> Transportation plan 5) Road maintenance agreements	Mine site must be returned to stable condition compatible with post-mining land use; financial assurance (bond) must ensure state can do reclamation even if company cannot	Division of Mining, Land & Water, Mining Section, <a href="http://www.dnr.state.ak.us/mlw/mining/largemine/index.htm">http://www.dnr.state.ak.us/mlw/mining/largemine/index.htm</a>  Contact: Rick Fredericksen, Mining Section Chief Email: <a href="mailto:Rick_fredericksen@dnr.state.ak.us">Rick_fredericksen@dnr.state.ak.us</a> Phone: 269-8621 Fax: 269-8930
2	ADNR	Required lease for mineral production from the mining <sup>2</sup> claim	Upland Mining lease	Division of Mining, Land & Water, Mining Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Fredericksen, Mining Section Chief Email: <a href="mailto:Rick_fredericksen@dnr.state.ak.us">Rick_fredericksen@dnr.state.ak.us</a> Phone: 269-8621 Fax: 269-8930
3	ADNR	Surface property right for facilities & infrastructure areas (buildings, waste rock piles, tailings pond)	Millsite Lease	Division of Mining, Land & Water, Mining Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Fredericksen, Mining Section Chief Email: <a href="mailto:Rick_fredericksen@dnr.state.ak.us">Rick_fredericksen@dnr.state.ak.us</a> Phone: 269-8621 Fax: 269-8930
4	ADNR	ROW access for infrastructure (roads, pipelines, powerlines)	Access Road Right of Way (ROW) & Road Maintenance Agreement (DOT)	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913

<sup>1</sup> If roads are on private property, then DOT is most likely not involved.

<sup>2</sup> An upland mining lease is not required for mineral production. Such a lease consolidates the rights from a group of mining claims. Most companies opt to convert the relevant mining claims to a lease because it simplifies the management of their property rights and has some other advantages, but it's not a requirement. The rents, royalties, fees for an upland mining lease, on a per acre basis, are the same as for mining claims.

*Permits Required and Points of Contact*

5	ADNR	Transportation and staging facilities (upland) & marine facilities i.e. docks (tideland)	Upland or Tideland Leases	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913
6	ADNR		<sup>3</sup> Transportation Plan or Road Use Plan Approval	
7	ADNR	Required permit across state lands; DMLW on state land (lands section)	Rights of Way for Powerline	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913
8	ADNR	Required for construction, enlargement, alteration, repair or abandonment; dam safety and operation	Certificate of Approval to Construct a Dam	Division of Mining, Land & Water, Water Section, Dam Safety & Construction Unit <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Charlie Cobb, Dam Safety Engineer Email: <a href="mailto:charlesc@dnr.state.ak.us">charlesc@dnr.state.ak.us</a> Phone: 269-8636 Fax: 269-8947
9	ADNR	Dam (tailings & water storage) design and operation safety	Certificate of Approval to Operate a Dam	Division of Mining, Land & Water, Mining Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Charlie Cobb, Dam Safety Engineer Email: <a href="mailto:charlesc@dnr.state.ak.us">charlesc@dnr.state.ak.us</a> Phone: 269-8636 Fax: 269-8947
10	ADNR	Required water rights permit for use of public surface & subsurface waters	Permit to Appropriate Water	Division of Mining, Land & Water <a href="http://www.dnr.state.ak.us/mlw/water/index.htm">http://www.dnr.state.ak.us/mlw/water/index.htm</a>  Contact: Gary Prokosch, Chief of the Water Resources Section Email: <a href="mailto:garyp@dnr.state.ak.us">garyp@dnr.state.ak.us</a> Phone: 269-8645 Fax: 269-8947
11	ADNR	Temporary use of a significant volume up to 5 yrs requires this permit	Temporary Water Use Permit	Division of Mining, Land & Water <a href="http://www.dnr.state.ak.us/mlw/water/index.htm">http://www.dnr.state.ak.us/mlw/water/index.htm</a>  Contact: Gary Prokosch, Chief of the Water Resources Section Email: <a href="mailto:garyp@dnr.state.ak.us">garyp@dnr.state.ak.us</a> Phone: 269-8645 Fax: 269-8947
12	ADNR	For off millsite material (sand, rock, gravel)	Material Sale	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>  Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913
13	ADNR	Any roads (snow or ice) used for travel to stage equipment and	Winter travel permits	Division of Mining, Land & Water, Lands Section <a href="http://www.dnr.state.ak.us/mlw/contact.htm">http://www.dnr.state.ak.us/mlw/contact.htm</a>

<sup>3</sup> This permit for road use plan depends on DOT or director of DMLW

*Permits Required and Points of Contact*

		supplies; additional authorization required from OHMP on crossings of fish-bearing waters by snow or ice roads		Contact: Rick Thompson, Regional Manager Email: <a href="mailto:richard_thompson@dnr.state.ak.us">richard_thompson@dnr.state.ak.us</a> Phone: 269-8559 Fax: 269-8913
14	ADNR	*Projects within Alaska's coastal zone reviewed for ACMP policies	Coastal zone consistency review	Office of Project Mgt & Permitting, Alaska Coastal Mgt. Program <a href="http://www.alaskacoast.state.ak.us/Contacts/acmpwglst.html">http://www.alaskacoast.state.ak.us/Contacts/acmpwglst.html</a>  Contact: Kim Kruse, Coastal Project Mgr. Email: <a href="mailto:kim_kruse@dnr.state.ak.us">kim_kruse@dnr.state.ak.us</a> Phone: 269-7473 Fax: 269-3981
15	ADNR	*Activities such as bridges, culverts, fords, material sites, tailings facilities, water withdrawal structures in waters containing anadromous (rear in the ocean & spawn in fresh water) fish	Fish Habitat Permit under <sup>4</sup> AS 41.14.870	Office of Habitat Mgt. & Permitting <a href="http://www.dnr.state.ak.us/habitat/">http://www.dnr.state.ak.us/habitat/</a>  Contact: Al Ott, Operations Mgr. Email: <a href="mailto:Al_Ott@dnr.state.ak.us">Al_Ott@dnr.state.ak.us</a> Phone: 459-7279 Fax: 456-3091
16	ADNR	*Activities that affect free passage of fish up and down stream	Fish Passage Permit under AS 41.14.840	Office of Habitat Mgt. & Permitting <a href="http://www.dnr.state.ak.us/habitat/">http://www.dnr.state.ak.us/habitat/</a>  Contact: Al Ott, Operations Mgr. Email: <a href="mailto:Al_Ott@dnr.state.ak.us">Al_Ott@dnr.state.ak.us</a> Phone: 459-7279 Fax: 456-3091
17	ADNR	Cultural Resource Authorizations: Issued from the SHPO for archaeological field work on state lands. The SHPO also is consulted by the COE as it exercises its National Historic Preservation Act Section 106 responsibilities. The SHPO must concur that cultural resources would not be adversely impacted, or that proper procedures would be used to minimize or mitigate impacts that may occur.	Field Archaeology Permit and, potentially, Section 106 on National Historic Preservation Act review	Office of History and Archaeology State Historic Preservation Office (SHPO) <a href="http://www.dnr.state.ak.us/parks/oha/shpo/shpo.htm">http://www.dnr.state.ak.us/parks/oha/shpo/shpo.htm</a>  Contact: Judy Bittner, State Historic Preservation Officer Email: <a href="mailto:judy_bittner@dnr.state.ak.us">judy_bittner@dnr.state.ak.us</a> Phone: (907) 269-8715 Fax: (907) 269-8908
18	ADNR	Cultural and archaeology resource protection; compensation strategy required for significant disturbances	Field Archaeology Permit  See application: <a href="http://www.dnr.state.ak.us/parks/oha/archsurv/archpermit.pdf">http://www.dnr.state.ak.us/parks/oha/archsurv/archpermit.pdf</a>  See regulations: <a href="http://www.dnr.state.ak.us/parks/oha/archsurv/archregs.pdf">http://www.dnr.state.ak.us/parks/oha/archsurv/archregs.pdf</a>	State Historic Preservation Office, Office of History & Archaeology, Division of Parks & Outdoor Recreation <a href="http://www.dnr.state.ak.us/parks/oha/">http://www.dnr.state.ak.us/parks/oha/</a>  Contact: Judy Bittner, Chief, Office of History & Archaeology, & State Historic Preservation Officer Email: <a href="mailto:Judy_Bittner@dnr.state.ak.us">Judy_Bittner@dnr.state.ak.us</a> Phone: 269-8715 Fax: 269-8908
19	ADFG	Required for projects in state refuge, sanctuary, or critical habitat for any mining activity	Special areas permit	Division of Sport Fish <a href="http://www.sf.adfg.state.ak.us/statewide/contact_SF.cfm">http://www.sf.adfg.state.ak.us/statewide/contact_SF.cfm</a>  Contact: Mark Fink, Permitting Supervisor Email: <a href="mailto:mark_fink@fishgame.state.ak.us">mark_fink@fishgame.state.ak.us</a> Phone: 267-2338 Fax: 267-2464
20	ADEC <a href="http://www.de">http://www.de</a>	<sup>5</sup> Dewatering of construction areas	<sup>6</sup> If discharged to subsurface or land, a wastewater permit under	Division of Water <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>

<sup>4</sup> Title 41 refers to AS statutes that permit activities for fish passage & fish habitats

<sup>5</sup> this permit is part of #34 State permit authorizations

Permits Required and Points of Contact

	<a href="http://c.state.ak.us/">c.state.ak.us/</a>		18AAC72.500 may be required. If discharged to surface water and is not contaminated, may be covered under the storm water discharge permit (#35 below and #6 in the Federal authorizations). Otherwise, may be covered under an individual NPDES permit (#1 in the Federal authorizations), then requiring a Certificate of Reasonable Assurance (Section 401 Water Quality Certification) from DEC the EPA Section 402 (NPDES) Permit.	Contact: David Johnson, Environmental Engineer Email: <a href="mailto:david_johnson@dec.state.ak.us">david_johnson@dec.state.ak.us</a> Phone: 262-5210 ext 238 Fax: 262-2294
21	ADEC	Waste rock dumps and tailings storage facilities	<sup>7</sup> Solid Waste Disposal Permit for Dry stack Tailings	Division of Environmental Health, Solid Waste Program <a href="http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm">http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm</a>  Contact: Bob Blankenburg, Solid Waste Program Coord. Email: <a href="mailto:Bob_Blankenburg@dec.state.ak.us">Bob_Blankenburg@dec.state.ak.us</a> Phone: 269-7690 Fax: 269-7600
22	ADEC	*This permit may be issued in coordination with EPA (hazardous waste)	<sup>8</sup> Solid Waste Disposal Permit for Construction Debris and Garbage	Division of Environmental Health, Solid Waste Program <a href="http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm">http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm</a>  Contact: Bob Blankenburg, Solid Waste Program Coord. Email: <a href="mailto:Bob_Blankenburg@dec.state.ak.us">Bob_Blankenburg@dec.state.ak.us</a> Phone: 269-7690 Fax: 269-7600
23	ADEC	*This permit may issued in coordination with EPA (hazardous waste)	<sup>9</sup> Solid Waste Disposal Permit for Tailings with Cyanide Residual	Division of Environmental Health, Solid Waste Program <a href="http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm">http://www.dec.state.ak.us/eh/docs/sw/Staff_contact_page.htm</a>  Contact: Lori Aldrich, Envir. Program Specialist Email: <a href="mailto:Lori_aldrich@dec.state.ak.us">Lori_aldrich@dec.state.ak.us</a> Phone: 269-7622 Fax: 269-7600
24	ADEC	Emissions sources (power plants) during construction; road dust; equipment over a threshold need a permit; facility will generate power or lines;	Air Quality Control Permit to Construct	Division of Air Quality, Air Permits Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: Bill Walker, Constr. Permits Mgr. Email: <a href="mailto:Bill_Walker@dec.state.ak.us">Bill_Walker@dec.state.ak.us</a> Phone: 465-5100 Fax: 465-5129
25	ADEC	Requirement under Clean Air act for pollutants into atmosphere	Air Quality Control Permit to Operate	Division of Air Quality, Air Permits Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: Cynthia Espinoza, Title V Sup. Email: <a href="mailto:Cynthia_Espinoza@dec.state.ak.us">Cynthia_Espinoza@dec.state.ak.us</a> Phone: 269-7577 Fax: 269-7508
26	ADEC	Regulation of industrial and domestic waste streams; mine site would most likely have a solid waste facility (incinerator) for	Air Quality Permit to Open Burn	Division of Air Quality, Air Permits Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: Chris Kent, ES II

<sup>6</sup> This description gives three possible approaches this could be permitted for discharge, however there are potentially other ways it could be permitted.

<sup>7</sup> Covered in #34 State authorizations

<sup>8</sup> This would likely be covered in #31 State Authorizations, but could also be issued as a stand-alone permit

<sup>9</sup> This would be covered in #31 State authorizations

*Permits Required and Points of Contact*

		getting rid of hazardous waste; permit restricts black smoke or production of hazardous materials		Email: <a href="mailto:Chris_Kent@dec.state.ak.us">Chris_Kent@dec.state.ak.us</a> Phone: 269-6847 Fax: 269-7508
27	ADEC	Water system is submitted as formal plan; approval is based on conditions met in plan review checklist for construction approval	Construction Approval for Public Water Supply System  See Plan Review Checklist for drinking water systems: <a href="http://www.dec.state.ak.us/eh/dw/dwmain/engineering.html">http://www.dec.state.ak.us/eh/dw/dwmain/engineering.html</a>	Division of Environmental Health, Drinking Water Program <a href="http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html">http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html</a>  Contact: Allan Nakanishi, Plan Review Engineer Email: <a href="mailto:Allan_Nikanishi@dec.state.ak.us">Allan_Nikanishi@dec.state.ak.us</a> Phone: 269-7516 Fax: 269-7650
28	ADEC	Design of public water system is reviewed for state drinking water regulations & federal regulation guidelines	Operation Approval for Public Water Supply System	Division of Environmental Health, Drinking Water Program <a href="http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html">http://www.dec.state.ak.us/eh/dw/dwmain/drinking_water.html</a>  Contact: Allan Nakanishi, Plan Review Engineer Email: <a href="mailto:Allan_Nikanishi@dec.state.ak.us">Allan_Nikanishi@dec.state.ak.us</a> Phone: 269-7516 Fax: 269-7650
29	ADEC	*Mining company needs significant amount of cash (bonding) to operate permit in case mine site is closed earlier than planned (becomes insolvent or forecloses), <sup>10</sup>	<sup>11</sup> Bonding & financial assurance	Division of Water, Wastewater Discharge Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: David Johnson, Environmental Engineer Email: <a href="mailto:david_johnson@dec.state.ak.us">david_johnson@dec.state.ak.us</a> Phone: 262-5210 ext 238 Fax: 262-2294
30	ADEC	For tailings & waste rock at mine site; permit regulates disposal of waste substances (i.e. need to place & dispose of waste); may be dry stack or tailings pond most likely on site (versus off site) due to sheer amount of waste expected)	Solid Waste Permit (also referred to as Waste Management Permit)	Division of Water, Wastewater Discharge Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: David Johnson, Environmental Engineer Email: <a href="mailto:david_johnson@dec.state.ak.us">david_johnson@dec.state.ak.us</a> Phone: 262-5210 ext 238 Fax: 262-2294
31	ADEC	Discharge of non-domestic wastewater (i.e. non-sewage); design of system is reviewed ensuring standard technology and regulatory requirements are met (i.e. water is treated properly)	<sup>12</sup> Plan Review for Non-Domestic Wastewater Treatment System State plan review occurs outside of EPA permit requirement (#1 Federal Authorizations)	Division of Water, Wastewater Discharge Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: David Johnson, Environmental Engineer Email: <a href="mailto:david_johnson@dec.state.ak.us">david_johnson@dec.state.ak.us</a> Phone: 262-5210 ext 238 Fax: 262-2294
32	ADEC	*Discharge of fill in waters of the US (wetlands)	<sup>13</sup> Certificate of Reasonable Assurance (Section 401 Water Quality Certification) for COE Section 404 Permit (corresponds to #8 Federal Authorizations)	Division of Water, Nonpoint Source Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: William Ashton, Stormwater and Wetlands Section Email: <a href="mailto:william_ashton@dec.state.ak.us">william_ashton@dec.state.ak.us</a> Phone: 269-7564 Fax: 334-2415
33	ADEC	*Discharges to of non-domestic wastewater to surface water (stream & lakes, ocean).	Certificate of Reasonable Assurance (Section 401 Water Quality Certification) for Section 402 (NPDES) Permit	Division of Water, Wastewater Discharge Program <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: Sharmon Stambaugh, Program Mgr. of Industrial

<sup>10</sup> ADNR and ADEC work together though ADEC is overarching agency; ADNR assures monitoring for 30 years making sure no long term problems remain and area is reclaimed in stable condition; central part of waste permit for tailings disposal permit as well as significant monitoring & reporting requirements in permit

<sup>11</sup> bond amount is significant i.e. Pogo is \$22 million; Greens Creek \$20 million; Rock Creek \$7million; bonding may come in various forms such as letter of credit or cash bond that the department of revenue manages

<sup>12</sup> 18AC72.500 is the regulatory authority for this permit; 18AC72.600 refers to the plan review

<sup>13</sup> DEC certifies 404 permit which Army Corps of Engineers (USACE) issues

*Permits Required and Points of Contact*

			<p>Based on permit application, EPA will write an NPDES permit<sup>14</sup> and the state will certify that it meets Alaska state quality standards</p> <p>ADEC must provide certification under section 401 of the CWA for EPA permits to assure they comply with state quality standards including approval of mixing zone (dilution of pollutants) requirements; ADEC authorizes mixing zones in the certification (Cert); EPA has no authority to do this in Alaska</p>	<p>Waste Section          Email: <a href="mailto:Sharmon_stambaugh@dec.state.ak.us">Sharmon_stambaugh@dec.state.ak.us</a>          Phone: 269-7565          Fax: 269-3487</p>
34	ADEC	Discharge of storm water from construction and operation activities to surface waters.	<p>Submit Storm Water Pollution Prevention Plan to DEC as required under EPA permit.</p> <p>-If Pebble project is eligible for EPA's <sup>15</sup>MultiSector General Permit (corresponds to #6 Federal authorization), no state 401 certification is needed because it will be completed under a separate review.</p> <p>-If project is not eligible for the EPA MultiSector General Permit, authorization for storm water discharges can be included in the individual permit for the project (#1 Federal authorization). DEC would issue a 401 Certificate for an individual permit (#34 state authorization).</p>	<p>Division of WaterNonPoint Source Program  <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a></p> <p>Contact:          Greg Drzewiecki, Stormwater &amp; Wetlands Program          Email: <a href="mailto:mel_langdon@dec.state.ak.us">mel_langdon@dec.state.ak.us</a>          Phone: 269-6283          Fax: 334-2415</p>
35	ADEC	Disposal of treated domestic waste water; the plan approval is for treatment facility	Plan Review & Construction Approval for Domestic Sewage System	<p>Division of Water, Wastewater Discharge Program  <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a></p> <p>Contact:          Tim Wingerter, Domestic Wastewater Section Mgr.          Email: <a href="mailto:Tim_Wingerter@dec.state.ak.us">Tim_Wingerter@dec.state.ak.us</a>          Phone: 451-2116          Fax: 451-2183</p>
36	ADEC	*This is for tanks greater than 400,000 gal.; EPA (Matt Carr, 271-5083) Contingency Plan larger tanks storage of fuels greater than 400,00 like Red Dog	SPCC Plan Review Approval	<p>Division of Spill Prevention &amp; Response  <a href="http://www.dec.state.ak.us/spar/index.htm">http://www.dec.state.ak.us/spar/index.htm</a></p> <p>Contact:          Ed Meggert, Envir Program Mgr.          Email: <a href="mailto:Ed_Meggert@dec.state.ak.us">Ed_Meggert@dec.state.ak.us</a>          Phone: 451-2124          Fax: 451-2362</p>
37	ADEC	Operation of vessels and oil barges on state waters or oil terminal facilities above or below ground; reviewed every 3 yrs	Oil Discharge Prevention and Contingency Plan (winter road option only)	<p>Division of Spill Prevention &amp; Response  <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a></p> <p>Contact:          Eric Brightenburger, title          Phone: 451-2144          Fax: 451-2362</p>

<sup>14</sup> corresponds to #1 Federal authorization

<sup>15</sup> the Multisector general permit that may be used is currently not in effect, but EPA plans to have it ready by the end of the year. If issued in the draft form, it could cover storm water discharges from both the construction and operation phases of the mine project. Alternatively, storm water could be written into the NPDES permit for non-domestic (i.e. industrial or process) wastewater. Storm water generally is not discharged to land or subsurface, so this will have to be an NPDES permit, not a state permit. For non-domestic wastewater -- this is required if the project discharges water used in processing the ore to surface waters, but this depends on NDM mine plans. In the Rock Creek mine case, this permit was not needed, but Kensington did require this. If discharged to surface water, this will definitely be an NPDES permit, not a state permit. This permit could possibly include storm water and/or dewatering, depending on how the application is written and what EPA decides to include in the permit.

*Permits Required and Points of Contact*

38	ADEC	*Review of blueprints of facilities design on structure, equipment; coordinate with wastewater team on source of water supply, well number; septic system	Food Sanitation Permit	Division of Environmental Health <a href="http://www.dec.state.ak.us/divs_contacts/index.htm">http://www.dec.state.ak.us/divs_contacts/index.htm</a>  Contact: Mike Tierney, Environmental Health Officer Email: <a href="mailto:Mike_Tierney@dec.state.ak.us">Mike_Tierney@dec.state.ak.us</a> Phone: 269-3004 Fax: 269-7510
39	ADOT  <a href="http://www.dot.state.ak.us/">http://www.dot.state.ak.us/</a>	For access to state highway. \$5000 fee required for commercial approach road as performance deposit; site is inspected for requirements (i.e. site distance, location, width, use, return radius, clearance); commercial process may have special considerations; approval from Native corp. is required for approach road on lands other than state lands	Driveway Permit  See online permit regulations for approach road <a href="http://www.dot.state.ak.us/permits/RowdysUsersGuide/drivewayreg.html">http://www.dot.state.ak.us/permits/RowdysUsersGuide/drivewayreg.html</a>	Right of Way <a href="http://www.dot.state.ak.us/permits">www.dot.state.ak.us/permits</a>  Contact: Dawn Hancock, Right of Way Agent Email: <a href="mailto:Dawn_Hancock@dot.state.ak.us">Dawn_Hancock@dot.state.ak.us</a> Phone: 269-0700 Toll Free: 1800-770-5263 Fax: 248-9456
40	ADOT		Right of Way/Access (on state roads)	Right of Way <a href="http://www.dot.state.ak.us/permits">www.dot.state.ak.us/permits</a> Contact: Dawn Hancock, Right of Way Agent Email: <a href="mailto:Dawn_Hancock@dot.state.ak.us">Dawn_Hancock@dot.state.ak.us</a> Phone: 269-0700 Toll Free: 1800-770-5263 Fax: 248-9456
41	ADOT	Generation of contaminated materials during construction	Approval to Transport Hazardous Materials	Division of Measurement Standards & Commercial Vehicle Enforcement <a href="http://www.dot.state.ak.us/mscve/index.shtml">http://www.dot.state.ak.us/mscve/index.shtml</a>  Contact: Dan Breeden, Chief of MSCVE Email: <a href="mailto:Dan_Breeden@dot.state.ak.us">Dan_Breeden@dot.state.ak.us</a> Phone: 365-1210 Fax: 365-1220
42	ADPS  <a href="http://www.dps.state.ak.us/">http://www.dps.state.ak.us/</a>	This entails a review of commercial building for safety purposes	Life & Fire Safety Plan Check  From ADPS website, looks like maybe item 43 and item 44 should be one item.	Alaska State Fire Marshall's Office, Division of Fire Prevention <a href="http://www.dps.state.ak.us/fire/asp/offices.asp">http://www.dps.state.ak.us/fire/asp/offices.asp</a>  Contact: Don Cuthbert, Life Safety Inspection Bureau Supervisor Email: <a href="mailto:Donald_Cuthbert@dps.state.ak.us">Donald_Cuthbert@dps.state.ak.us</a> Phone: 269-5637 Fax: 269- 5018
43	ADPS	*Building construction; may require municipality or borough coordination; review for fire and life safety for facilities (buildings)	Plan Review Certificate of Approval for each Building	Alaska State Fire Marshall's Office, Plan Review Bureau <a href="http://www.dps.state.ak.us/fire/asp/offices.asp">http://www.dps.state.ak.us/fire/asp/offices.asp</a>  Contact: Tim Fisher, Building Plans Examiner Email: <a href="mailto:Timothy_Fisher@dps.state.ak.us">Timothy_Fisher@dps.state.ak.us</a> Phone: 269-5486 Fax: 269-0098
44	ADL  <a href="http://www.labor.state.ak.us/home.htm">http://www.labor.state.ak.us/home.htm</a>	Boiler operation and safety	Certificate of Inspection for Fired and Unfired Pressure Vessel	Division of Labor Standards & Safety <a href="http://www.labor.state.ak.us/lss/contacts.htm">http://www.labor.state.ak.us/lss/contacts.htm</a> Contact: Mark Peterson, Chief Boiler & Pressure Vessel Inspector Email: <a href="mailto:Rudy_peterson@labor.state.ak.us">Rudy_peterson@labor.state.ak.us</a> Phone: 269-4934 Fax: 269-4932
45	ADL	Required for payroll purposes	Employer Identification Number	Division of Labor & Workforce Dev. <a href="http://labor.state.ak.us/">http://labor.state.ak.us/</a> Contact: Judy Smathers, Labor & Workforce Dev. Act. Sup. Email: <a href="mailto:judy_smathers@labor.state.ak.us">judy_smathers@labor.state.ak.us</a> Phone: 465-5919 Toll Free: 1888-448-3527 Fax: 465-2374

\* indicates permit may be consulted with other local, state and/or federal agencies

## *Permits Required and Points of Contact*

### **Table 2: Summary of Federal Agency Permits & Approvals**

The following table lists federal permits that may be required for the proposed Pebble mine.<sup>16</sup> The state's Department of Natural Resources, Office of Project Management & Permitting coordinates activities with major federal agencies such as US Environmental Protection Agency and US Army Corps of Engineers. In addition, EPA, and all other federal agencies, also must comply with numerous federal executive orders. Two notable ones that apply would be EO's regarding environmental justice and Consultation with Tribal governments. Additionally, the federal Clean Air Act has been delegated to the State of Alaska, therefore federal air requirements are largely enforced by the state.<sup>17</sup>

For federal authorizations, there are two main permits: NPDES permit (section 402) for industrial wastewater, and the USACE (section 404) permit for fill, and then consultation required by federal regulations for each of them. Any time a Section 402 or 404 permit is issued, the EPA or USACE needs a 401 certification from the state.

EPA assigns a project manager for large projects in Alaska who serve as the primary agency contact for all activities related to that project. Currently, Dianne Soderlund is the EPA Pebble Project Manager. Her role is to coordinate EPA actions on Pebble project including permitting, review and comment of documents as well as public education and outreach. The Alaska Mining Coordinator is Cindi Godsey who serves as the permitting contact. For more information see: <http://yosemite.epa.gov/r10/aoo.nsf/60b16ceeacd447c38825650f0071652d/20342812a0bef67b882564b9006fcb12?OpenDocument>

Currently, EPA is responsible for issuing NPDES (CWA 402) permits for dischargers in Alaska and responsible for reviewing and approving or disapproving state water quality standards revisions and total maximum daily loads. EPA does have a significant federal role in mine permitting but (dependent on the requested permits) the state of Alaska or another federal agency could have a lead role.

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<sup>16</sup> Note that Northern Dynasty Mines may, or may not apply for a NPDES permit or UIC permits. Since NDM does not anticipate applications being submitted until at least 2008, it is not possible to identify with absolute certainty what permits will be requested.

<sup>17</sup> Contact John Pavitt, EPA, at 271-5083 for more information.

Permits Required and Points of Contact

	Agency	Regulated Activity	Permit/Approval	Point of Agency Contact
1	USEPA	<p>Discharge of industrial wastewater into waters of the U.S.</p> <p>ADEC must provide certification under section 401 of the CWA for EPA permits to assure that they comply with state quality standards including approval of mixing.<sup>18</sup></p>	<p><sup>19</sup>NPDES permitting, which incorporates *Section 301 &amp; 306 of CWA, requiring industry to develop and meet wastewater standards under New Source Performance Standards (NSPS). See link: <a href="http://yosemite.epa.gov/r10/aoo.nsf/34090d07b77d50bd88256b79006529e8/20342812a0bef67b882564b9006fcb12/\$FILE/NPDES%20&amp;%20Mining.pdf">http://yosemite.epa.gov/r10/aoo.nsf/34090d07b77d50bd88256b79006529e8/20342812a0bef67b882564b9006fcb12/\$FILE/NPDES%20&amp;%20Mining.pdf</a></p>	<p>EPA Region 10</p> <p>Contact: Cindi Godsey, Alaska Mining Coordinator Email: <a href="mailto:Godsey.cindi@epa.gov">Godsey.cindi@epa.gov</a> Phone: 271-6561 Fax: 271-3424</p>
2	USEPA	NPDES permit actions for new sources are subject to NEPA; a Record of Decision (ROC) would be issued prior to the final permit action	Section 511 (c) of CWA	<p>EPA Region 10</p> <p>Contact: Hanh Shaw, NEPA Compliance Officer Email: <a href="mailto:Shaw.hanh@epa.gov">Shaw.hanh@epa.gov</a> Phone: (206) 553-0171 Fax: (206) 553-0165</p>
3	USEPA	Issuance of permit to allow discharge of fill into waters of the U.S.	Review of COE CWA Section 404 Permit	<p>EPA Region 10</p> <p>Contact: Phil North Email: <a href="mailto:North.phillip@epa.gov">North.phillip@epa.gov</a> Phone: 260-4872 Fax: 260-5992</p>
4	USEPA	Authorized under CWA for review of SPCC plan for large quantities of oil	Spill Prevention, Control, and Countermeasure (SPCC) Plan	<p>EPA Region 10, Environmental Clean-up Office, Envir. Response Unit</p> <p>Contact: Matt Carr, Email: <a href="mailto:carr.matthew@epa.gov">carr.matthew@epa.gov</a> Phone: 271-3616 Fax: 271-3424</p>
5	USEPA	Discharge of storm water from industrial activities into waters of the U.S.	<sup>20</sup> Coverage under the Storm water MultiSector General Permit (if eligible).	<p>Submit Notice of Intent to EPA Headquarters</p> <p>EPA Region 10 contact: Misha Vakoc Email: <a href="mailto:vakoc.misha@epa.gov">vakoc.misha@epa.gov</a> Phone: (206) 553-6650</p>
6	USEPA	Discharge of wastewater, including storm water, to the subsurface	Class V Underground Injection Control (UIC) Permit	<p>EPA Region 10</p> <p>Contact: Peter Mogolske Email: <a href="mailto:magolske.peter@epa.gov">magolske.peter@epa.gov</a> Phone: (206) 553-2964 Fax: (206) 553-0165</p>
7	USACE	Discharge of fill into wetlands and waters of the U.S. (including construction for roads, bridges, dams for tailings storage, & water storage dams or stream diversion structures)	<sup>21</sup> Permit under Section 404 of CWA for Discharge of Dredge or Fill Materials (mine tailings) into waters or wetlands of the U.S.	<p>US Army Corps of Engineers, Alaska District, Regulatory Branch <a href="http://www.poa.usace.army.mil/hm/">http://www.poa.usace.army.mil/hm/</a></p> <p>Contact: Leroy Phillips, Team Leader</p>

<sup>18</sup> Corresponds to #34 under State authorizations

<sup>19</sup> The state of Alaska has applied for authorization to run the NPDES permitting program in the state of Alaska (see <http://www.dec.state.ak.us/water/npdes/npdes.htm> for status of NPDES Primacy) however, this will have no affect on EPA's responsibility for approving Water Quality Standards. See also: <http://yosemite.epa.gov/r10/WATER.NSF/840a5de5d0a8d1418825650f00715a27/df2a6b6c1adebc28825687900599df31OpenDocument&Highlight=0.alaska> for EPA's Current NPDES Permits in Alaska.

<sup>20</sup> Corresponds to #35 State authorizations

<sup>21</sup> Corresponds with #33 under State authorizations

*Permits Required and Points of Contact*

				Email: <a href="mailto:leroy.phillips@poa02.usace.army.mil">leroy.phillips@poa02.usace.army.mil</a> Phone: 753-2712 Phone Toll Free: 1800-478-2712 Fax: 753-5567
8	USACE	Any structure and/or work that could obstruct traditionally navigable waters of U.S. (including artificial islands, installations, etc.)	Permit under Section 10 of Rivers & Harbors Act of 1899	US Army Corps of Engineers, Alaska District, Regulatory Branch <a href="http://www.poa.usace.army.mil/hm/">http://www.poa.usace.army.mil/hm/</a>  Contact: Leroy Phillips, Team Leader Email: <a href="mailto:leroy.phillips@poa02.usace.army.mil">leroy.phillips@poa02.usace.army.mil</a> Phone: 753-2712 Phone Toll Free: 1800-478-2712 Fax: 753-5567
9	<sup>22</sup> USACE	Impacts to cultural resources	Consultation under Section 106 Historical and Cultural Resources Protection	US Army Corps of Engineers, Alaska District, Regulatory Branch <a href="http://www.poa.usace.army.mil/hm/">http://www.poa.usace.army.mil/hm/</a>  Contact: Leroy Phillips, Team Leader Email: <a href="mailto:leroy.phillips@poa02.usace.army.mil">leroy.phillips@poa02.usace.army.mil</a> Phone: 753-2712 Phone Toll Free: 1800-478-2712 Fax: 753-5567
10	NMFS <a href="http://www.fakr.noaa.gov/contactinfo.htm">http://www.fakr.noaa.gov/contactinfo.htm</a>	Issuance of permits for discharges of wastewater or fill to waters of the U.S.	Consultation with federal agencies for adverse effects on essential fish habitat (including habitat for spawning, breeding, feeding, growth to maturity); EPA must provide a EFH assessment to NMFS for the NPDES permit, and USACE must for the Section 404 permit. Essential Fish Habitat (EFH)	National Marine Fisheries Service, Alaska Region  Contact: Matt Eagleton, Fishery Biologist Email: <a href="mailto:matthew.eagleton@noaa.gov">matthew.eagleton@noaa.gov</a> Phone: 271-6354 Fax: 271-3030
11	NMFS	Issuance of permits for discharges of wastewater or fill to waters of the U.S.	Consultation under Section 7 of Threatened and Endangered Species Act (ESA). ESA requires federal agencies issuing permits to conduct consultation for impacts to threatened or endangered marine species (EPA for the NPDES permit, and USACE for the Section 404 permit.)	National Marine Fisheries Service, Alaska Region  Contact: Matt Eagleton, Fishery Biologist I am not sure Matt is the right contact for marine mammals like the Beluga - Email: <a href="mailto:matthew.eagleton@noaa.gov">matthew.eagleton@noaa.gov</a> Phone: 271-6354 Fax: 271-3030
12	USFWS <a href="http://alaska.fws.gov/">http://alaska.fws.gov/</a>	Issuance of permits for discharges of wastewater or fill to waters of the U.S. Permits for Native Endangered & Threatened Species link: <a href="http://www.fws.gov/endangered/permits/index.html">http://www.fws.gov/endangered/permits/index.html</a>	<sup>23</sup> Threatened & Endangered Species Act Consultation	US Fish & Wildlife Service, Alaska Region <a href="http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2">http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2</a>  Contact: Greg Balogh, Endangered Species Branch Chief Email: <a href="mailto:greg_balogh@fws.gov">greg_balogh@fws.gov</a> Phone: 271-2778 Fax: 271-2786
13	USFWS <a href="http://alaska.fws.gov/">http://alaska.fws.gov/</a>	Impacts to raptors nesting in area	Consultation under the Bald Eagle Protection Act Clearance	US Fish & Wildlife Service, Alaska Region <a href="http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2">http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2</a>

<sup>22</sup> This may be the responsibility of all federal agencies, however, with Pogo for example, the Army Corps of Engineers agreed to be the lead for that particular project.

<sup>23</sup> Same as #11 Federal authorizations

*Permits Required and Points of Contact*

				<p>Contact:          Joe Connor, Project Planning Biologist          Email: <a href="mailto:joseph_connor@fws.gov">joseph_connor@fws.gov</a>          Phone: 271-3764          Fax: 271-3030</p>
14	<p>USFWS  <a href="http://alaska.fws.gov/">http://alaska.fws.gov/</a></p>	<p>Impacts to migratory birds in area          See Migratory Bird &amp; Eagle Permits link:  <a href="http://www.fws.gov/permits/mbp/permits/birdbasics.html">http://www.fws.gov/permits/mbp/permits/birdbasics.html</a></p>	<p>Consultation under Migratory Bird Protection</p>	<p>US Fish &amp; Wildlife Service, Alaska Region  <a href="http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2">http://www.fws.gov/offices/directory/ListOffices.cfm?statecode=2</a>          Contact:          Meg Laws, Wildlife Biologist/Permits          Email: <a href="mailto:meg_laws@fws.gov">meg_laws@fws.gov</a>          Phone: 786-3693          Fax: 786-3495</p>
15	<p>USBATF  <a href="http://www.atf.gov/index.htm">http://www.atf.gov/index.htm</a></p>	<p>Use of high (type 33) blasting agents; need permit to set off or purchase explosives or if any mixing of explosives occurs on site; permits gives right to create explosives and combine ingredients</p>	<p>Permit and License for Use of Explosives</p>	<p>US Department of Justice, Bureau of ATF, Anchorage Field Office  <a href="http://www.atf.gov/field/seattle/ak.htm">http://www.atf.gov/field/seattle/ak.htm</a>          Contact: Peggy Dreeszen          Email: <a href="mailto:peggy.dreeszen@atf.gov">peggy.dreeszen@atf.gov</a>          Phone: 271-5701          Fax: 271-5704</p>
16	<p>USMSHA  <a href="http://www.msha.gov">http://www.msha.gov</a></p>	<p>This is a 1-page application filled out by the mining company legally required indicating they are a mining operation; the mining company is assigned an identity number</p>	<p>Notification of Legal Identity</p>	<p>US Mining, Safety, Health Administration, Anchorage Field Office  <a href="http://www.msha.gov/CONTACTS/MNMWEST.HTM#FO">http://www.msha.gov/CONTACTS/MNMWEST.HTM#FO</a>          Contact: Scott Horn, Supervisor          Email: <a href="mailto:horn.donald@dol.gov">horn.donald@dol.gov</a>          Phone: 271-1250 or 250-0267          Fax: 271-1252</p>
17	<p>USMSHA</p>	<p>Each individual mining company is required to have training (i.e. primarily safety issues)</p>	<p>Training and Retraining of Miners Plan</p>	<p>US Mining, Safety, Health Administration, Anchorage Field Office  <a href="http://www.msha.gov/CONTACTS/MNMWEST.HTM#FO">http://www.msha.gov/CONTACTS/MNMWEST.HTM#FO</a>          Contact: Scott Horn, Supervisor          Email: <a href="mailto:horn.donald@dol.gov">horn.donald@dol.gov</a>          Phone: 271-1250 or 250-0267          Fax: 271-1252</p>

\* indicates permit may be consulted with other state and/or federal agencies

*Permits Required and Points of Contact*

**Table 3: Summary of Local Permits & Approvals Needed**

The primary local government organization with authoritative power (under Alaska state statute) to issue ordinances, conditional use permits for this part of the region is the Lake & Peninsula Borough (L&PB). Other regional governments such as the Bristol Bay Borough will be directly impacted by the Pebble mine, but because it falls outside borough boundaries, this entity can only provide comment and opinions about this major development. Other local permits may include Native corporate lands, however this depends on which transportation route is chosen by NDM. This may include land owned by the Bristol Bay Native Corporation and possibly other village corporation lands.

Other political agencies such as the Bristol Bay Coastal Resources Service Area (BBCRSA) can review mine plans for consistency of their current plan, but does not have ordinance power. If BBCRS finds regulations inconsistent with their plan, this does not preclude the mine from being developed. For inconsistent plans, BBCRS would offer suggestions on what would make regulations consistent with plan. The extent of their involvement is primarily an advisory role.

The current mining ordinance is now under review by L&PB which has authority to review permits before development of mine takes place. The L&PB Planning commission program would approve with the option for approval by the borough assembly. The significance of the development permit application requires that all other permits to be in place when submitted by the mining company.

More information about L&PB development permit regulations is available at:  
[www.lakeandpen.com/index.asp?Type=B\\_BASIC&SEC={DE7FEF9F-AF75-4492-8CB5-B08694573926}](http://www.lakeandpen.com/index.asp?Type=B_BASIC&SEC={DE7FEF9F-AF75-4492-8CB5-B08694573926})

	Agency	Regulated Activity	Permit/Approval	Point of Agency Contact
1	Lake & Peninsula Borough  <a href="http://www.lakeandpen.com/">http://www.lakeandpen.com/</a>	Local government authorizations:  Mining company must provide documentation of all other permits which must be in place; this is the last permit where all other (state & federal) permits are reviewed	Development Use permits  Development permit regulation application link: <a href="http://www.lakeandpen.com/index.asp?Type=B_BASIC&amp;SEC={DE7FEF9F-AF75-4492-8CB5-B08694573926}">http://www.lakeandpen.com/index.asp?Type=B_BASIC&amp;SEC={DE7FEF9F-AF75-4492-8CB5-B08694573926}</a>	Contact: Marv Smith, Community Development Coord. Email: <a href="mailto:marvsmith.lpboro@starband.net">marvsmith.lpboro@starband.net</a> Phone: 246-3421 Phone Toll Free: 1800764-3421 Fax: 246-6602  Alternate Contact: Sheila Bergey, Borough Clerk Email: <a href="mailto:lpboro@bristolbay.com">lpboro@bristolbay.com</a>
2		Authorizations on non-state owned land for ROW for road infrastructures	Village corporate lands access authorizations	
3	Bristol Bay Coastal Resources Service Area  <a href="http://www.alaskacoast.state.ak.us/Contacts/edisteconf.htm">http://www.alaskacoast.state.ak.us/Contacts/edisteconf.htm</a>	<sup>24</sup> Activities in the coastal zone	Consistency with local coastal zone requirements	Contact: Andrew DeValpine, Program Director BBCRSA Email: <a href="mailto:bbcrsant@nushtel.com">bbcrsant@nushtel.com</a> Phone: 842-2666 Fax: 842-2776

<sup>24</sup> Under new state regulations, changes to the local coastal district's review power has resulted in coastal districts no longer having review power. Currently there is contention about due deference in regulations and what this consists of and how authoritative is it – but for now it is interpreted as advisory only. Contact Kim Kruse for more information at 269-7473.

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## 2005 Survey Summary

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**Pebble Mine Technical Assistance Project  
A Summary of 2005 Survey Information – February 10, 2006  
Surveys Conducted by Courtenay Peirce, Suzanne Sharp**

This document summarizes information gathering efforts by UAA/ISER and BBNA staff pertaining to technical assistance in the communications area of our project. Basic information (dates, numbers, locations, how many mailed/returned) are provided for all surveys conducted. Narrative information in summary style is included in detailed break-outs for each major question posed for the two larger surveys conducted in October and December. This information is designed to be used as a work product for NMWC and BBNA for consideration in decisions about communication strategies, an entry point for additional discussion with the NMWC.

*Summaries*

**Tribal Council Members (October)**

During a workshop on “Building Sustainable Partnerships” conducted under UAA auspices by Meg King and Jane Oakley, five information requests were distributed to tribal council and local leader representatives attending this workshop. This was a good opportunity for staff members to meet representatives face-to-face and introduce the Pebble Mine Technical Assistance Project. The purpose of the information requests was to obtain current contact information and identify abilities and preferences with regard to communication methods. Respondents stated that they had attended a number of meetings about the proposed Pebble Mine, and inquired about the nature of our project. Leaders also identified key resources they wanted us to track down. These resources include a video recording of a 2005 Summit (Pebble) meeting in Nondalton held in April produced by BBNC (or BBNA). Another resource requested was footage of Harvey Samuelsen (possibly done by Don McCartney); tribal members wanted copies available. Staff members continue to follow up with leads locating these resources for possible inclusion in the literature component for the web site. **Most respondents preferred mailed communications.**

**IGAP & NMWC Mail-out (October)**

The following table is made up of responses from an October, 2005 survey given to our primary working group: IGAP representatives and NMWC members. Respondents were queried about effective ways to communicate on proposed mineral development and areas of interest. Sixty-two surveys were sent out (mailed and faxed) and twenty-seven surveys were subsequently returned. The purpose of this questionnaire was to obtain feedback on kinds of information they would like to receive and preferred method of communication. Another purpose of the questionnaire was to acquire current contact information from members for inclusion in the database.

**A. Best Method of Communication & Topics of Interest Identified by Respondents**

Best method of communication	Number of Responses	
	Yes	No
Mail newsletter	25	7
Email newsletter	14	18
Fax newsletter	11	21
Web site	8	24
<b>Topics of interest</b>		
Pebble mine plans	28	3
Environmental research	31	1
Social research	27	5
Health issues	28	4
Permitting process	27	5

- most members have a preference for information to be mailed as most preferred method of communication; most members did not prefer the web site as a form of communication
- nearly all respondents selected environmental research as a topic of interest

Written comments from October Mail-out questionnaire:

- concerned that information on Pebble development is not being conveyed to residents.
- waste pollution (data) into the rivers.
- timelines of the permit process, how are they going about hiring? Public schools, training personnel to do anything other beyond blue collar; not just grunts, can we be technicians? Have they put any effort into our school system to enable our children to have those kinds of jobs? He hasn't seen any job listings as to what will be available 10 years down the road. Are there available courses that would help students in high school become trained in water quality, etc. to prepare them for mine related employment?
- baseline studies, water.
- updates.
- training for local hire.
- chronological listing of commitments for technology use or nonuse and date of change, including a description of that change. Pebble contact points, news articles, Pebble investors. Benefits of a mine to all Alaskans, other NDM projects, and evaluation of success and failures. Liability of NDM for accidents and technology failure. State support for NDM (who, why, how much?). Borough and Native organization positions, reports, comments on NDM and Pebble. Alaska legislative action regarding Pebble.
- concerned with the number of trucks to be used and subsequent diesel smog pollution. Also with the amount of time it is going to take for the pit to become a lake and any potential flooding.
- requests more information on current baseline studies.

## *2005 Survey Summary*

Survey highlights: The responses suggest respondents prefer to have information mailed to them overall. Very few respondents prefer using a web site as a medium for how they want to receive information. Over half said they prefer information faxed. Survey results show that almost all who responded considered every area of interest being important.

Implications: Nearly all respondents consider every topic presented as being important. But with limited time and resources, it is important to prioritize what kinds of information will be presented. It may be necessary to build an effective communication plan in different phases. For example, prioritize major areas, then incorporate components such as an interactive bulletin.

The surveys contained a large number of written comments and key questions that succinctly stated respondent concerns and issues with development. These should be compared with information contained in the "180 Questions" document in case new or additional questions are posed that could be incorporated into the document (refer below to more extensive list of written comments produced by IGAP and NMWC members from December watershed council meeting).

### **Village Leadership Workshop (December)**

During the course of the project, team members were unsure about our role in how to respond to key questions raised by local residents on proposed Pebble Mine development issues. After discussion with Sue Flensburg and others, we came to the conclusion to have questions directed to the group of community leader representatives who have recurring meetings with Northern Dynasty Mines about updates to the proposed Pebble Mine. A subsequent questionnaire was developed to seek permission from this group of community leaders at an annual Village Leadership Workshop hosted by the Bristol Bay Native Corporation on December 3 & 4. We sought permission from leaders to share contact information with residents who raise questions about the proposed mine. We obtained consent from BBNC to place questionnaires on a table during the workshop. As a result twelve surveys were completed and turned in. Everyone said it was okay to distribute their contact information.

### **NMWC Meeting (December)**

The following tables are responses from NMWC members as a result of two questionnaires distributed during the watershed council meeting held in December at Dillingham. Thirty questionnaires were distributed to NMWC members, and nineteen were completed and returned. Fifteen community & regional leaders responded to the questionnaire.

The purpose of this data gathering effort was to gain feedback about the most effective and efficient method of communication preferred from both the NMWC members and representatives of community and regional leaders present at the meeting. Members were queried about identifying kinds of information they would like to receive and specific components of the web site they deemed most important. Another major task was obtaining current contact information for inclusion in the developing database and permission to share contacts with local residents.

Meg King, a member of the UAA team, also conducted a brief survey on NEPA/EIS skill building and information needs to determine the type of skills and information that would be most useful to BBNA residents. King collected seventeen total NEPA/EIS surveys that were completed and returned. A summary of this information will be available after the task of inputting all information is completed.

**A. Best Method of Communication Identified by Respondents**

Best method of communication	Number of Responses	
	Yes	No
Mail newsletter	11	8
Fax newsletter	6	13
Web site	11	8
Access to a working computer?	18	1

- majority of respondents prefer information mailed and available via web site as the best way to receive communication; it appears that nearly all NMWC members who responded have access to computers with only one exception.

**B. Frequency of Internet Use**

How often do you use the Internet?	Number of Responses
None at all	3
Sometimes	0
Weekly	2
Daily	12

- this shows over half NMWC members responded to this question overall with 12 respondents saying they use the Internet daily and therefore could easily access an informational web site; three members said they don't use it at all; since only half of all members returned the questionnaire, it is presumable that there are more members who don't use the Internet and require other forms of communication i.e. fax or email; this also confirms the importance of having the most updated contact information on hand.

**C. How Well Respondents' Navigate the Internet**

How well do you get around Internet?	Number of Responses
Don't know how to use need training	3
I kind of know would benefit	2
I can find my way around	8
I can navigate with ease	5

2005 Survey Summary

- five respondents said they would benefit from training on how to use the Internet; this table suggests that an Internet-based tutoring session(s) could be beneficial for some members who are not familiar with using the Internet regularly.

The purpose for the following tables was to allow respondents to identify areas of significance by ranking Pebble-related topics in order of importance.

**D. Most Important Web Site Topics Identified by Respondents**

Most important topics for web site	Number of Responses				
	Most imp	2	3	4	Least imp
Links to agencies	1	3	7	0	1
Baseline studies, reports, pubs	7	3	1	2	0
Other surveys	0	2	7	3	8
NEPA/EIS, permitting process	5	4	2	2	0
Interactive bulletin	1	3	3	4	2

- The table indicates that a significant number of respondents see data (baseline studies, etc.) as an important topic for the web site. While we don't have information from roughly half NMWC members, it appears that respondents see NEPA/EIS and permitting process information important to include as well.

**E. Most Important Pebble-related Topics Identified**

Most important categories	Number of Responses					
	Most imp	2	3	4	5	Least imp
Pebble mine plans: infrastructure, extraction methods, layout	3	2	2	2	2	6
Environmental research: water quality, baseline fish & wildlife data	6	1	5	3	0	2
Socio-cultural research: subsistence issues, traditional land-use areas	4	4	3	2	2	2
Socio-economic research: population, jobs, infrastructure	1	1	0	4	6	5
Environmental health issues: environmental toxins, water quality	6	7	1	1	1	1
Permit process: timelines, agencies, residents input	4	1	3	2	3	4

## 2005 Survey Summary

- Respondents ranked environmental research and health issues as the highest priority for Pebble-related categories they deem important. This correlates to written comments below on water quality from members.

### Written comments: Environmental

- Water quality that allows our salmon resource to continue to be used for commercial, sport and subsistence harvest.
- Water quality is important because without clear water, all life downstream suffers.
- Water, I think is #1 that sustains life to all living things.
- Air and water quality are very important issues, every living thing needs water to survive.
- All living things need clean water.
- As a solid waste manager, I am working on being a teacher and encouraging others to learn from each other.
- I strongly feel that the mine will pay a big, big part or impact on our fish in our waters. What will our kids down the line have?
- Need to look into the Clean Water Act and change the laws with the congressmen.
- Water quality is the most important issue to us without water you can't survive.
- What is in the make-up of the land that is proposed to be open. What effects will occur when this land is open that mother-nature will affect.
- My subsistence lifestyle is very vital for me therefore the clean water and all surroundings of my environment are very important environmental issues.
- I believe that we need to help keep our water healthy because it is the most important to all living things.
- Provide all information that can be distribute to members of the village corporations.
- Water is a source of life, everything that has life would not be so without it.
- Is there any examples of 'successful' mine development? What are the effects on the water, air and land quality? What are the effects on the indigenous peoples?
- Our subsistence lifestyle- what we eat, moose, caribou, fish and birds.

### Written comments: Sociocultural

- Subsistence.
- Subsistence is important because it facilitates a healthy and vibrant culture.
- The closer villages will have the biggest impact. Especially where alcohol and drugs is a problem already. Crime rates will go up, subsistence will change.
- Preserving the lands we use for subsistence.
- Keeping subsistence foods on the table.
- The mine will also impact our berries and our meat.
- We need to protect the land, air and water. People have polluted the environment and the environment should be clean.
- Our subsistence way of life is important to all of us and also for future generations.
- My king salmon.
- Subsistence lifestyles.

## 2005 Survey Summary

- Subsistence has been an issue to us all here and because we all have basically grown up living off the plants and animals of the land.
- Subsistence and land use are one in the same. You cannot subsist if we aren't allowed to use the land. It is our livelihood and we cannot support ourselves once it is taken away from us.
- Subsistence is the very essence of who we are and any alterations affect our lifestyle.
- Important to keep our lands free of toxins and waste.

### Written comments: Health

- water quality.
- Water quality contributes to everything. Without clean water, free of chemicals, fecal coli form, etc, everything else suffers.
- I don't want to see any release at all and I don't want to have to buy my water or have someone tell me how much fish I can eat.
- water quality.
- Toxic tailings from the mine.
- To continue examples of traditional subsistence is to use the animal hides to make clothing. This is one way to see less packaging in consumable merchandise.
- Cancer rates will rise, birth defects will happen.
- More people will be sick, health problems of many different sicknesses, water quality will take years to get the water back as clean.
- The dust control will be impossible to take care of.
- water & air quality.
- Water quality since I think this will eventually affect everything around us. Everything, everyone survives on water.
- Water quality baseline testing and coli form testing. Heavy metal testing to see if there are any contaminants in the water.
- Every life is important. Water is again a source of life and toxins released in it will contaminate everything off balance, especially the humankind.
- Any toxin released would negatively affect our environment and our health, regardless of how 'minimal.'
- If the mine goes through there will be toxins- and other chemicals that would have a big impact to us subsistence and commercial fishermen.

### Written comments: Mine plan

- Tailings.
- Tailings & what will become of tailings.
- I keep thinking about the tailings piles. Global warming is already affecting us. In 50-60 years will there still be water over the pile?
- mixing zones.
- Tailings.
- Can the be "no net loss" in the Pebble mine project?
- I strongly oppose the mine for all issues, roads, etc.

## 2005 Survey Summary

- Having dust control and tailings fill up with water when it starts raining for one month.
- The tailings pond will not hold up in our extreme climate.
- The pit tailings are critical to me because land exposure reacts to the elements (air, wind, water, etc.).
- All elements of a mine development are important.
- If I was a mine owner, I would assure that any of the pit being dug, tailings area, road and actual extraction of minerals would be done in an environmental EPA, ADEC, NEPA approved way.
- DO NOT PUT 1 HERE OR ANYWHERE! As you can see, I oppose the mine. Our peoples' livelihood will be taken away and we will never be able to replace it.
- The use and release of toxins.
- On the mine when there is heavy rain fall and snow there is going to be leaks into the streams and lakes that the fish spawn in.

### Written comments: Permit

- EIS.
- State permitting process.
- Everything is important, especially when it comes to the NEPA and EIS processes.
- The biggest issue in BB is the Pebble timeline.
- Timeline on the permitting system.
- How far will the excavation at the mine take place? There is the fear of loss of quality of life.
- One permit issue will increase more mining development to extend more at federal and state lands.
- The issue of the timeline on the EIS comments is very important. Everybody needs to comment on them when they come out.
- Public comments.
- All important to me.
- I hope that all the questions and problems would all be resolved even before any permit is granted.
- All permitting agencies need to tighten regulations and make it very hard to get a permit, especially in Native areas and regions where the people rely on subsistence lifestyles.
- How can my voice make a difference? Was the NEPA process used on previous mines? How has it protected the environment and people?
- Just hoping we can prevent the mine being developed.

### Additional questions/comments

- Ranking the 6 Pebble Importance categories is "difficult because all areas are important."
- Is it important to establish (the NMWC) as a non-profit?
- We want to preserve our way of life without the risks of Pebble Mine or any other mine.
- I wish we did not have to fight on gold mine, but it is not that something will come up.
- Develop an overall unified voice and mutual understanding of mine effects, and such to our communities, since we are all on the same page. Letting everyone know and become educated on the specifics with some level of understanding.

## 2005 Survey Summary

- NMWC, BBNA, UAA, UAF-BB Campus. I am glad you're here for us to utilize and work with. Thank you for being here for us.
- Doesn't agree with ranking especially since we're opposing the mine. Our subsistence lifestyle is how we live-everyone outside doesn't understand that. Teaching the outside world, especially the government need to know that without subsistence, our people WILL become dependent on the government, EX-food stamps, energy assistance, etc. Governor Murkowski and his administration are encouraging and support development and are turning their faces from conservation and preservation. It seems they need to be educated because they are unaware of how much our lifestyles depend on our environment. Their current direction is development but for us: mine development is success to our demise.
- Well wishing and hoping you all a very good Christmas and Happy New Year!

**Survey highlights:** Respondents found survey design difficult on questions that asked to rank issues in order of importance. These questions were ranked with apprehension as each area was considered equally important in maintaining traditional lifestyles. Residents stated that one cannot place a monetary value on living a customary way of life. Socio-cultural themes raised most often revolve around sustaining current lifestyles. Major environmental concerns frequently mentioned by respondents have to do with protection of water and air quality, particularly impacts of tailings on fish resources.

**Implications:** From survey information, we know there are a high number of people who use the Internet quite regularly, however some people don't use it as much. For these members, several modes of public outreach are useful. Familiarize people on using the Internet might also be beneficial. For our group, what is the frequency of contact for public outreach that is expected by NWMC and BBNA? Are weekly contacts preferred? In our capacity, weekly communication via newsletter, and/or web site updates is feasible. A combination of communication methods i.e. calling members and also posting important events, meetings or other matters of urgency on both the web site and newsletter formats is necessary. A large database with current contact information is now in place. A significant finding of the survey is that is substantial concern about a wide range of issues; especially important was the possible damage or destruction of natural resources on which traditional subsistence and village life has been based. This information should be integrated into the "180 Questions" document and used as a starting point in tracking new questions. Respondents were generally pleased to know about our project, but expressed the need to be informed about future endeavors especially with regard to purpose, and how we will work together.

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**Article Listing on Pebble Mine Issues**

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**Selected Article Citations:**  
listed chronologically from most recent to oldest

**Proposed Mining in the Bristol Bay region, from 2006– 2004**  
listed by topic

**Compiled for**  
**Bristol Bay Native Association**  
**&**  
**Nushagak Mulchatna Watershed Council**

**by**  
**Pebble Mine Technical Assistance Project**  
**UAA/ISER – BBNA**

**November 30, 2006**

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## **Selected Literature**

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**Selected Literature with Abstracts on:**

**Proposed Mining in the Bristol Bay region, from 2006– 2004  
listed by topic**

**Compiled for  
Bristol Bay Native Association  
&  
Nushagak Mulchatna Watershed Council**

**by  
Pebble Mine Technical Assistance Project  
UAA/ISER – BBNA**

**November 30, 2006**

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## **Introduction**

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Resources listed in this selected bibliography represent a collection of information from files, databases and libraries from different individuals on proposed impacts of mineral development in the Bristol Bay region. This information is meant to be a beginning compilation of material related to mining and indigenous people. Entries were selected for their relevancy to Bristol Bay residents' concerns, Bristol Bay policies, and social, health and environmental effects of mineral development in the region. The primary purpose of collecting this information is to help prepare Bristol Bay residents for proposed mineral development in their region, and was chosen for relevance and importance for Bristol Bay communities. It should be noted that this material is not exhaustive of the information and data that exist. It is hoped that updating of information will continue to take place possibly using this document as a template as new information is added and becomes available and identified.

General citations, and abstracts are provided for resources along with permission process status for use of material for communication purposes such as a Web site. In some instances, authors or publishers who granted permission for use specify details (i.e. language and credits) to go along with material when it is distributed on a Web site or other communication avenues. It is important to include this permission detail which is listed as a requirement by the author or agency for use of material.

The entries have been divided into the following topical categories: environmental, socioeconomic, sociocultural, health, mine plan issues, permit issues. You will find that no resources listed for mine plan or permit issues. That is because documents were not available at the time this information was compiled. Lastly, a section on local, state-wide, national, and international case studies on mining in indigenous communities is included.

For clarification purposes, the table of contents show bolded categories which indicate information for this area is available and lists abstract, permissions status, and pdf format. General categories listed include:

- I. articles and policy statements
- II. reports, presentations, public testimony
- III. published literature (i.e. scientific & sociocultural)
- IV. video/media

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**Index (by Topic)**

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**Cumulative Impacts**

**Environmental**

**Human-Health**

Mine Plan Issues (no resources listed)

Permit Issues (no resources listed)

**Sociocultural**

**Socioeconomic**

**Case Studies**

## Cumulative Impacts

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304 pp. Free Executive Summary. See:

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## Environmental

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- Category: III
- Permissions status: waiting reply from publisher

**Abstract:** Heavy metal escapement associated with ore trucks is known to occur along the DeLong Mountain Regional Transportation System (DMTS) haul road corridor in Cape Krusenstern National Monument, northwest Alaska. Heavy metal concentrations in *Hylocomium splendens* moss ( $n = 226$ ) were used in geostatistical models to predict the extent and pattern of atmospheric deposition of Cd and Pb on Monument lands. A stratified grid-based sample design was used with more intensive sampling near mine-related activity areas. Spatial predictions were used to produce maps of concentration patterns, and to estimate the total area in 10 moss concentration categories.

Heavy metal levels in moss were highest immediately adjacent to the DMTS haul road (Cd > 24 mg/kg dw; Pb > 900 mg/kg dw). Spatial regression analyses indicated that heavy metal deposition decreased with the log of distance from the DMTS haul road and the DMTS port site. Analysis of subsurface soil suggested that observed patterns of heavy metal deposition reflected in moss were not attributable to subsurface lithology at the sample points. Further, moss Pb concentrations throughout the northern half of the study area were high relative to concentrations previously reported from other Arctic Alaska sites. Collectively, these findings indicate the presence of mine-related heavy metal deposition throughout the northern portion of Cape Krusenstern National Monument.

Geospatial analyses suggest that the Pb depositional area extends 25 km north of the haul road to the Kisimilot/Iyikrok hills, and possibly beyond. More study is needed to determine whether higher moss heavy metal concentrations in the northernmost portion of the study area reflect deposition from mining-related activities, weathering from mineralized Pb/Zn outcrops in the broader region, or a combination of the two. South of the DMTS haul road, airborne deposition appears to be constrained by the Tahinichok Mountains. Heavy metal levels continue to diminish south of the mountains, reaching a minimum in the southernmost portion of the study area near the Igichuk Hills (45 km from the haul road). The influence of the mine site was not studied.

## *Selected Literature*

### **3 video films by Rebecca MacNeice, Truthout Film Producer (all 3 series permissions granted)**

- MacNeice, Rebecca, "Go Tell it on the Mountain," *Truthout*, 2006
- Category: IV
- Permissions status: permission granted. See link to Truthout Site:  
<http://www.truthout.org/multimedia.htm>

Abstract: Larry Gibson's family roots on West Virginia's Kayford Mountain go back to the 1700s. In 1906, after being swindled by a land company representing coal mine owners (as happened to countless other mountaineers), his family found itself with only 50 acres of its original 500. Now, Gibson hangs onto his mountain and observes family traditions, despite the disappearance of landscape all around him - the result of total environmental destruction caused by mountaintop removal mining. Keeping to family and Appalachian traditions of annually visiting the family graveyard, Gibson this year took other locals, environmental activists and journalists along with him.

- MacNeice, Rebecca, "Almost Level, West Virginia," *Truthout*, 2006
- Category: IV
- Permissions status: permission granted. See link to Truthout Site:  
<http://www.truthout.org/multimedia.htm>

Abstract: As the destruction of America's Appalachian Range accelerates in the mad rush for cheap energy, activist Doris "Granny D" Haddock and former congressman Ken Hechler act as our tour guides as we fly over regions of mind-boggling devastation. Truthout filmmaker Rebecca MacNeice is aboard a SouthWings flight. SouthWings provides fly-overs of mountain top removal sites to promote conservation through aviation.

- MacNeice, Rebecca, "Pennies of Promise," *Truthout*, 2006
- Category: IV
- Permissions status: permission granted. See link to Truthout Site:  
<http://www.truthout.org/multimedia.htm>

Abstract: Pennies of Promise is a newly formed citizen action group in West Virginia. On Tuesday, May 30, the group launched a national campaign at the foot of the State Capitol to raise awareness for the Marsh Fork Elementary School in Sundial, West Virginia. The school children are dealing with a host of medical issues they believe are connected to the recently constructed coal silo, which sits 150 feet away from the school, and the toxic slurry pond, which is approximately 300 feet away from the school. Retired school teacher Mary Porter brought \$400 dollars in pennies collected from school children in Harlem as a donation to the state of West Virginia to aid in the construction of a school in another location.

- Chen, Michelle, 2006. "Alaska Gold Mine Threatens Pristine Waters, Wilderness," *The New Standard*, 4/7/06. See: <http://newstandardnews.net/content/index.cfm/items/3037>
- Category: I
- Permissions status: permission granted from The New Standard; **include this text below** article on web site: "© 2006 *The NewStandard*. All rights reserved. The NewStandard is a non-profit publisher that encourages noncommercial reproduction of its content. Reprints must prominently attribute the author and The NewStandard, hyperlink to <http://newstandardnews.net> (online) or display [newstandardnews.net](http://newstandardnews.net) (print), and carry this notice. For more information or commercial reprint rights, please see the TNS [reprint policy](#)."

## *Selected Literature*

**Abstract:** The gold-mining industry is on the verge dumping waste in otherwise unpolluted waterways with government approval, but conservationists say regulators are letting corporations do an end-run around long-standing environmental protections.

- Miller, Kenneth, May/June 2006. "The Midas Touch," *Mother Jones*
- See: <http://www.motherjones.com/toc/2006/05/index.html>
- Category: I
- Permissions status: per Mother Jones (Richard Reynolds, Reynolds@motherjones.com): **post first three paragraphs on site, then provide link for people to read full article on MotherJones.com**

**Abstract:** In Alaska's Bristol Bay region, the continent's biggest deposit could produce more gold than the Klondike gold rush—and put the world's largest salmon fishery out of business.

### *This resource permissions not granted (listed for information only-not to distribute)*

- NEW YORK TIMES "Cost of Gold" series (link to read only) payment is required to place link
- Category: I  
Permissions status: **PERMISSION NOT GRANTED** - NYT wants \$250/article to reproduce e-link to site and links to articles

#### **Series include:**

- Perlez, Jane & Bergman, Lowell, "The Cost of Gold: Treasure of Yanacocha: Tangled Strands in Fight Over Peru Gold Mine," 24 or 25 Oct., 2005

**Abstract:** Much of the gold left to be mined is microscopic and is being wrung from the earth at enormous environmental cost.

See to read only:

<http://www.nytimes.com/2005/08/05/international/asia/05indonesia.html?ex=1156910400&en=790eecbb251b2c57&ei=5070>

- Perlez, Jane & Johnson, Kirk, "The Cost of Gold: Thirty Tons an Ounce, Behind Gold's Glitter: Torn Lands and Pointed Questions," 24 Oct. 2005

See to read only:

<http://www.nytimes.com/2005/10/24/international/24GOLD.html?ex=1287806400&en=c889634bdb3f647d&ei=5088&partner=rssnyt&emc=rss>

OR:

<http://www.nytimes.com/2005/10/24/international/24GOLD.html?ex=1130817600&en=6b32f5a1573beb98&ei=5070&emc=eta1>

- Link to Questions on the Cost of Gold (26 October, 2005) by Jane Perlez and Kirk Johnson on questions from readers on their series examining gold mining around the world.

## *Selected Literature*

See:

<http://www.nytimes.com/2005/10/26/international/26goldquestions.html?ex=1156910400&en=a2e71b4bdd03ea26&ei=5070>

- Link to global map showing major mines throughout the world

See:

[http://www.nytimes.com/packages/html/international/20051025\\_PERU\\_FEATURE/blocker.html](http://www.nytimes.com/packages/html/international/20051025_PERU_FEATURE/blocker.html)

## **Human-Health**

- Noble, Bram and Bronson, Jackie, "Integrating Human Health into Environmental Impact Assessment: Case Studies of Canada's Northern Mining Resource Sector," *Arctic*, VOL. 58, NO. 4 (December, 2005) pp. 395-405
- Category: III
- Permissions status: permission granted from author; **must show the following acknowledgement on web site:** "Reprinted, with permission, from ARCTIC INSTITUTE OF NORTH AMERICA, Volume 58 (c)2005 by Arctic <http://www.arctic.ucalgary.ca/index.php>"
- PDF available

*Article discusses how human health associated with large-scale mineral development is being addressed in environmental impact discussions in Canada. This article is a timely statement about why and how to attend to health issues.*

**Abstract:** This paper examines the integration of human health considerations into environmental impact assessment (EIA) in the Canadian North. Emphasis is placed on the northern mining sector, where more land has been staked in the past decade than in the previous 50 years combined. Using information from interviews with northern EIA and health practitioners and reviews of selected project documents, we examined three principal mining case studies, northern Saskatchewan uranium mining operations, the Ekati diamond project, and the Voisey's Bay mine/mill project, to determine whether and how health considerations in EIA have evolved and the current nature and scope of health integration. Results suggest that despite the recognized link between environment and health and the number of high-profile megaprojects in Canada's North, human health, particularly social health, has not been given adequate treatment in northern EIA. Health considerations in EIA have typically been limited to physical health impacts triggered directly by project-induced environmental change, while social and other health determinants have been either not considered at all, or limited to those aspects of health and well-being that the project proponent directly controlled, namely employment opportunities and worker health and safety. In recent years, we have been seeing improvements in the scope of health in EIA to reflect a broader range of health determinants, including traditional land use and culture. However, there is still a need to adopt impact mitigation and enhancement measures that are sensitive to northern society, to monitor and follow up actual health impacts after project approval, and to ensure that mitigation and enhancement measures are effective.

## *Selected Literature*

- Rothe, Ann, August, 2004, "Red Dog & Subsistence: Analysis of Reports on Elevated Levels of Heavy Metals in Plants Used for Subsistence Near Red Dog Mine, Alaska," Alaska Community Action on Toxics
- Category: II
- Permissions status: permission granted to post portions of report; **post on web site this wording: "Red Dog & Subsistence: Analysis of Reports on Elevated Levels of Heavy Metals in Plants Used for Subsistence Near Red Dog Mine, Alaska" report reprinted, with permission, from the Alaska Community Action on Toxics, (c)2004 by Ann Rothe" [www.akaction.org](http://www.akaction.org)** Entire reports are available for \$10.00 each.  
See: < [http://www.akaction.org/REPORTS/Red\\_Dog\\_report.htm](http://www.akaction.org/REPORTS/Red_Dog_report.htm)>

**Abstract:** The report documents that locations used by residents of Kivalina for subsistence gathering of greens and berries have higher than normal levels of lead and cadmium. The report also found evidence that Red Dog Mine, the world's largest zinc mining operation, is the source of the high levels. The report summarizes Dr. Youngs' analysis of two studies that examined levels of heavy metals in plants used for subsistence. The first study was done by Ecology and Environment, Inc. for the ADEC. The second was done by Exponent, a private firm contracted by Teck Cominco, the owner and operator of Red Dog Mine. The data for both studies were collected in the area of Red Dog Mine during the summer of 2001. The sampling of subsistence vegetation focused on salmonberry and sourdock. Dr. Youngs compared the levels of lead and cadmium found in the plants samples to standards set by the World Health Organization (WHO) and U.S. Food and Drug Administration (FDA) for safe levels in foods. Dr. Youngs found the levels reported in subsistence foods collected near Red Dog Mine exceeded safe levels determined by WHO & FDA.

- Youngs, Fred, "A Comparative Analysis of Data Regarding Heavy Metals Found in Subsistence Foods Near Red Dog Mine, Alaska," August, 2002, University of Massachusetts Lowell
- Category: III
- Permissions status: this report is the Appendix A for the above report by Alaska Community Action on Toxics. Permissions status: see above acknowledgement; may also need permission from Fred Youngs to reproduce original report

**Abstract:** This analysis was undertaken in an effort to help answer questions regarding the human health risks associated with consumption of wild foods, specifically berries and plants, gathered near Red Dog Mine by Inupiaq Eskimos living in the vicinity of the mine. Red Dog Mine is operated by Teck Cominco Ltd. (Cominco), a Canadian mining company based in Vancouver, British Columbia.

## **Mine Plan & Permit Issues (no resource listing)**

### **Sociocultural**

- Ballard, Chris & Banks, Glenn, 2003. "Resource Wars: The Anthropology of Mining," *Annual Review of Anthropology*, Vol. 32.
- Category: III
- Permissions status: permission granted from author; **must show the following acknowledgement on web site: "Reprinted, with permission, from the Annual Review of Anthropology, Volume 32 (c)2003 by Annual Reviews [www.annualreviews.org](http://www.annualreviews.org)"**

## *Selected Literature*

- PDF: available

**Abstract:** Discusses Papua New Guinea (Asia-Pacific region) on the frontline of community mobilization and education about large-scale mining

Relevant web site with downloadable papers on mining and communities in the Asia-Pacific region (including Papua New Guinea) see: <http://rspas.anu.edu.au/rmap>

- Fall, J., D. Holen, B. Davis, T. Krieg, and D. Koster. 2006. "Subsistence Harvests and Uses of Wild Resources in Iliamna, Newhalen, Nondalton, Pedro Bay, and Port Alsworth, Alaska." Technical Paper 302. Division of Subsistence, Alaska Department of Fish and Game. Juneau, Alaska.
- Category: II
- Permission status: within public domain
- PDF available

**Abstract:** Results from a study by the Alaska Department of Fish & Game, the National Park Service, and a contractor for Northern Dynasty Mines Inc., Stephen R. Braund & Asso. on subsistence harvest and use information taken from 116 household surveys in Lake Communities in the Bristol Bay watershed. Report gives updated information about subsistence uses of fish, wildlife, and plant resources. The potential development of the mine and road created the need for updated baseline information about subsistence harvests and uses in the five study communities that this study addressed.

- Ali, Saleem, Behrendt, Larissa, "Mining & Indigenous Rights: the emergence of a global social movement, Cultural Survival Quarterly, April 30, 2001, Issue 25.1
  - Category: III
  - Permissions status: request permission, no response yet
  - No abstract
- 
- Welker, Marina, "Global Capitalism and the 'Caring Corporation': Copper Mining and Corporate Social Responsibility in Indonesia," Working doctorate thesis, School of American Research, Santa Fe, New Mexico
  - Category: III
  - Permissions status: permission not granted; final copy of dissertation will be available through UMI digital dissertations (<http://www.lib.umi.com/dissertations/>)  
Welker's email: [welkerm@umich.edu](mailto:welkerm@umich.edu)

*Working dissertation of a scholar at the School of American Research in Santa Fe, New Mexico who is a professor of anthropology at the University of Michigan.*

**Abstract:** "Corporate social responsibility" (CSR) might sound like a public-relations exercise undertaken by companies courting socially conscious consumers. For the Newmont Mining Corporation, the world's largest gold producer, however, CSR has become an integral part of managing a global web of intricate

## *Selected Literature*

sociopolitical relationships—ranging from those with lending agencies such as the World Bank to those with village heads and schoolteachers on the Indonesian island of Sumbawa, where the company operates a copper mine. “In Newmont’s situation in post-Suharto Indonesia, CSR is not simple rhetoric intended to impress metropolitan consumers,” said Weatherhead Fellow and Ph.D. candidate Marina Welker. “Rather, it represents a strategy for protecting a \$2 billion fixed-capital investment from social risks.”

Over the past decade, the corporate social responsibility movement has become an industry in its own right, with new executive-training programs, professional organizations, journals, and consultants—all dedicated, ostensibly, to creating better “corporate citizens.” A special January 2005 issue of *The Economist* devoted to CSR is an indicator of the movement’s importance in the rapidly evolving culture of globalization. Although multinational companies’ implementation of CSR policies sounds like a positive development, Welker’s research reveals a complex reality.

In her dissertation, “Global Capitalism and the ‘Caring Corporation’: Copper Mining and Corporate Social Responsibility in Indonesia,” Welker examines the way Newmont Mining Corporation used CSR in managing its Batu Hijau mine on the island of Sumbawa. Intended to foster “sustainable development” in remote regions of exploitation, CSR policies encouraged the company to respond to the needs of rural villagers on the predominantly Muslim island, but Welker found that Newmont also used CSR for social engineering to benefit corporate interests. Villagers living in the shadow of the mine enjoyed new job opportunities, agricultural programs, school buildings and medical centers built by Newmont—but the mine was also dumping 120,000 tons of tailings into the ocean every day.

Welker explained that Newmont used morally compelling concepts such as transparency, accountability, empowerment, and sustainability as CSR resources to intervene “in the behavior of local stakeholders and to ensure corporate survival.”

Caught between “stakeholders,” including advocacy organizations, governments, lending institutions, and their own shareholders, multinational corporations such as Newmont adopt the concepts of CSR to legitimize their attempts to influence public opinion in their favor. This represents an extension of corporate knowledge and power, Welker argues. At the same time, the various stakeholders seeking to influence the company differ over just what constitutes “socially responsible” corporate behavior.

For eighteen months, Welker conducted research in Indonesia, mostly “living in the villages near the mine, participating in daily life and Newmont-sponsored activities.” characterizing her approach as “an ethnography of corporate strategies,” she interviewed village leaders, Newmont staff, government officials, and representatives of nongovernmental organizations. To complete the circle, she concluded her fieldwork at Newmont’s corporate headquarters in Denver where she “shadowed CSR experts in their everyday work.”

## **Socioeconomic**

- Duffield, John, Patterson, David; Neher, Chris; and Goldsmith, Oliver Scott. 18 July 2006. “Economics of Wild Salmon Watersheds: Bristol Bay, Alaska.” Report to Trout Unlimited, Alaska.
- Category: II
- Permissions status: ok to reproduce w/ ISER acknowledgement
- PDF link to full report available at: <http://www.iser.uaa.alaska.edu/>

Abstract: Findings from a recent report discussing the importance of wild salmon and other fish and wildlife to the regional economy of Bristol Bay by researchers from the University of Montana and ISER. The report was funded by Trout Unlimited, a sport fishing organization.

## *Selected Literature*

### **Case Studies**

#### *Local Examples*

Donlin Creek  
Fort Knox Mine  
Kensington Project  
**Red Dog Mine**

- Northern Economics, 2002. *An Assessment of the Contribution of the Red Dog Mine Operations to the Economy of the Northwest Arctic Borough, AIDEA*. Contact John Wood, AIDEA for electronic copy (ISER is doing follow-up study on Red Dog)

Abstract: Assessment of the contribution of Red Dog Mine operations to the economy of the Northwest Arctic Borough. The Alaska Industrial Development and Export Authority (AIDEA) commissioned the study to quantify the relative importance of mine operations with respect to employment and income in the Borough. Indirect and induced economic impacts of the mine operations were quantified using an input-output model of the regional economy. The indirect and induced effects of payments to labor, payments to the vendors that supply Red Dog Mine's inputs, royalty payments to the regional native corporation (NANA Regional Corporation), and PILOT payments (payments in lieu of taxes) to the Borough were derived.

North slope  
Pogo Project  
Rock Creek Mine (Big Hurrah)

#### *National Examples*

- West Virginia – surface coal mining
- Category: IV
- See: <http://www.truthout.org/multimedia.htm>
- Permissions status: permissions granted

Abstract: Three films by Rebecca Macneice on the Truthout web site concerning surface coal mining in West Virginia

- Montana – gold mining
- No permissions sought

Abstract: Zortman-Landusky gold mine in northern Montana was the first large-scale open-pit, heap-leach cyanide-mine in the United States opened in 1979. It is now is abandoned.

Seven-up Pete is the story of the struggle to save the famed Blackfoot River in western Montana from what would be one of the largest cyanide heap-leach gold mines in North America.

See: [http://www.highplainsfilms.org/fp\\_miningseven.html](http://www.highplainsfilms.org/fp_miningseven.html)

The Seven-up Pete case study is similar in terms of groups of growing opposition to the proposed Pebble Mine. In 2000 Montana voters succeeded in defeating its Seven-up Pete Gold Mine by Canyon Resources Corporation, a proposed mine near the Black Foot River in western Montana that also would have been one

## *Selected Literature*

of the largest cyanide heap-leach gold mines in North America. The mine would have been over a mile long, nearly a mile wide, 1000 feet deep, and the use of 9 1/2 million pounds of sodium cyanide per year to leach gold of the rock.

Early next year, the Supreme Court will decide whether to hear a takings case arising out of a Montana ban on using cyanide to mine gold and silver. The petitioners, a group of disappointed mining companies and investors, are asking the Court to decide if the loss of an "opportunity" to receive a mining permit constitutes a compensable taking.

In 1992, the Seven Up Pete Venture (a mining company subsidiary) approached the State of Montana about receiving an operating permit for a mine that would use cyanide heap-leaching to extract about 15 million ounces of gold and silver near Lincoln, Montana. Cyanide heap-leaching requires spraying a cyanide solution over a pile of ore. As the cyanide permeates the pile, it attracts gold and silver like a magnet, and the gold and silver is later extracted from the holding pond into which the cyanide solution drains. But the cyanide solution often finds its way into groundwater, wells, and creeks. A report by the Montana Environmental Information Center listed more than 40 mining-related cyanide leaks, spills, and seepages between 1982 and 1998. Two spectacular leaks put tens of millions of gallons of cyanide solution into Montana waters.

The Venture submitted its permit application at the end of 1994, and agreed that the State would rule on the application by the end of January 2000. But before the State ruled, Montana voters passed Initiative 137, which banned all new cyanide heap-leach mining. Mines with an existing permit were allowed to continue the practice. The Venture sued, saying that, with I-137, the State had taken its "opportunity for a favorable ruling on its mining permit application." The Montana Supreme Court in *Seven Up Pete Venture v. Montana*, (327 Mont. 306 (2005)) held that there was no compensable property right in the "opportunity" to receive a permit. No property right meant no taking.

Our office dictionary defines "venture" as "an undertaking involving uncertainty as to the outcome, esp. a risky or dangerous one" or "a business enterprise or speculation in which something is risked in the hope of profit; a commercial or other speculation." The Venture's multi-million dollar gamble and subsequent loss is not the same as a compensable taking, especially in view of the obvious risks to the public posed by its cyanide-laced proposal. The Montana Supreme Court recognized the difference. We hope the U.S. Supreme Court does the same and declines to grant cert.

See: <http://www.communityrights.org/CommunityRightsReportNewsletter/Horizon.asp>

## *Selected Literature*

### *International Examples*

#### *Australia*

This is a speech presented by a Rio Tinto (mining company) employee and advisor at the UN conference on engaging communities in Brisbane, Australia by Harvey, Bruce: chief adviser, Aboriginal and Community Relations, Rio Tinto Australia. Brereton, David: director, Centre for Social Responsibility in Mining, University of Queensland, Brisbane, Australia on the Agreement at the Argyle Diamond Mine

- Harvey, Bruce, "Emerging models of community engagement in the Australian minerals industry," University of Queensland, Brisbane, Australia, August, 2005.
- Category: II
- Permissions status: permissions granted – give full credit/citation
- PDF available in folder & online at:

[http://www.riotinto.com/media/downloads/speeches/UN%20Conference%20on%20Community%20Engagement\\_BH\\_150805.pdf](http://www.riotinto.com/media/downloads/speeches/UN%20Conference%20on%20Community%20Engagement_BH_150805.pdf)

**Abstract:** Traditionally, the community involvement of most Australian mining companies was largely unplanned or, in the case of purpose built towns associated with new operations in remote areas, primarily focussed on infrastructure provision. To a large extent community interaction, whilst unavoidable, was considered secondary to the technical business of running a mine. Over the last several years however, there has been a concerted drive within the sector to change how mines interact with their communities. Most companies have made public commitments to engage on a much more informed basis with affected communities and other stakeholders on matters of mutual concern. A variety of formal and informal consultative processes have been established at the local level, and a growing number of operations are adopting formal community relations systems.

The primary business drivers for this enhanced attention to community engagement are a desire to better manage social risks and to achieve competitive advantage through self regulation, community and employee endorsement, and reduced financial volatility. Progressive companies are adopting a sophisticated array of business systems to ensure their consistent attention and delivery in the social arena.

#### *Canada*

- See also "Integrating Human Health into Environmental Impact Assessment: Case Studies of Canada's Northern Mining Resource Sector" by Bram Noble and Jackie Bronson
- Circumstances in two small British Columbia communities after 50 years with a large aluminum smelting corporation nearby. See: <http://www.savethenorthwest.ca/>

**Abstract:** In the 1950s, Alcan was granted the right by the representatives of the people of BC to reverse the flow of the Nechako River, creating a large water reservoir flooding thousands of acres of land, and using the reservoir for the creation of Hydro Electricity, to power a large Aluminum smelter in Kitimat British Columbia, Canada. The deal was good for everybody. Alcan was able to produce extremely cheap electricity (the most critical component in producing low cost Aluminum, the Government of British Columbia developed the untapped resource of Northwest, and the people of BC received employment. Part of this agreement is a legal document called the *50's Agreement*, a contract between Alcan and the people of BC that granted Alcan water rights to develop the potential hydro electric resource. And that's what is at the heart of the disagreement today.

## *Selected Literature*

The original document stated that electricity is to be used for the Aluminum smelter, and for the development of Industry in the vicinity of the works. The spirit of the agreement was Power for Jobs. But due to a series of events over the past years, Alcan has used the opportunity to sell power over the newly deregulated British Columbia electricity grid to the United States. The historic spot prices for electricity in California a few years back only wetted the appetite for power sales even more. This was evident to the point of Alcan even curtailing Aluminum production in Kitimat to meet power sales commitments. A clear demonstration of what the priority is. This saga is all within the backdrop of an aging 50 year old, environmentally inefficient smelter. The region has undergone years of Alcans promises of substantial smelter expansion, modernization and Pilot Projects. None of which have ever come true. Conversely, one of the only modernization projects over the past two years has been the doubling of capacity of the power lines exporting power out of our community! Discussions to resolve the issue over the past years between Alcan, Provincial officials and Municipal representatives have proven unsuccessful. The combination of these events have led to local municipal representatives taking the unprecedented steps to asking for - once and for all - a legal interpretation of the agreement.

The smelter has not been running at full capacity for a few years now, despite positive metal prices and metal futures. The only thing now running at full capacity are the power lines out of the community. Concerned residents of the Northwest say this is direct contravention of the original 50s Agreement that granted Alcan access to the provincial resource in the first place. And if this practice continues, the future of the Northwest is at stake. It's not often a small community takes on a huge multinational corporation. It will be a monumental task. But what else can we do? We are in the fight for our very existence.

### ➤ Impact Benefit Agreements (IBA) Sites & References in Canada

Abstract: Impact and Benefits Agreements are negotiated in the context of resource development in Canada. They may be developed between a company, the provincial or territorial government and affected Aboriginal organizations. They may be precondition to federal approval for resource development operations. The agreements establish the terms under which affected Aboriginal people will benefit from development projects. IBAs are different from other aspects of the regulatory and benefits package (set out in socio-economic and environmental agreements) in that they are private contracts between non-governmental parties and are subject to confidentiality provisions. In the context of unsettled land claims, IBAs permit benefits to flow to Aboriginal groups whose traditional lands include the area where mining or development is located.

See for general information: <http://www.atns.net.au/biogs/A001987b.htm>

O'Reilly, Kevin and Erin Eacott. 1998. "Aboriginal Peoples and Impact and Benefit Agreements: Report of a National Workshop," Northern Minerals Programme Working Paper 7, *Northern Perspectives*, Canadian Arctic Resources Committee, Vol. 25, No. 4, Fall/Winter, 1999-2000.

O'Reilly, "Impact and Benefit Agreements: Tools for Sustainable Development," *Northern Perspectives*

#### Abstract

IBA's (Canada) are examined and their implications for Aboriginal peoples, mineral development, and sustainability

Canadian Arctic Resource Committee (CARC). See for general information:  
<http://www.carc.org/pubs/v25no4/1.htm>

Yellowknife First Nation announced agreement. See:

## *Selected Literature*

[http://www.debeersgroup.com/NR/rdonlyres/CFBB273E-315A-4870-9A6F-4782B01D63B6/1432/MR141105\\_Yellowknife.pdf](http://www.debeersgroup.com/NR/rdonlyres/CFBB273E-315A-4870-9A6F-4782B01D63B6/1432/MR141105_Yellowknife.pdf)

Mining companies, tribal organizations and types of agreements they have entered into, along with lots of other info). See: [http://www.ainc-inac.gc.ca/ps/nap/abo/abo13/13abo13\\_e.html](http://www.ainc-inac.gc.ca/ps/nap/abo/abo13/13abo13_e.html)

Abstract: Indigenous peoples around the world are increasingly being affected by mining and other development activities taking place on or near their ancestral lands. These Peoples are often unaware of what their rights are in these situations, or what options they have for dealing with companies, NGOs and government who approach them with potential projects to develop or conserve their lands. While some are "sitting in panic," having never dealt with these situations before, other Indigenous Peoples are gaining increasing experience interacting and negotiating with developers and conservationists alike, and have a great deal of knowledge and lessons to share.

Abstract: 50-page case study, see: [http://www.nsi-ins.ca/english/pdf/Full\\_Force\\_Eng.pdf](http://www.nsi-ins.ca/english/pdf/Full_Force_Eng.pdf)

This case study is a response to requests by South American Indigenous organizations to learn from how Canadian Indigenous Peoples have dealt with mining, and other activities on their territories. Specifically, it is a direct response to a request from the Association of Indigenous Village Leaders of Suriname (VIDS) for Canadian Indigenous People to provide capacity-building support to communities in West Suriname who will be affected by proposed open-pit, large-scale bauxite mining by BHP Billiton and Suralco2, large-scale hydro-electric development by Suralco, and a nature reserve proposed by the Government of Suriname and the World Wildlife Fund.

### *Indonesia (NYT did not grant usage of article)*

- Perlez, Jane and Bonner, Raymond, 2005. "Below a Mountain of Wealth, a River of Waste," *New York Times*, 12/27/05, Section A, p.1.
- Category: I
- Permissions status: permission not granted; NYT required \$250 fee for each e-article  
List as citation only and/or link to Truthout site

See Truthout web site: <[http://www.truthout.org/docs\\_2005/122705O.shtml](http://www.truthout.org/docs_2005/122705O.shtml)>

OR:

<http://select.nytimes.com/gst/Abstract.html?res=FB0C15F839540C748EDDAB0994DD404482>

Abstract: This is one article in a series by the New York Times on the cost of gold mining throughout around the world entitled The Cost of Gold. The series looks at how American-owned company has been allowed to dump billion tons of mine waste directly into jungle river in easternmost province of Indonesia; Freeport-McMoRan's intricate web of political and military ties has shielded it from rising pressures that other gold miners have faced to clean up their practices; it has managed to maintain nearly impenetrable redoubt as it taps one of Indonesia's richest assets; company records show that from 1998 through 2004, Freeport gave Indonesian military and police generals, colonels, majors and captains, and military units, nearly \$20 million; company is among biggest sources of revenue for government; its importance to Indonesia's treasury and its carefully cultivated cocoon of support have helped secure it against challenges from local people, environmental groups, even Indonesia's own Environment Ministry, which repeatedly warned company that it was breaching environmental laws; about 90 square miles of wetlands are virtually buried in Fremont's mine waste, nearby pristine rain forest that has been granted special status by United Nations

## *Selected Literature*

- See also: Working dissertation by Marina Welker, "Global Capitalism and the 'Caring Corporation': Copper Mining and Corporate Social Responsibility in Indonesia"
- Copy of paper unavailable as it is a working dissertation; may be available at UMI digital dissertations site once it is published; contact Welker at [welkerm@umich.edu](mailto:welkerm@umich.edu)

### *Papua New Guinea Resource*

*This paper examines the relationship between indigenous land owners and the world-class Porgera Gold mine.*

- Golub, Alex, "Making the Ipili Feasible: Imagining local and global actors at the Porgera Gold Mine, Enga Province, Papua New Guinea," Department of Anthropology, University of Chicago, May, 2005. Dissertation précis available at: [http://alex.golub.name/diss/golub\\_diss\\_precis.pdf](http://alex.golub.name/diss/golub_diss_precis.pdf)
- Category: I
- Permission status: permission granted by author
- PDF: available in folder

Abstract: In his dissertation anthropologist Alex Golub challenges popular notions on indigenous peoples, mining and globalisation. He has done research in a region that has gone through major transformations and fulfills every stereotype going "from the stone age to the jet age". Now, the third largest gold mine in the world resides in the once remote valley. Golub's dissertation is about the relationship between the Porgera gold mine and the Ipili-speaking people on whose land the mine is located.

**PROSPECTIVE**

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Thoughts on Next Steps

### *Thoughts on Next Steps*

Three components were initiated in this project to address BBNA's unmet needs in regard to Pebble Mine development as follows:

- 1) *Technical Review of baseline studies and associated materials pertaining to the Pebble Mine project in social (subsistence and socioeconomics) areas;*
- 2) *Capacity-building for NEPA process and other permitting issues associated with the Pebble Mine project;*
- 3) *Communication development to allow BBNA tribal members to receive information about Pebble Mine development issues, disseminate research findings on a wide range of issues associated with mining projects such as Pebble, facilitate communication among BBNA tribal organizations and members to allow development of specific positions and courses of action on Pebble Mine development issues.*

Given the delayed but continuing prospect of Pebble Mine development and its potential for massive impacts on the environment and subsistence, it is imperative that these components be sustained and if possible enhanced to meet one of BBNA's core missions - supporting and protecting the interests and rights of the tribes and tribal members of the Bristol Bay region. The following are some suggested next steps in regard to these activities.

#### **Technical Review**

The original project goal was to provide technical review of NDM's baseline studies in the specified social areas. In order to accomplish this goal several preliminary tasks were undertaken. First, a review of the conduct and nature of baseline studies for the proposed Pebble Mine project was completed. Second, a review of research design, study plans, and progress reports was accomplished. Third, meetings were held with NDM contractors on two occasions to obtain updates on the status of various research activities. Four, a technical review of the only document (ADFG Technical Report No. 302), in draft form that will become part of the baseline studies required at the time of permit applications to undertake the Pebble Mine project was prepared. That review is found elsewhere in this report.

Technical review should continue on the NDM baseline studies. BBNA could participate in formal review of the study plans and progress reports in order to be on record about specific concerns. A number of areas of concern about the baseline studies were identified in Technical Review Memos No.1 and No. 2. It may be in BBNA's interest to formally convey comments to governmental agencies and NDM on various topics of concern.

In addition, there may studies from other organizations (universities, environmental organizations, private groups) relevant to Pebble Mine development that it would be appropriate for technical review. The economic valuation of Bristol Bay salmon watersheds is an example of an outside study pertinent to Pebble development.

As originally anticipated in the Unmet Needs Proposal, BBNA should engage in the technical review process of the environmental baseline studies in addition to the social baseline studies addressed in this report. This should be done as soon as possible.

## *Next Steps*

### **Capacity-Building and NEPA Training**

Margaret King has submitted a discussion on these issues that can be found elsewhere in the report. Please refer to Capacity Building on page CP- for suggestions concerning this topic.

### **Communications and Information**

The website initiated as part of this project will hopefully soon be up. This is an extremely important element that potentially can contribute greatly to communications among Bristol Bay tribal members about Pebble topics and issues critical to the tribes. The site needs to be regularly maintained and a staff member assigned to identifying, reviewing and uploading a wide variety of information on mineral development and various impacts that result from mines similar to the proposed Pebble development elsewhere in the world.

### **Additional research using raw data collected for baseline studies**

Should permit applications for Pebble Mine be submitted, the evaluation of the project will enter the NEPA process. At that point, additional studies on the proposed project in order to assess specific impacts on environmental and human systems should be undertaken. There is important raw data from the surveys and maps obtained by ADFG Subsistence Division and by Braund and Associates that could potentially be used in that phase of the research to identify critical subsistence (spatial and harvest level disruption) and socioeconomic impacts that should be documented and considered prior to any permits being issued. It is important to determine if and how the raw data available from the household survey and mapping interview data can be accessed and incorporated into NEPA phase studies designed to assess potential impacts.

### **Additional studies**

Review of the baseline study plans and progress reports for the social area revealed a number of areas that are not presently covered. Some of the social areas on which additional research is recommended are as follows:

#### *Health*

As previously recommended on two occasions, a baseline study of the health (behavioral and community) of the residents of the Kvichak and Nushagak-Mulchatna River drainages should be conducted. Such research has recently been called for in Canada in conjunction with newly proposed mineral developments due to findings on health from other communities where mines have been in operation for a considerable period of time.

#### *Subsistence – Nutrition*

A study on the quality of subsistence foods and its contribution to the diets of the tribal residents of the communities in the Kvichak and Nushagak-Mulchatna should be conducted. This baseline is needed so that NEPA studies on potential impacts can be developed and carried out.

#### *Cultural Values and Practices: Subsistence and Landscape*

A study on the cultural values and practices associated with subsistence and other cultural activities in the areas surrounding tribal communities should be conducted. This should include historical narratives of past events and practices in the area as well as personal experience narratives of elders and others who have had substantial experiences in their lifetimes. The concept of “cultural landscape” as revealed through place names, special concepts and experiences and other cultural practices are presently not addressed in the baseline studies. The equation of archeological sites with cultural resources is too limited and needs to be expanded to encompass these areas. This is an important part of the cultural values to the tribal residents that should be documented and submitted as part of the baseline studies so that potential impacts on these values can be identified in the subsequent NEPA phase of the process, should it be invoked.

#### *Traditional Ecological Knowledge*

The attention to traditional ecological knowledge in the baseline subsistence studies is minimal. In particular, no information scheduled to be collected in the first language of elders. In addition, no

### *Next Steps*

systematic, integrated studies of traditional concepts has been undertaken, no visits to special places and no attention to abnormal conditions or circumstances observed by long-term tribal residents has been. Personal narratives and stories are the best way to obtain information of this kind as this is the manner in which it is embedded, transmitted and transferred by Bristol Bay tribal elders.

### *Socioeconomic Integration – Subsistence and Cash*

Research indicates that there is a delicate balance for healthy rural tribal communities between subsistence production and cash. A study that examines the interaction and mutual support of these two sectors is needed as part of the baseline in order to assess what the impacts of Pebble Mine development might be on this dynamic relationship. Of central significance is an understanding of how subsistence products are obtained and distributed to the elderly and infirm and how Pebble Mine might impact this important pattern of mutual support that provides for the health of particularly vulnerable members of tribal communities.

### *Land Use Regulations*

A separate research project for BBNA should be undertaken to fully explore what powers and limitations on environmental impacts can be implemented through land use regulations. The study should explore these processes in other parts of the world to determine how best to meet Bristol Bay Natives interests in protecting the quality of the environment.

### **Additional Suggestions**

A Pebble Mine Monitoring Committee or Baseline Studies Review Committee should be established by BBNA, possibly being comprised of key Nushagak-Mulchatna Watershed Council members and appropriate staff. The purpose of this committee would be to fully informed about the baseline studies and issues associated with them, presumably including technical reviews of the studies, in order that BBNA can formally present comments on the baseline studies and make formal requests for additional studies to NDM and government agencies. The committee should be conceived of as being of standing duration with a membership selected with a view toward continuity throughout the process in order to maintain institutional knowledge about Pebble and build group solidarity in the pursuit of Bristol Bay tribal goals.

A Pebble Mine Development Impacts Committee should be established to create a single entity composed of representatives from the Bristol Bay tribes of the Kvichak and Nushagak-Mulchatna River drainages in order to directly interact with NDM. The purpose of this body would be to reverse the situation in which NDM identifies who are the community leaders and organizations they will deal with in Bristol Bay. Created by resolution of all the tribes, and accompanied hopefully by letters of support from other Bristol Bay organizations (BBEDC, BBNC, village corporations, traditional and city councils), this group would invite NDM to the table in order to discuss their activities. In particular, this organization would be empowered to research, develop and present the following positions:

### *Environmental and Subsistence Monitoring and Protection Agreement*

This document would 1) state the absolute bottomline Bristol Bay tribal position on all aspects of environmental and subsistence protection; 2) establish a tribally controlled monitoring body fully and forward funded by NDM for a minimum of 10 years; 3) work with state and federal agencies to insure compliance of NDM with all permits. **The intent of this recommendation is to make tribes pro-active in the scenario and not merely reactive to NDM initiatives.**

### *Benefit Impacts Agreement*

“Benefit Impacts Agreements” are established procedures utilized in Canada to provide for communities that may be harmed by development activities in various ways to stipulate what they will not accept in the way of development impacts. Further, it also is an instrument for negotiating specific revenues for community protection and improvement of quality of life in the communities that stand to lose the most as a result of development activities. Taxes on mineral development in the United State and Alaska are notoriously low and it is unlikely that the communities at risk will see any formal benefits “trickling down” from these external layers of governance.

### *Next Steps*

The nature and characteristics of Benefit Impacts Agreements should be fully investigated and then tailored by the tribal organization to their needs and goals.

It should be recognized that these activities and document preparations should be considered contingent on the state and federal permitting decisions should the organization seek to deny Pebble Mine development permits.

BBNA should consider partnering with BBEDC and BBNC to co-sponsor, perhaps in association with the University, a world-class conference on the impacts of mineral development. This conference would bring experts from various fields (biology, ecology, economics, anthropology, psychology) who have conducted research in other areas of the world can present their findings to various Alaskan audiences from all over the state where large mineral projects are envisioned. This information will allow Alaskans to have a state-of-the-art awareness about the costs and benefits, dangers and pitfalls that accompany mineral extraction on the scale of Pebble Mine Development.