Report of the 2007 LASKA linerals Commission **Producing Mines Developing Project Exploration Project (not inclusive)**

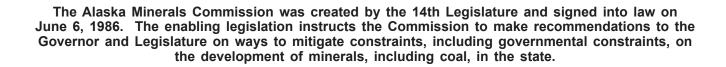


Photo 1: Greens Creek Mining Company

Photo 2: Pogo Mine

Photo 3: Red Dog Mine

Photo 4: Usibelli Coal Mine

Photo 5: Kensington Mine

Photo 6: Fort Knox

Photo 7: Rock Creek/Big Hurrah

Photo 8: Nixon Fork

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Exploration Projects Shown on Cover Map

1 Ambler	7 Kamishak	13 Port Moller	19 Richardson	25 Woewodski Island
2 Little Squaw	8 Pebble	14 Chignik	20 LWM	26 Union Bay
3 Boulder	9 Pebble South	15 Shorty Creek	21 Hajdukovich	27 Niblack
4 Donlin Creek	10 Sleitat	16 Golden Summit	22 MAN	28 Duke Island
5 Whistler	11 Nyac	17 ER/Eagle	23 Golden Zone	
6 Terra	12 Shotgun	18 LMS	24 Lucky Shot	

Cover Map Key



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Foreword

The Alaska Minerals Commission, authorized until January 2014, was created by the 14th Legislature and signed into law on June 6, 1986. The Governor, the President of the Senate, and the Speaker of the House appoint the Commission. The current members represent the placer, hard rock, and coal mining industries and come from diverse areas of the state. The enabling legislation instructs the Commission to make recommendations to the Governor and Legislature on ways to mitigate constraints on the development of minerals, including coal.

Many important commission recommendations have been implemented since the first report in January 1987. Highlights of progress during 2006 included accelerated conveyance of the State's land entitlement in accordance with the Statehood Act, infrastructure development under the Roads to Resources program, clarification of State title to 28 navigable waterbodies, and simplified permitting for small, remote work camps. The Commission commends and thanks the Governor, the Legislature, and the Agencies for the proactive and supportive stance that has allowed the industry to grow toward its potential.

During 2006, the Commission met in Fairbanks on October 6 and held a follow-up meeting in Anchorage on November 7. The recommendations in this report are the result of input at, and follow-up to the meetings. On behalf of the Commission, I would like to express appreciation to those members of the public, the Alaska Miners Association, the Resource Development Council, and the many government agencies and private organizations that contributed to the preparation of the report. The Commission wishes to thank Commissioners Edgar Blatchford and William Noll of the Department of Commerce, Community and Economic Development. Division of Economic Development staff, Rich Hughes, provided valuable administrative and professional support. Diane Somers expertly formatted and assembled the report for publication and printing.

Irene Anderson, (Chair)
ALASKA MINERALS COMMISSION

Alaska Minerals Commission

2007 Report to the Governor and Alaska State Legislature

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(www.dced.state.ak.us/oed/minerals/mining.htm)

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Executive Summary

The Alaska mining industry enjoyed another excellent year in 2006. Metal prices and profitability of existing mines continued to improve. Venture capital markets provided substantial risk capital for mineral exploration in the state. Pogo Mine began producing gold in February, becoming Alaska's newest hardrock mine.

Revenue to the State of Alaska from the minerals industry for FY 2006 totaled \$45M, while operating and capital expenses incurred by the State for the benefit of the industry amounted to \$13M. In addition, mining industry payments to municipalities exceeded \$10M.

During 2006, the industry experienced some significant setbacks. The Ninth Circuit court overturned a State court decision and issued a temporary injunction on tailings impoundment construction at the Kensington Project. The Corps of Engineers withdrew a key 404 permit at the Rock Creek project for further administrative action. And at the Pebble Project, opposition efforts threaten the integrity of the land management process in Alaska, not only for mining, but for all resource users. These issues must be addressed and resolved satisfactorily or the mining industry's demonstrated ability to bring economic development to diverse areas of the State will be short-lived.

The Commission looks forward to working with the Governor, the Legislature, and the Agencies to build the framework for a robust, sustainable, environmentally responsible industry that benefits Alaskans in all corners of the State.

Current Recommendations

The Commission encourages the Governor and Legislature to act on the recommendations provided in this 2007 report, including the following:

- Pass legislation and amend regulations as necessary to finalize State assumption of the NPDES program
- Ensure an equitable taxation scheme is present in Alaska, including in the unorganized regions, to attract the risk capital necessary to develop Alaska's mineral resources.
- Ensure all projects, include the Pebble mining project, receive an objective legislative and regulatory process that recognizes valid existing rights.
- Reform water quality regulations related to natural conditions, mixing zones, and groundwater.
- Provide core funding for the Large Mine Permitting Team to ensure objectivity and training opportunities.
- Raise permitting agency staff compensation to competitive levels.
- Develop regulatory guidance related to financial assurance required for proper reclamation and closure.
- Encourage expanded coal fired base load power generation on both ends of the railbelt grid.
- Secure rights-of-way across federal land and obtain state title to navigable waters.
- · Provide adequate funding for geological mapping.
- Support the AMEREF program (Alaska Minerals & Energy Resource Education Fund).
- Ensure that a world-class mining engineering program is developed and maintained within the new framework of the College of Engineering and Mines at University of Alaska Fairbanks (UAF).
- Expand the effort directed toward marketing Alaska as a premier place to invest in mineral exploration and development prospects, particularly in Asian countries.
- Vigorously pursue the enhancement and funding of programs to attract and train skilled workers for the minerals industry.
- Support the development and funding of a campaign within the State to improve public awareness of the facts surrounding mineral development.
- Address federal issues of state concern including ANILCA mineral assessments, outdated land withdrawals, federal funding for the Coal Regulatory Program, and equitable treatment for National Park inholdings.

Findings and Recommendations

Part A: Issues Requiring State Action

A1) REGULATORY REFORM

A1a) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PRIMACY

FINDING: One of the greatest challenges for developing mines in Alaska is obtaining and operating under a NPDES discharge permit. The EPA currently conducts NPDES permitting, compliance, and enforcement for the State of Alaska, one of only four states that does not have primacy over its own NPDES program.

State primacy will make the process more efficient by allowing for improved communication between state regulators, permitees, and the public. By removing the current duplicative efforts of seeking State certification while permitting through EPA, greater efficiency will be realized. State primacy will maintain high environmental standards while affording opportunity to address unique Alaska water issues.

In 2004, the state Legislature funded a study to determine if the State of Alaska should assume NPDES program primacy. The study evaluated the pros and cons of primacy, the potential funding requirements, and previewed the structure of the proposed program and regulations. This work product prepared the State to assume a program that has been well-researched and planned with careful forethought.

In 2004, the Alaska Department of Environmental Conservation (ADEC) formed a work group to advise the State on whether to seek primacy over the federal NPDES program. This work group, consisting of representatives from the NPDES-regulated community, including the mining industry, recommended that the State seek primacy for NPDES.

Legislation was passed that directed ADEC to draft regulations and submit an application to assume primacy. ADEC submitted the primacy application in June 2006. EPA has reviewed the application and provided comments. ADEC has met with EPA and is working to modify the regulations in response to EPA's input. ADEC expects to submit a revised application in June 2007, and anticipates approval by the end of 2007 calendar year. Legislative changes may be necessary to support ADEC's authority for the NPDES program.

The Minerals Commission supports the State of Alaska assuming NPDES primacy.

The Commission Recommends That:

A1a) The Governor and Legislature support ADEC in assuming NPDES primacy by passing the necessary legislative changes and providing an adequate budget that will effectively support the State in assuming full responsibility for regulating discharges to Alaska's waters.

A1b) WATER QUALITY REGULATIONS-NATURAL CONDITIONS

FINDING: ADEC's mission to protect the environment and control water pollution is primarily upheld through the employment of water quality standards. However, water quality regulations are a prescriptive set of rules that fail to consider discharge limits in waters with naturally elevated water quality parameters, creating complications for permitting and enforcement actions. This situation was exacerbated by the State's decision in 1972 to classify all waters in the state to the highest use due to lack of time and resources to properly conduct a more thorough classification process.

ADEC has several tools to help make the water quality regulations fit the environmental realities in the state. These include mixing zones, site specific criteria, and correction or reclassification of specific water bodies based on their natural condition.

The Commission Recommends That:

- A1b-1) ADEC should pursue reclassification petitions in a timely manner.
- A1b-2) ADEC should finalize the recently promulgated Natural Background Site Specific Conditions regulations

A1c) WATER QUALITY REGULATIONS-MIXING ZONES

FINDING: In 2004 and 2005, ADEC proposed revisions to the mixing zone regulations and solicited public comment. ADEC was in consultation with EPA on the proposed regulation changes. ADEC then finalized the regulations and sent them to EPA for approval. EPA has not yet approved the regulations.

The Commission Recommends That:

A1c) The Administration should continue to work with EPA and other State resource agencies to develop mixing zone regulations that can be protective of the environment and afford municipalities and industry needed flexibility.

A1d) WATER QUALITY REGULATIONS-GROUNDWATER

FINDING: Environmental monitoring of mine sites must often address the discharge of intercepted water or mine drainage to groundwater, as well as the potential for seepage of metals or acid rock drainage from tailings and waste rock.

The State of Alaska applies surface water quality criteria to groundwater discharges because the State does not otherwise have specific water quality regulations for groundwater. The application of surface water regulations to groundwater is inappropriate for three reasons. First, groundwater often contains naturally elevated levels of contaminants, including metals, from direct and often long term association with the soil and/or bedrock. Second, surface water quality regulations include criteria for protection of fish and aquatic life, biota that are not often present in groundwater. Third, surface regulations do not allow for consideration of the type of aquifer the water is discharged into, its retention time, or its potential to reach and impact surface waters where fish and aquatic life are indeed present and must be protected.

As a result, direct discharges to groundwater may require costly water treatment in order to meet criteria which have been inappropriately applied. Additionally, monitoring for potential impacts is complicated by the natural groundwater exceedences of the surface water quality criteria.

The Commission Recommends That:

A1d) ADEC develop water quality regulations for groundwater that address the naturally elevated metals and other parameters that are likely to occur in groundwater, the groundwater pathway, the retention time of the discharge within the groundwater system, and the potential to impact fish and aquatic life.

A2) ACCESS AND INFRASTRUCTURE

The lack of infrastructure, including roads, airports, and power transmission networks, increases the costs of mineral exploration, development, and mining, and substantially increases economic risk incurred by potential investors. High costs and risk levels are a deterrent to investment and, consequently, decrease the rate of mineral deposit discovery and subsequent development. Alaska mining operations are rendered less competitive in the global marketplace because of the lack of public infrastructure, limiting mining industry growth and slowing economic diversification, particularly in rural areas.

A2a) POWER SUPPLIES

FINDING: Major mines require substantial amounts of electric power. The uncertainty regarding the cost and availability of power is a considerable deterrent to all forms of capital investment in Alaska, not just mining.

If the existing power grid in Alaska were to be enhanced by additional generation facilities, future extensions of the grid could incrementally extend power-by-wire not only to mining developments, but also to remote communities. The existing power grid in Alaska does not have an adequately diverse fuel mix, as it is currently critically dependent upon the uncertain supply and volatile pricing associated with Cook Inlet natural gas. Coal fired generation offers the means to provide stable long term power supply to enhance the existing power grid in Alaska.

A new federal regulation may unfairly penalize the State of Alaska and preclude its ability to develop this stable, long term power supply. New regulations limit mercury emissions from Alaska power plants to existing levels of 20 lbs/year. Other states that have already developed their power generation facilities are allowed hundreds of pounds per year, allowing residents of those states to enjoy the lower electrical rates offered by coal-fired generation. While a free market in mercury credits may become available, the current mercury control technology is not commercially available (guaranteed and affordable) and current estimates of credit price are not reliable. Additional effort is required to ensure that these regulations do not unfairly affect Alaska.

- A2a-1) The Governor and Legislature follow the Railbelt Energy Study recommendation and facilitate construction of expanded coal fired power plants on both ends of the railbelt grid.
- A2a-2) The Governor and Legislature work with the federal delegation and the EPA to ensure that new mercury emissions regulations that might affect Alaska are appropriate in the context of the global mercury concerns and do not adversely affect Alaska's ability to develop stable, low cost, coal fired power supply.

A3) STATE'S RIGHTS ISSUES

These issues have been segregated because, although they are also about ownership and access, both of which are fundamentally important in mineral investment decisions, they are not exclusively Alaska issues, and require cooperative efforts with other states at the federal level.

A3a) SECURING RIGHTS-OF-WAYS OVER FEDERAL LAND

FINDING: The State filed a Quiet Title under Revised Statute (RS) 2477 in federal court to establish state ownership of a Right-of-Way for two trails in the Southern Brooks Range. The trails run from Coldfoot on the Dalton Highway to Chandalar Lake and Caro. The trails historically and currently have been used to access mining activities primarily in the Chandalar Lake area. The case is scheduled for Court this winter. The cost of litigation is high.

The Department of Natural Resources, Division of Mining, Land & Water is recommending that Bureau of Land Management implement a new RS2477 policy issued by the US Department of Interior Secretary which would allow states' to apply for Rights-of-Ways over federal land.

The Commission Recommends That:

A3a) The Governor should communicate with the Bureau of Land Management on the need for policy to be developed and implemented to allow Alaska to apply and receive Rights-of-Ways over federal land.

A3b) NAVIGABILITY DETERMINATIONS

FINDING: Establishing state ownership of the beds of navigable waters in accordance with the United States Constitution is critical to Alaska's sovereignty and ability to develop in the future. While title to the beds of navigable waters was vested in the State at Statehood, using the federal courts to clear title is a cumbersome process, as the courts had only ruled on 13 waterways in Alaska by 2006. The Department of Natural Resources, Division of Mining Land and Water, has focused on this issue and has managed to improve the ownership to 28 waterways by receiving disclaimers of interest from the BLM. Fifty-six (56) waterways have been included in the application list and more successful transfers are expected during the next 12 months. The Commission wishes to express appreciation for and acknowledge the progress.

- A3b1) The Legislature should continue to adequately fund the Department of Natural Resource's Public Access Assertion and Defense Unit and personnel within the Department of Fish and Game to continue work on the Recordable Disclaimers applications program.
- A3b2) Funding should be made available to the Department of Law to support any Quiet Title actions necessary to assert ownership of submerged lands.
- A3b3) The Federal Government should continue to establish more efficient methods for determining what water bodies are navigable and recognize the established Gulkana Case Law in regard to susceptibility when issuing Recordable Disclaimers of Interest.

A4) DATA ACQUISITION

A4) GEOPHYSICAL AND GEOLOGICAL MAPPING

FINDING: Alaska is one of the most sparsely mapped regions of the world and ranks far behind many third world countries in spending for geologic data acquisition. Many potential investors in Alaska's mineral industry are discouraged by the lack of detailed geologic information, and choose to invest in areas that have more public data to guide grassroots exploration.

Only 45% of Alaska has been mapped at a scale of 1:250,000, and only 14% has been mapped at a scale of 1:63,360. For most resource assessment purposes, 1:63,360 is the minimum scale required. For comparison, the state of Nevada is mapped 100% at 1:250,000 and 44% at 1:63,360. Many states consider 1:24,000 the minimum scale for their purposes and many have significant coverage at this scale. Alaska clearly lags far behind its peers in geological mapping.

Since 1993, the State of Alaska has spent an average of \$400,000 per year on airborne geophysical surveys and the "ground truth" geologic mapping necessary for interpretation of the airborne surveys. The geophysical work to 2005 has covered approximately 9,000 square miles, less than 6% of the State's land entitlement. At the current rate of mapping, it will take more than 100 years to have basic coverage of State land in Alaska. A healthy, growing mining industry, as well as competent State management of mineral and other natural resources, requires a much more substantial and consistent annual investment in basic geological data acquisition.

The Commission Recommends That:

A4) The Governor and the Legislature increase the annual rate of investment in geophysical surveys to a level greater than \$1,000,000 per year.

A5) IMPROVING INVESTMENT CLIMATE IN ALASKA

A5a) OBJECTIVE LEGISLATIVE PROCESS AND LAND DESIGNATION STABILITY REGARDING THE PEBBLE PROJECT

FINDING: Controversy regarding the Pebble Project threatens the integrity of Alaska's land management and regulatory process and if not managed appropriately, will jeopardize Alaska's ability to attract venture capital.

Land use priorities for the area surrounding Pebble were established years ago by legislative action, including the designation of State parks in areas deemed worthy of special protection. The Pebble Project now has valid existing rights that were acquired in accordance with those Alaska laws, regulations, and land use designations. In order to exercise these rights under current laws and regulations, the Pebble Project will have to undergo intense technical review and demonstrate with a high degree of certainty that potential impacts can be mitigated. The project will not be permitted under current laws unless it meets that standard.

Nevertheless, mining industry opponents are using misinformation, political influence, and money in an attempt to thwart the Pebble project even before the detailed scientific review necessary for the EIS and permitting process has begun. Project opponents are now attempting to change the land use priorities or designations after the fact in order to continue to use multiple use State land for their own private purposes.

The issue of whether a robust fishing industry can co-exist in the region in concert with a vibrant mining operation is an appropriate question. This question should and will be evaluated by scientists in the context of a thorough and transparent project review. The State would be well served by managing its resources to achieve both.

Proposals that ignore existing laws and regulations and seek to change land use designations after the fact on areas with valid existing rights without just compensation are ill-advised and should not be supported by the Legislature. Alaska must remain governed by objective laws and regulations, not by emotions.

The Commission Recommends That:

- A5a-1) The Legislature should not change land use designations in areas with valid existing rights;
- A5a-2) The Legislature should not jeopardize the thorough and transparent permitting process that exists within State and Federal regulatory agencies to evaluate projects and mitigate potential impacts

A5b) STATEWIDE MINERALS EDUCATION AND PROMOTIONAL PROGRAM

FINDING: The mining industry has tremendous potential in Alaska and offers a unique opportunity for private sector economic diversification in diverse areas, both urban and rural. In order to evaluate each potential new project, the State has developed a very thorough permitting process to assure that mining projects are developed, operated and reclaimed in a responsible manner. When combined with the federal Environmental Impact Statement process, the environmental analysis and permitting reviews are thorough and transparent.

The State would benefit greatly by a general public education program that raises awareness of both the potential of the industry and the rigorous permitting and review procedure that any new mining project will face. Such a program would have a positive influence on the attitude of residents of the state toward the minerals industry by encouraging good science to be used as the criteria for project evaluation. This will positively reflect on the acceptance of mining projects throughout the state and encourage further investment of risk capital.

- A5b-1) The Administration and Legislature fund a Statewide Minerals Education & Promotion Program intended to educate the public about the minerals industry; the needed funding is estimated to be \$500,000; the program would be implemented as soon as funded and is expected to be conducted during FY2008 and 2009
- A5b-2) The program should be assigned to the Department of Commerce, Office of Economic Development
- A5b-3) The program should be managed by a committee comprised of 7 9 members of State government and the minerals industry volunteers and led by the Office of Economic Development

A5c) TAX CONSIDERATIONS

FINDING: Diversification of the Alaska economy is a cornerstone of all credible discussions regarding long-term fiscal planning for Alaska. With the development of the Greens Creek, Red Dog, Fort Knox, True North, and Pogo mines over the last decade and a half, it is a proven fact that mineral development can bring substantial private sector investment and employment to diverse geographic regions of Alaska, from southeast Alaska to the Interior and on to the northwest Arctic. Other projects such as Kensington, Chuitna Coal, Rock Creek, Nixon Fork, Donlin Creek, and Pebble offer potential economic development to still other parts of Alaska, including southeastern, south central, eastern, western, and southwestern Alaska.

Mining is an industry that can bring economic development to areas both inside and outside the Railbelt. Yet with much of Alaska's mineral potential located in portions of the State that remain within the unorganized borough, there are major fiscal uncertainties with respect to the private sector investment needed to explore and develop these projects. The Legislature has considered the possibility of mandatory borough formation in these areas, bringing with those proposals the uncertainty of taxation formulas, tax rates, and the overall equity of the potential tax structures that might be instituted.

The mining industry expects to contribute to state and local government. In addition to state income tax paid by corporations in all industries, mining operations pay an additional 7% Net Profits Interest (NPI) Mining License Tax to the state, regardless of where they are located in Alaska. Operations on State land pay an additional 3% NPI royalty. Mining is one of the few industries to pay this additional percentage of profits to the State over and above the corporate income taxes. In addition, all of the major mining operations make large payments to local municipal governments via property taxes or payments in lieu of property taxes.

During discussions regarding borough formation in rural areas, it has become clear that the residents in these areas do not generally endorse payment of taxes themselves to support new local government. If borough formation was affected in these areas, it is possible that the potential tax burden would be placed primarily on the major industry in the region. While the mining industry does expect to pay its fair share of future municipal government costs, if and when it is appropriate to form these local governments, it should do so by an equitable, broad-based tax such a property tax, not an industry-specific tax such as a severance tax. Without the mitigating effects of a broad-based tax, the mining industry could then end up facing a very onerous tax structure. Such uncertainty serves

as a strong disincentive to the very investment and economic diversification that is so vital to rural development.

From the perspective of making the initial decision about whether to invest in Alaska, the unpredictability of future tax liability makes planning difficult. This unpredictability contributes to the disincentive against investment in mining in Alaska, because unpredictable operating costs, such as tax liability, combined with fluctuations in metals prices, make projection of economic risks more difficult at the development decision stage. Placing limits on the extent of new taxes for mining operations would make economic planning more predictable and thereby reduce the disincentive against investment in Alaska.

The Commission Recommends That:

A5c) The Governor and the Legislature take steps to improve the investment climate for the mining industry by ensuring that future municipal taxes, especially in those areas presently within the unincorporated regions of Alaska, are broad-based, equitable, and stable.

A5d) FINANCIAL ASSURANCE FOR RECLAMATION AND CLOSURE

FINDING: Mining operations are required to provide financial assurance to ensure that a mine site can be fully reclaimed and closed in accordance with the approved reclamation plan. In Alaska, financial assurance for mine reclamation and closure is regulated through the Department of Natural Resources and the Department of Environmental Conservation Solid Waste Program. Calculation of a financial assurance for reclamation and closure may include such direct costs as removal of infrastructure, backfilling, contouring, reseeding, monitoring, and wetlands mitigation projects. Also included are indirect costs such as post closure monitoring and sampling, long-term water treatment, and contingency factors for equipment efficiency rates and inflation. Financial assurance may range from a few hundred dollars per acre for small placer mines to proposed figures in excess of 100 million dollars for large hardrock mines.

Reclamation plans and financial assurance calculations are project specific. The State follows statutory and regulatory guidance when determining reclamation requirements. However, the State has also developed some informal policies, particularly in the area of indirect costs, which are subjective and currently at the complete discretion of the State. Disagreements between the Permittee and the agencies on these costs are common; with differences in each parties calculations ranging up to 300%. The lack of guidance or policy directives have hampered efforts to establish what are reasonable and customary costs for specific areas within the state as used by experienced Alaska earth moving companies (third party estimates) that are normally used to estimate initial reclamation and closure costs. Often, final reclamation and closure cost estimates must wait to be further refined until final permit conditions are identified and some of the indirect costs are more narrowly delineated.

Without approved guidelines, it is not possible for mining companies to meaningfully conduct financial planning for an operation until very late in the permitting process. The unpredictability of this significant financial liability is an unnecessary hardship for developing mines and a deterrent in attracting mining companies to invest in Alaska.

A5d) The State form a working group between members of the mining industry, DNR, and DEC to develop guidelines or policies related to the appropriate level of indirect costs to be included in financial assurance.

A5e) LARGE MINE PERMITTING CORE FUNDING

FINDING: DNR's Large Mine Permitting Team (LMPT) has the responsibility of coordinating various state agencies, and to the extent possible, federal agency's, review and authorization of large mine projects in Alaska. LMPT members are paid for their work on projects through Memoranda of Understanding (MOU) with the project proponents and their salaries are largely dependent upon this funding. While this user fee substantially reduces cost to state government for large mine projects, core funding from the State general fund is necessary to allow LMPT personnel to perform work that is not directly related to a project that is subject to an MOU. Additionally, funding for training necessary to keep personnel at the cutting edge of environmental protection technology and methodology is necessary.

Further, opponents of the mining industry use the MOU concept to criticize DNR. Opponents suggest that DNR is biased because project proponents are paying the salaries of the regulators. While it is the view of the commission that the DNR LMPT conducts themselves in professional manner free of bias, the perception of some is that this not the case.

If the Large Mine Permitting Chief position were fully funded by the State, this criticism would be largely alleviated.

The Commission Recommends That:

A5e) The Legislature fully fund the Large Mine Permitting Chief position at DNR with general funds.

A5f) COMPETITIVE COMPENSATION

FINDING: Compensation rates for state employees involved in mineral resource development and project permitting is not competitive. The state is in danger of losing personnel with the experience and expertise necessary to support development of mineral resources in a timely and environmentally sound manner.

Salaries of state employees in DNR and DEC have typically been set at substantially lower levels than that of their counterparts in the federal government and private industry. Favorable benefit considerations previously formed a part of Alaska employee's compensation. These benefits provided adequate incentive for personnel to retain state employment at lower salary levels. However, these benefit considerations have now been removed. In order to attract and retain high quality personnel the state must improve its compensation rates.

A5f) The Legislature move to increase salary levels across the board at all class ranges such that compensation for state employees is competitive with their federal government peers, and that of counterpart agencies in other state governments.

A5g) MINERALS MARKETING AND FOREIGN TRADE OFFICES

In the past three years, the State of Alaska has made dramatic improvements to the business environment for the mining industry. This improvement, coupled with the long-recognized geological potential for strong mineral endowment, makes Alaska one of the premier locations in the world for mineral exploration and development investment. With a resurgence in metal prices, the State is experiencing growth in exploration. However, most of the exploration funding comes from Canadian-based sources. A lesser amount comes from American companies. Very little Alaska exploration funding originates outside North America.

FINDING: Much greater investment in Alaska mineral exploration and development could be achieved through more aggressive marketing of Alaska's potential, both in North America, and abroad, particularly Asian countries. Foreign Trade Offices maintained by the State in Korea, Japan, China and Taiwan are not aggressively marketing Alaska as a place for Asian companies to invest in mineral projects. Further, North American investment in Alaska could be elevated significantly by expanded, better-financed, minerals marketing efforts. Despite the very positive changes that have been made, it is necessary to follow through and convince mineral exploration and development managers and financiers around the world that Alaska truly is, in a global context, one of the best places in the world to explore and develop mineral deposits.

The Commission Recommends That:

- A5g-1) The Department of Commerce, Community and Economic Development work with the Alaska Minerals Commission and the Alaska Miner's Association to provide information, marketing materials, and instruction to the Alaska Foreign Trade Offices in Asia, and
- A5g-2) The Department of Community and Economic Development be provided with adequate funding to expand the presence at domestic and foreign trade shows at which investment in Alaskan mineral exploration, development and mining projects can be promoted, and
- A5g-3) The State continue with high-level Trade Mission efforts that promote development of coal resources in Alaska.

A6) EDUCATION, RESEARCH, AND WORKFORCE

A6a) AMEREF

FINDING: The "Alaska Resource Kit", which is being used in the statewide public school system, is an excellent program for educating Alaska's students in the issues and fundamentals of resource development. With the current expansion of mining activity in the State, there is a parallel need to educate our youth in all aspects of mineral development. The AMEREF program provides a broadbased resource education for Alaska's students that is critical to their future ability to make well reasoned decisions about the use and protection of Alaska's wealth of natural resources. The kit incorporates technical, economic, and environmental aspects into a balanced program that addresses mineral, timber, and energy development.

AMEREF is supported by the resource industries in partnership with the State of Alaska. The resource industries fund AMEREF's production and replacement of all teaching materials and ensure the technical accuracy of the material. The resource industries also organize and distribute the education kits. AMEREF is looking to expand the program by obtaining additional funding through various grant programs.

The Governor and Legislature reinstated basic AMEREF funding with a Department of Education position in the FY05 budget. The AMEREF program's successful integration into the State of Alaska school systems has been the result of past cooperative efforts between AMEREF and the Alaska Department of Education. This position was specifically designed to work with AMEREF to ensure that the curriculum was developed in a manner that would meet State standards. This position also provides teacher training to familiarize Alaska teachers with the program and to facilitate its application in the classroom. The Commission appreciates the reinstatement of funding for this position by the Administration and seeks to build on this success for the future.

The Commission Recommends That:

A6a) The Governor and the Legislature should appropriate \$100,000 to the Division of Teaching and Learning Support, Minerals and Energy Education Program for curriculum development of AMEREF. Industry will continue to support all AMEREF materials, but the State's support in funding Department of Education approved curriculum development is essential to the program's integrity.

A6b) COLLEGE OF ENGINEERING AND MINES

FINDING: The College of Engineering and Mines at the University of Alaska Fairbanks (UAF) has been educating engineering students since 1915 when the school was founded as the Alaska Agriculture College and School of Mines. UAF recently integrated the School of Mineral Engineering (SME) and its degree programs into the College of Engineering and Mines (CEM). The integrated program, located on the Fairbanks campus (UAF) now offers undergraduate and graduate degree programs in mining engineering, geological engineering, petroleum engineering as well as electrical engineering, mechanical engineering and civil engineering. The program also offers a graduate level degree in mineral processing.

Two essential components of a successful engineering program at UAF include faculty and student recruiting. The CEM is well positioned with respect to scholarships that it can offer to undergraduate and graduate students and it has established an aggressive recruiting program that should bear fruit in the future. Faculty recruiting on the other hand is more problematical, in that there is a high demand for well trained and experienced professionals in the minerals industry.

In order for the University of Alaska to continue to be successful in the development of trained engineers, the Legislature and the University must fund these essential programs through the University's budget at a level that allows program success. The retention of faculty and staff and the recruitment of new staff are essential to the long term viability of CEM.

The president of UAF, Mark Hamilton, has committed to funding a President's Professor of Mining and Energy Technologies, for the next five years. He has stated that attracting a world class researcher to help address the most pressing needs of our mining industry should help "jump start" UAF's new college. He has also stated that he would hope, during those five years, that we can demonstrate enough progress and growth to justify endowing the position. That position has not yet been filled.

A new source of Federal funding for Accreditation Board for Engineering and Technology (ABET) accredited educational programs is the Energy and Mineral Schools Reinvestment Act (EMSRA) which would provide funds for existing programs at accredited petroleum and mining schools, applied geology and geophysics programs, and to individuals for degrees in petroleum & mining engineering, petroleum/mining geology & geophysics and mineral economics. Currently, EMRSA is in the U.S. House version of the National Energy Supply Diversification and Disruption Prevention Act as section 674. If passed, the EMSRA, which makes it national policy to preserve and foster the human capital necessary for national economic, energy and minerals security; declares that the petroleum, mining, applied geology and geophysics schools which produce the human capital are national assets which will be assisted with Federal funds, and creates a vehicle for funding to maintain and encourage the growth of the energy and minerals workforce to meet the national needs.

The Commission Recommends That:

- A6b-1) The Legislature ensure that the UAF Administration and Board of Regents has the resources necessary to support the engineering degree programs at UAF, including support for recruitment of Alaskan students, and that the position of the President's Professor of Mining and Energy Technologies be funded and filled as soon as possible.
- A6b-2) The Alaska Legislature and Administration do all they can to encourage the Alaska delegation in Washington, D.C. to fully support and do what ever it can do to ensure passage of the National Energy Supply Diversification and Disruption Prevention Act containing section 674.

A6c) WORKFORCE DEVELOPMENT

FINDING: The current revival in the mining industry worldwide, with emphasis on Alaska, preceded by a long period of subdued activity, has created a critical shortage of skilled and professional employees for the industry. In 1985 the employment in the non-oil and gas minerals industry in the US was 387,214 workers; that number dwindled to 248,053 by 2003. The long term downturn in the industry caused many workers to migrate to other industries. The rapid growth in the mining industry in Alaska with the commissioning of Pogo and Nixon Fork in 2006, Kensington, Rock Creek and Big Hurrah in advanced stages, with Donlin Creek, Chuitna Coal and Pebble Copper in the not-too-distant future has created an inordinate demand for skilled workers in the state.

Attraction of able workers to the industry and the training of those workers are critical to sustaining the current growth in the industry. The state worker educational program is facilitated by federal grants and minimal revenue from the State of Alaska. A \$7 million federal grant to High Growth Industries is being used to fund worker skills training, however, this resource is limited and will expire

soon. A teacher familiarization program, called job shadowing, has been implemented to educate teachers with mining operations and the jobs therein; this is a very credible and widely accepted program.

UAF's College of Rural and Community Development (CRCD) contain both urban and rural campus sites that provide education and vocational-technical training associated with the mining industry. Depending on specific levels of interest for education and training needed to enter into the mine industry, a variety of programs are available with transferable academic credit for certification and degree seeking students. The University assists employers in the minerals industries by responding to specific needs in the workplace for new hires and upgrading existing employees. Examples of training providers that are part of CRCD include: Tanana Valley Campus located in the urban Fairbanks area; Interior/Aleutians Campus, Kuskokwim Campus, Northwest Campus, Chukchi Campus, and Bristol Bay Campus located in rural or remote locations as well as rural training centers in the following areas: Aleutians/Pribilof, McGrath, Nenana, Tok, Yukon Flats, and Yukon-Koyukuk. The Cooperative Extension Service has delivery locations and offices throughout the state. In addition, the University of Alaska through the Mine and Petroleum Training Services (MAPTS) of the Kenai Peninsula College offers certified miner technical and safety programs on-site and ondemand to meet industry needs throughout the state. MAPTS via the Delta Mine Training Center provides MSHA surface and underground miner training, advanced underground miner training, prospecting, navigation, rock and mineral identification, outdoor safety and survival and placer mining training.

Attracting young, able-bodied high school graduates and other persons already in the workforce to the minerals industry training programs has been very slow and arduous. The industry is struggling to fill its needs.

The Commission Recommends That:

- A6c1) The Administration and the Legislature fund programs to attract workers to the mining industry training programs including grants and scholarships to finance costs of that training
- A6c2) The Administration and Legislature support the existing training programs by funding those programs to the extent needed

Part B. Federal Issues of State Concern

B1) ANILCA MINERAL ASSESSMENTS

FINDING: With the elimination of the Bureau of Land Management's (BLM) Alaska Mineral Program, the federal government is no longer meeting its responsibility to complete Mineral Assessments on public lands in Alaska as required under Section 1010 of ANILCA. Without these scientific studies, the public cannot properly manage its land and resources, and the state is missing opportunities to develop mineral resources.

The pertinent section of ANILCA states that "The Secretary shall, to the full extent of his authority, assess the oil, gas, and other mineral potential of all public lands in the State of Alaska in order to expand the data base with respect to the mineral potential of such lands..." Previously, mineral assessments were done by the United States Geological Survey (USGS), and the US Bureau of Mines (USBM). THE USGS program was known as the Alaska Mineral Resources Assessment Program (AMRAP). This excellent program provided the basic geological, geophysical and geochemical information needed to assess mineral potential on a regional basis. The program was eliminated in 1996. The USBM was also abolished by Congress in 1996, and their Mineral Assessment Program died with the agency.

Since 1997, the BLM has been has been conducting ANILCA mineral assessments throughout the state under the Alaska Minerals Program. Scientific work produced by the program has proven of exceptional value in the BLM's land and resource management planning processes. The products are also of value to developers and conservationists. The Department of the Interior has decided to eliminate the program. It will cease to exist in 2007 unless the Alaska congressional delegation intervenes.

The Commission Recommends That:

B1) The Governor demand that the federal government meet its obligation to complete Mineral Assessments under Section 1010 of ANILCA, by reinstatement of former programs, or through development of alternative programs.

B2) OUTDATED LAND SEGREGATIONS

FINDING: Large tracts of land in Alaska that were "temporarily" withdrawn from public entry more than 30 years ago remain unnecessarily closed. These lands were withdrawn under section 17(d)1 of the Alaska Native Claims Settlement Act (ANCSA), and are also known as d1 withdrawals. These Outdated Segregations are often, but not always, accompanied by a Public Land Order that precludes mineral development.

The land segregations were originally set aside for three primary purposes:

- 1. Selection and conveyance to ANCSA corporations or the State of Alaska,
- 2. Possible inclusion within federal conservation units, and
- Industrial developments such as alternate candidates for a Trans-Alaska Pipeline corridor.

The purpose of the segregation has long passed, but the closures have not been lifted. In 2005, S1466, The Alaska Land Transfer Acceleration Act was passed. The act mandated that the BLM complete conveyance of lands to Native Corporations and the State of Alaska by 2009. The act also instructed BLM to create a report to Congress that clearly identifies all lands forming the outdated segregations, and made recommendations for those that could be immediately revoked. The report was prepared and submitted, but no action was taken by Congress. Rather, it was decided that BLM would make recommendations to Congress for revocation of certain D1 withdrawals following creation or update of Resource Management Plans (RMP). The BLM is currently conducting these RMPs. The resulting plans will identify the D1 withdrawals that it wishes Congress to revoke. If the PLOs that accompany the D1 withdrawals are also revoked, a substantial amount of land will become available for exploration and development. New mining operations, creating employment and wealth for the benefit of Alaska, may potentially result. It is important that the State not allow continued mineral development prohibition on these lands once the D1 withdrawals are revoked.

The Commission Recommends That:

- B2-1) The Department of Natural Resources continue to work cooperatively with the BLM to allow completion of the land conveyance process on schedule by 2009.
- B2-2) The Department of Natural Resources monitor the land planning process to ensure that high-potential mineral lands are reopened to mineral entry when the withdrawals are revoked.
- B2-3) The Alaska Legislature provide adequate funding for the Department of Natural Resources to carry out the actions necessary to meet the deadline imposed by S1466.

B3) COAL PROGRAM FEDERAL FUNDING

FINDING: The coal mine regulatory program is jointly funded by the federal and state government. Alaska's program has 3.8 full time equivalent positions including geologists, managers, a grants specialist, and administrative support staff. Due to the small size of the program, each of the professional staff must conduct permit reviews and perform inspections in a variety of disciplines.

Demands on the program are growing: two new coal mines are being permitted (Chuitna Coal Project, Jumbo Dome Coal Mine); there are three new exploration areas (Western Arctic Exploration, Jarvis Creek, Chickaloon); and interest in coal to liquids (CTL) or coal to gas (CTG) plants has expanded (Emma Creek Energy Project, Blue Sky Coal Gasification Project).

Several of these new projects are in remote locations that are accessible only by air. For example, inspection of the Western Arctic Exploration Project would cost the program approximately \$5,000 per site visit. As the table shows, in the last three years the federal grant share of the program has declined. (The table excludes program receipts.)

Year	Federal	State	Total
2004	\$186,518	\$186,518	\$373,036
2005	\$188,518	\$221,350	\$409,868
2006	\$183,601	\$241,730	\$425,331

Investments in Alaska's energy future may be undermined by the failure of the federal government to adequately fund western state coal regulatory programs. This silent crisis has been building for some years as appropriations for regulatory grants to western states have not kept pace with increases in coal production and the related regulatory workload.

B3) The Governor and Legislature encourage the Alaska Delegation to seek full funding for Alaska's Coal Regulatory Program.

B4) PRIVATE IN HOLDINGS IN NATIONAL PARKS

FINDING: The economic constitutional rights of private property owners, including owners of valid mining property in-holdings within National Parks in Alaska must be recognized, protected and respected. Action is needed to resolve the political and economic realities related to mineral development and other private uses of property in National Parks given; (1) the need for timely administrative finality (denial/approval of proposed mining plans of operations), (2) constraints within the federal acquisition program and (3) the NPS responsibility to protect carry out the General Management Plans for the park resources.

The Alaska delegation previously sponsored legislation which allowed for miners who owned mining property within the Denali National Park to unilaterally move their property into a takings process whereby the courts and Department of Justice settled the matter of value. Perhaps a similar concept supported by legislation should apply to all private property within other National Parks in Alaska. This process would move the controversy and rhetoric away from the direct interaction between NPS and the miners and set in motion an alternative approach. The Mining EIS preferred alternative was to acquire properties from willing sellers as this provided protection of park resources. Selected properties will include those for which the owner is entitled to fair market value based on a delineated mineral resource and considering pre-Park conditions.

The Commission Recommends That:

B4) The Administration and legislature work with the Federal Government to allow Alaska mineral property holders in National Parks to move their properties into a takings process by the courts and the Department of justice settle the issue of valuation fairly and equitably considering pre-Park conditions.

Appendix A Enabling Legislation

Chapter 98 Session Laws of Alaska, 1986 As Amended by Chapter 12 Session Laws of Alaska, 1998

AN ACT

Relating to the Alaska Minerals Commission; and providing for an effective date. Section 1(a) The legislature finds that the minerals industries, including metallic minerals, industrial minerals, and hydrocarbons, have traditionally and continue to be the major source of wealth and income in the state.

(b) The legislature further finds that there are major constraints on the continued development of a diverse mineral industry in the state, including the Environmental Protection Agency's effluent guidelines, state water quality standards and improperly classified streams and rivers, restriction on surface access, complex and numerous permitting requirements, and limited access to minerals through mineral closing orders and restrictions on multiple use through state and federal land use plans.

Section 2. ALASKA MINERALS COMMISSION ESTABLISHED. (a) The Alaska Minerals Commission is established in the Department of Commerce and Economic Development.

- (b) The Commission is composed of 11 members. The Commission shall be composed of individuals who have at least five years' experience in the various aspects of the minerals industries in the state. The Governor shall appoint five members of the Commission, one of whom must reside in a rural community. The President of the Senate shall appoint three members of the Commission. The Speaker of the House of Representatives shall appoint three members of the Commission. Each member serves at the pleasure of the appointing authority.
- (c) The Commission shall make recommendations to the Governor and to the Legislature on ways to mitigate the constraints, including governmental constraints, on development of minerals, including coal, in the State.
- (d) The Commission shall report its recommendations each year to the Governor and the Legislature during the first 10 days of the regular session of the Legislature.
- Sec. 3. This Act is repealed February 1, 1994.*
- Sec. 4. This Act takes effect immediately in accordance with AS 01.10.070(c)

*Note: The Act was amended to extend the life of the Commission to February 1, 2014.

Appendix B Alaska Minerals Commission Statement of Purpose

The Alaska Minerals Commission was created by the 14th Legislature in Chapter 38 of the Session Laws of 1986 and was established to make recommendations to the Governor and to the Legislature on ways to mitigate constraints on the development of minerals in the State.

The minerals industry offers the greatest potential of any Alaska industry for expanding and diversifying the State's economic base, for increasing Statewide employment, and for generating new wealth to create businesses and provide revenues for State and local governments.

However, Alaska has a complex pattern of land ownership and management; has overlapping and uncertain regulatory requirements; has unique geographic, geologic and climatic conditions; and has an undeveloped transportation system.

To attract the capital necessary for the exploration and development of new mines, to ensure that mines can be developed feasibly and in a timely fashion, and to ensure that producing mines remain viable, constraints on the industry must be mitigated.

The Alaska Minerals Commission will prepare reports for the First and Second Sessions of the 15th Legislature and the First Session of the 16th. Legislature, recommending to the Governor and to the Legislature the adoption of legislation and the implementation of administrative policy that will best accomplish the statement of policy found in Article VIII of the Constitution of Alaska:

"It is the policy of the State to encourage the settlement of its land and development of its resources by making them available for maximum use consistent with the public interest."

And the statement of policy found in the President's National Materials and Minerals Report to Congress of April 5, 1982:

"It is the policy of this administration to decrease America's mineral vulnerability by taking positive action that will promote our national security, help ensure a healthy and vigorous economy, create American jobs, and protect America's national resources and environment."

The goals and recommendations of the Alaska Minerals Commission are to assure that the Legislature and the State administration endorse and promote development of a viable mining industry in the State.

Appendix C Mineral Policy Act

Sec. 44.99.110. Declaration of state mineral policy. The Legislature, acting under act. VIII, sec. 1 of the Constitution of the State of Alaska, in an effort to further the economic development of the state, to maintain a sound economy and stable employment, and to encourage responsible economic development within the state for the benefit of present and future generations through the proper conservation and development of the abundant mineral resources within the state, including metals, industrial minerals, and coal, declares as the mineral policy of the state that

- (1) mineral exploration and development be given fair and equitable consideration with other resource use in the multiple use management of state land;
- (2) mineral development be encouraged through reasonable and consistent non-duplicative regulations and administrative stipulations;
- (3) mineral development and the entry into the marketplace of mineral products be considered in developing a statewide transportation infrastructure system;
- (4) mineral development be encouraged through appropriate public information and education, scientific research, technical studies, and the University of Alaska program involvement; and
- (5) economic development with respect to the state mineral industry be encouraged with Pacific Rim nations (Sec.1 Ch. 138 SLA 1988).



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