

Report of the 2012 ALASKA MINERALS COMMISSION



Kensington – Comet Portal

The Alaska Minerals Commission (Commission) serves in an advisory capacity to the Governor and the Alaska State Legislature (Legislature). Its role is to recommend ways to mitigate constraints on mineral development in Alaska. This annual report fulfills that mandate.

Commission members are appointed by the Governor, the President of the Senate, and the Speaker of the House. Current members represent the placer, hard rock, and coal mining industries across the state. Created by the Legislature in 1986, the Commission's authorization continues through 2014.

Introduction

The State of Alaska has taken positive steps to attract mining industry investment. It has begun to aggressively defend the state's right to develop its resources, reform and streamline regulation, and work with industry to develop transportation and energy infrastructure.

Overall, the actions by the state this past year send the message that Alaska is open for

business investment. These actions further signal that mineral resource developers who operate responsibly are welcome and will be treated fairly. The state is on the right course, and the Commission encourages the administration and legislature to continue these initiatives.

The Commission specifically recommends the following actions on six major issues:

| ISSUE: | ACTION ITEM: |
|-------------------------------------|--|
| 1. Critical and Strategic Metals | Support Administration's Initiative |
| 2. Transportation Infrastructure | Support Administration's Initiative |
| 3. Municipal / Borough Overreach | Defend State's right to develop resources |
| 4. Mineral Resource Revenue Sharing | Reform tax policy for revenue sharing |
| 5. Litigation Reform | Reform process to avoid unwarranted litigation |
| 6. Education | Support K-12 and collegiate resource education |

In addition to these main issues, other issues of concern are reviewed in the expanded version of this report, which is available at:

www.commerce.state.ak.us/ded/dev/minerals/mine4.htm



Photography

1. Photo by Chris Arend, Courtesy UCM
2. Will Robinson collecting samples for Avalon Development Corp in the central Alaska Range



Critical and Strategic Metals

The Commission applauds and supports the Governor and the Alaska Department of Natural Resources (ADNR) in regard to the *Secure Alaska's Future – Strategic Minerals Initiative* to accelerate development of critical and strategic minerals in Alaska.

Critical and strategic minerals include those bearing rare earth elements. These elements are crucial to the production of technologically advanced weaponry and the manufacture of a wide array of electronic, automotive, and alternative energy products. China, which produces most of the world's rare earth elements, controls the market and is retaining the bulk of rare earths to meet its own needs. This poses an unacceptable risk to the national and economic security of the United States.

Alaska's potential for discovery and development of rare earth element resources could help supply the nation's needs. In recognition of this opportunity, the state launched the Secure Alaska's Future Initiative, which includes:

1. Assessing the state's critical and strategic mineral resources
2. Improving permitting processes
3. Improving coordination with public and private stakeholders
4. Incentivizing exploration and development
5. Improving infrastructure
6. Attracting new investment and markets for mineral resources

Securing Alaska's Future benefits all Alaskans and helps remove many of the constraints that unnecessarily dampen development of Alaska mineral resources.

The Commission encourages the Legislature's support of the administration's foresight and leadership on this issue.

3. Pogo Mine
4. Photo by Chris Arend, Courtesy UCM
5. Fort Knox Pit
6. Photo by Chris Arend, Courtesy UCM



Transportation Infrastructure

The Commission thanks the Governor and the Legislature for support for the Ambler Mining District Access Project and studies concerning transportation access to Western Alaska through Tanana. We encourage ongoing support for infrastructure in rural Alaska.

Through public-private partnerships, Alaska can leverage private development with statewide transportation plans. Transportation investments that support mineral development can also expand rural infrastructure, reduce the cost of living, and play a critical role in lowering energy costs. State participation in the Delong Mountain Transportation System (DMTS), through the Alaska Industrial Development and Export Authority (AIDEA), was a key factor in the development of Red Dog Mine; this multi-user haul road and port remains available for other mineral development in the region. Further utilization of this type of private-public partnership can help advance mine projects while providing broad public benefits.

The increase in activity in the Arctic for shipping, energy, and mineral development necessitates an increased presence by the U.S. Coast Guard in the Arctic. The need for deep

water ports in the Arctic associated with this increased presence provides an opportunity to coordinate roads to potential ports with mineral development projects.

Transportation plans must stem from regional and project specific needs in concert with statewide planning. Local support is critical for projects to advance. A good example is the growing interest from local levels for roads in Northwest Alaska and the coordination between the Alaska Department of Transportation and Public Facilities, industry, and communities on viable projects.

Recommendations:

- Continue public outreach, environmental and engineering studies for the Ambler Mining District Access through the Roads to Resources Initiative.
- Support financing options, including public-private partnerships that lead to restricted use roads that facilitate industrial use while recognizing local residents' concern for limited access to traditional subsistence areas.
- Investigate transportation corridors in Southwest Alaska that facilitate mineral development, while lowering the cost of living including more affordable energy.

Photography

1. Photo by Chris Arend, Courtesy UCM
2. Greens Creek Dry Stack Tailings
3. Donlin Gold Exploration Camp





Municipal and Borough Overreach Mineral Resource Revenue Sharing

Alaska is a relatively young state, and issues affecting the sovereignty of developing natural resources on state land are becoming more contentious. Since statehood, several local and regional entities attempted to assert control over state lands specifically designated for mineral development. These actions by local boroughs and cities created uncertainty in the investment community.

The Alaska constitution and statutes create a framework to manage and develop mineral resources in Alaska. That framework includes standards to determine what development is in the best interest of the state and its citizens. The legislature further delegated broad authority and the exclusive discretion to make these determinations to the executive branch for implementation by state resource agencies.

Home rule boroughs in Alaska are authorized to enact reasonable zoning requirements that may affect mining activities, such as requirements designed to control or mitigate noise, dust, unsightly visual aspects, surface subsidence, and erosion. Boroughs may not implement planning and zoning codes that are irreconcilable with state law.

Attempts to usurp the state's authority to govern the management and development of mineral resources sends a negative message to investors interested in Alaska's world-class resources. The Commission views these local actions as having the potential to make resource development on state lands untenable.

Recommendation:

- Reconfirm state sovereignty through legislative action to ensure investors that state lands are open to mineral development and not subject to unreasonable local ordinances. Such action, implemented by the administration and supported by the legislature, will help restore investor confidence that Alaska mining is reasonable and attractive.

Rural Alaska communities can benefit greatly by association with private, resource-based economies. Whether it is fishing, mining, tourism, oil and gas or timber, cooperation between these industries is needed to maximize the opportunities for projects that help communities thrive. The Constitution supports taking this integrated approach to development by requiring the state to manage its resources for the maximum benefit of all Alaskans.¹

At this time, the tax policy on Alaska's mining industry falls short of these integrated objectives. While the State of Alaska mining license tax applies to all mining operations, regardless of land status, size, or location, there is no uniform mechanism to allocate portions of the revenues back into the communities associated with the development. Such a revenue sharing model is effective in both the Alaska fishing industry and the Gulf of Mexico oil and gas industry.

Sharing portions of state revenues from mining development with local communities in a predictable fashion will reduce the need for local governments to impose their own targeted taxes on the industry. The potential application of local severance taxes discourages initial investment due to uncertainty about the timing and magnitude of their imposition. Moreover, local severance taxes inappropriately shift the balance of power and benefits to the local communities, thereby precluding the state from fulfilling its mandate to manage state-owned resources in a way that maximizes benefits to all Alaskans.

Recommendation:

- Revise state law to allocate mining license tax revenues to communities through a "revenue-sharing" program that precludes local severance taxes on state-owned mineral resources.

¹ Alaska Constitution Section 8.2 - General Authority. The legislature shall provide for the utilization, development, and conservation of all natural resources belonging to the State, including land and waters, for the maximum benefit



Litigation Reform

Alaska's major resource development industries are experiencing an unprecedented assault in state and federal courts from special interest organizations whose purpose is to obstruct or stop natural resource development. These organizations misuse the Equal Access to Justice Act (EAJA) to halt or delay projects through endless petitions and lawsuits that are paid for with billions of dollars of public funds, regardless of the legal merits of their arguments. Classified as "Public Interest" litigants under the EAJA, they also enjoy legal privileges that bias the Alaska judicial system in their favor, including a judicial bias that:

- Allows potentially unconstitutional or unenforceable issues to go to voters before the judiciary rules on the merits;
- Works against disclosure of public funding sources, allowing quiet involvement of special interest groups and individuals.

There is no mechanism to make these organizations accountable for bringing frivolous lawsuits or to reimburse the resource agencies for the cost of defending legislatively mandated programs. Recent legal action brought against the ADNDR encumbered the state with legal fees in excess of \$1 million to defend the constitutionally established mining program. The court ruled completely in favor of the State of Alaska, but there is no mechanism to recover the entire cost from the plaintiff.

Administrative and legislative support is required to limit the negative impact from obstructionist legal maneuvering.

Recommendations:

- Require bonds from organizations initiating legal actions.
- Continue to join suits as an affected party in other states if an adverse decision may set a precedent applicable in Alaska.
- Continue to join suits filed in Alaska if an adverse decision in that case will adversely affect the state's ability to financially benefit from its natural resources.
- Support budgets to hire legal expertise needed in natural resource development cases.
- Require plaintiffs to pay legal fees for all portions of the rulings against their position.
- Congressionally limit the scope of the "Equal Access Law" to restrict frivolous lawsuits.
- Support budgets that enable the attorney general to evaluate previous litigation reform in court rulings to develop a strategy for meaningful reform.
- Work with other states to petition U.S. Congress to remove the "Tax Exempt" status from litigious organizations.

Photography

1. Photo by Chris Arend, Courtesy UCM
2. Independence Mine
3. Photo by Chris Arend, Courtesy UCM
- 4.





Education

Resource education within grades K-12 and at the university level is vitally important to help the Alaskan public to make informed decisions about the mining industry and to prepare Alaskan students in pursuing mining careers. Training of Alaskan engineers and scientists is critical to the viability of the minerals industry.

Alaska Resource Education (ARE) provides an invaluable resource to help teachers and parents educate K-12 students in the state about responsible resource development. ARE not only provides Alaska-specific curriculum, but also hands-on materials, teacher training, and classroom presentations. In 2011, ARE put 142 teachers through its 500 level graduate “Rock & Roll Around Alaska” course last year. These teachers will each educate an average of 60 students per year on the importance of resource education in Alaska. The Commission recommends that \$100,000 be added to the Capital budget (on an annually recurring basis) and an additional \$100,000 of discretionary funds be added to the Alaska Department of Education budget for ARE.

There is a new and developing program within the University of Alaska (UA) to establish a UA-wide Alaska Center for Minerals and the Environment (Center). The Center is designed to help facilitate UA science and engineering programs in support of the minerals industry. It will feature equal and non-duplicative educational opportunities for students from all three main UA campuses: University of Alaska Anchorage (UAA mineral and environmental resources), University of Alaska Fairbanks (UAF mining engineering) and University of Alaska Southeast (UAS mine training). The Commission recommends that the UA Board of Regents, the Legislature, and the Governor embrace the Center to further post-secondary and professional resource education opportunities within Alaska.

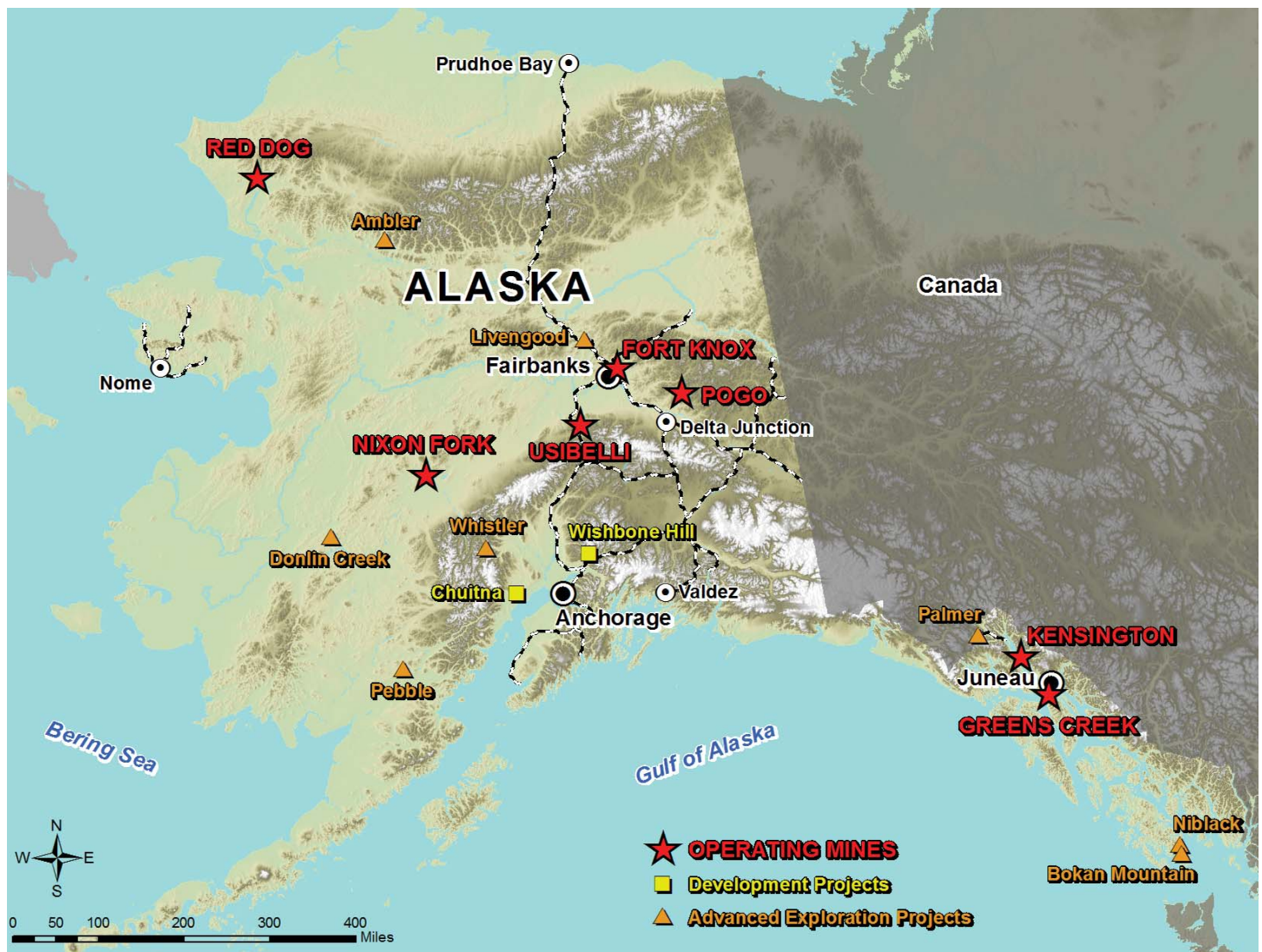
Recommendations:

- Promote and fund the UA-wide (UAA, UAF, and UAS) Center.
- Increase funding to ARE annually to the amount of \$200,000.
- Support the State of Alaska's initiative to educate Alaskans on the importance of strategic and critical minerals and rare earth elements.
- Promote coordination between ARE and UA on resource education.
- Encourage elected officials to visit mines through the Council of Alaska Producers.
- Support state and federal programs to train and educate skilled mine workers.

4. Bornite
5. Photo by Chris Arend, Courtesy UCM
6. Taiga Mining Reclaimed Stream
7. Bornite



Alaska Projects Map 2012



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The Alaska Department of Commerce, Community, and Economic Development (DCCED) is tasked with facilitating the Commission's work. This publication was released by DCCED as required by AS 44.33.431 (d). Nothing in this report constitutes an official position or opinion by the department.

Alaska Minerals Commission Supplemental Report 2012

WATER QUALITY

NPDES Primacy

The Alaska Department of Environmental Conservation (ADEC) is assuming National Pollutant Discharge Elimination System (NPDES) primacy in a phased transition to be completed by 2014. ADEC works closely with the U.S. Environmental Protection Agency (EPA) to ensure a smooth transition that provides direct training and experience for ADEC staff. NPDES primacy will be tested as large mine projects like Donlin Gold and Pebble approach the permitting stage. It is important that the Legislature continue to fund ADEC to support an effective transition in assuming full responsibility for regulating discharge to Alaska waters.

Water Quality Regulations

Regulatory Tools:

Water quality criteria fall under Clean Water Act (CWA) regulations with allowances for more stringent criteria set by individual states. The CWA provides states with limited tools to adapt regulations to unusual circumstances that were not considered when the criteria were adopted. This includes natural background conditions that exceed maximum criteria or fall below minimum criteria and water bodies misrepresented when originally classified. Misclassified water bodies are a common occurrence in a large state like Alaska where there were minimal resources to survey all water bodies by the required deadline. Site-specific criteria, mixing zones, and reclassification of water bodies are necessary tools provided under the CWA to allow the state to manage its water bodies in a reasonable manner.

However, under EPA guidance, natural background site-specific criteria only allow the lowest five percent of baseline data to determine acceptable concentrations. Past attempts by ADEC to adopt state guidance were not approved by the EPA and were ineffective when applied by industry to actual baseline data.

Reclassification petitions are often discouraged and delayed due to procedural complexity and uncertainty. Misunderstandings regarding which reclassification is viewed as loosening regulations to allow degradation, as opposed to correcting an arbitrary and erroneous classification through the presentation of scientific data, also contributes to underuse of this essential tool.

Mixing zones are disallowed in spawning, incubation, and rearing areas; therefore, they are effectively disallowed throughout the majority of Alaska's water bodies. This not only impacts the mining industry, but also the much wider application of mixing zones to municipal water treatment, fish processing, and other industries. To be an effective tool for all Alaska, mixing zone regulations must consider site-specific conditions that balance habitat protection with public and economic benefit.

Groundwater Regulations:

Regulated discharge of intercepted water or mine drainage to groundwater is a common practice in mining. Mining is also regulated for potential metals leaching or acid rock drainage from tailings and waste rock. The State of Alaska does not have specific water quality regulations for groundwater, and by default, surface water quality criteria are applied to groundwater discharges. However,

groundwater often has naturally elevated metals from long-term association of the water with the soil and/or bedrock in the receiving waters. These naturally occurring levels exceed maximum surface water quality criteria. Groundwater also does not contain the fish and other aquatic life that surface water regulations were designed to protect.

The application of surface water criteria to groundwater does not consider the type of aquifer the water is discharged into, its pathway or retention time, or its potential to reach and impact surface waters where fish and aquatic life are present. As a result, direct discharges to groundwater often require costly water treatment to meet criteria that are more stringent than the quality of the receiving waters.

Without flexibility in regulation, many projects that could significantly improve the overall economic, social health and welfare of people throughout Alaska may be precluded. The Legislature should encourage ADEC to:

- Work jointly with the regulated community and EPA to develop realistic and meaningful regulations for groundwater, site-specific criteria, mixing zones, and reclassification of water bodies to enable meaningful protective measures for managing our State's waters.
- Compile a list of established mixing zones to promote full awareness of the extent and use of mixing zones throughout the State, and create a presentation on the need for industrial and municipal mixing zones.

PERMITTING

Large Mine Permitting Team

Alaska Department of Natural Resources (ADNR) Core Funding

ADNR's Large Mine Permitting Team (LMPT) coordinates with various state and federal agencies, to the greatest extent possible, in its review and authorization of large mine projects in Alaska. The LMPT is paid for work directly related to projects through Memoranda of Understanding (MOU) with the project proponent. Thus the onus of permitting, monitoring, public review, and enforcement costs is placed on the developer.

While this user fee substantially reduces cost to state government for mine projects, core funding from the state general fund is necessary to allow LMPT personnel to perform work not directly related to a project MOU. An adequate core budget ensures funding is available for critical non-project specific items, like staff training and public outreach. Training and education of state staff is necessary to remain at the cutting edge of environmental protection technology, methodology, and policies. Public outreach is necessary to educate the public about the permitting process and opportunities for public review.

Further, opponents of the mining industry become skeptical and question whether ADNR is influenced by project proponents paying the salaries of the regulators. While it is the view of the Commission that the LMPT conducts itself in a professional manner free of bias, the potential for a conflict of interest, perceived or real, is minimized if core funding is established for these activities.

Recruitment and Retention of Professional Permitting Staff

Mine exploration, development, operation, and closure are dependent on permits acquired through ADEC, ADNR, and the Alaska Department of Fish and Game (ADF&G), usually through the LMPT. In order for permits to be thorough, legally defensible, and timely, these agencies must maintain a team of highly skilled, experienced, and motivated mining and environmental professionals. Highly qualified, professional staff are also necessary to assure the public and federal agencies that the state can provide adequate protection of our environmental resources.

The state must continue to grow its mine permitting capability in tandem with the growth of the industry in Alaska, or risk losing the investment it has made over past decades to attract the industry. Recruitment and retention of qualified staff can be difficult due to competition from other sectors that offer higher pay scales and other non-cash compensation for professional employees. Over the past several years, both ADEC and ADNR have improved recruitment rates through professional recruiting consultants and innovative hiring incentives such as flexible scheduling and accommodation of work location preferences. Additionally, the Legislature provided increased funding in recent years to enable agencies to increase hiring rates. The Commission appreciates the Legislature's support and agency efforts related to recruitment and retention. The Commission encourages continued support in this upcoming session and years to come.

LAND MANAGEMENT

Navigable Waters

Navigable waters provide methods of access to resources throughout Alaska, including to minerals and materials. The State of Alaska received the submerged lands under navigable water by the Equal Footing Doctrine, The Alaska Right of Way Act of 1898, the Submerged Lands Act of 1953, etc. This right was subject to withdrawals by the federal government prior to statehood. However, all waters in Alaska belong to the people of the State of Alaska. Furthermore, navigable or public waters under State Law (AS 38.05.126) are subject to the people's constitutional right to free access and use.

The state litigated a number of quiet title actions and received title on thirteen rivers in Alaska. Due to the high cost of litigation, over \$1 million each, the U.S. Department of the Interior (USDOI) Bureau of Land Management (BLM), in cooperation with the state, developed a Recordable Disclaimers of Interest (RDI) program. The BLM reviews the state's RDI application and reviews the submitted evidence as to the navigability of each water body. If in agreement with the state's claim, the BLM disclaims any federal interest in the submerged lands. For the latest updates to quantities and locations of RDIs issued see BLM's website at: <http://www.blm.gov/pgdata/content/ak/en/prog/rdi.html>.

In addition to the RDI program, the BLM and state developed an assistance agreement research program. Over \$1.5 million in federal funds have gone to research identifying navigable waters. However, this budget allocation is expected to be exhausted in FY2012. These reports are instrumental in the processing of RDI applications and other administrative and public uses.

ADNR needs to continue navigability research, and pursue RDIs and quiet title actions as necessary to defend state ownership rights and reasonable access for use of Alaska's public lands. The Commission recommends that the Legislature:

- Adequately fund the ADNRR Public Access Assertion and Defense Unit (PAAD) and personnel within the ADF&G to work on the RDI applications.
- If necessary to assert state's rights, the Legislature should adequately fund the Department of Law to support any quiet title actions to ensure the state receives ownership of water bodies.
- The state should work with the BLM to establish more efficient methods for determining what water bodies are navigable and to recognize the established Gulkana Case Law in regard to susceptibility when issuing RDI.

Land Transfers

The Alaska Land Transfer Acceleration Act of 2004, allows the State of Alaska to file with the BLM the priority land selections under the Alaska Statehood Act, including lands withdrawn by the USDOJ under Public Land Orders (PLO). In 1971 and 1972, PLOs 5150, 5151, and 5182 withdrew land north of the Yukon River along the Trans-Alaska Pipeline for "inner" and "outer" utility corridors. The BLM manages land use along the corridor, which is approximately 24 miles wide and 198 miles long. The corridor excludes leases under the Mineral Leasing Act. Alaska, not the federal government, should own the land where roads and pipelines are situated, in this case the Dalton Highway and Trans-Alaska Pipeline. ADNRR previously selected these corridors. The BLM can "lift" the PLOs through a process that includes public notice. Alaska asked for the "lifting" of the PLOs to no avail as BLM determined the corridors are of "national interest".

In 2005, the ADNRR Division of Mining, Land and Water (DML&W) submitted to BLM the priority land selections of 15.6 million acres. In FY 2007, Alaska received title to greater than 2 million acres of land. Alaska now has title to a total of 100.3 million acres of the 105.8 million acre entitlement. Approximately 37 percent of Alaska's lands (almost 35 million acres) were selected for their mineral value. The present acreage claimed in Alaska under mining claims is 3.9 million acres. The "Filing of Final Priorities" was completed by the December 2008 deadline imposed by the Alaska Land Transfer Acceleration Act.

Due to federal budget limitations, Alaska did not receive final patent to the 105.8 million acre entitlement by the end of 2009, and there is no specific end date for this to occur. This process has been further delayed because BLM budget cuts have affected their ability to survey state lands that have been Tentatively Approved (TA). The State's participation in the process must continue to completion. The ADNRR continues to work on land management, including updating regional land use plans and commenting on the BLM area plans. BLM plans to review and update the Utility Corridor Resource Management Plan beginning in 2009.

The governor and legislature should provide adequate funding for the ADNRR to carry out the actions necessary to receive title to and manage the full entitlement of 105.8 million acres of land, including the Trans-Alaska Pipeline corridors. This includes continuation of funding of state involvement to completion.

Develop Conveyance Procedures with BLM for Rights of Way over Federal Lands

Overland access to or through federal land is critical for resource exploration and development. Access is provided through an assortment of means such as Revised Statute (RS) 2477 rights of way, section line easements, Alaska Native Claims Settlement Act (ANCSA) 17b easements or Federal Land Policy Management Act (FLPMA) rights of way. Some of these access routes exist, but are unrecognized by the federal government while others are burdensome to obtain.

The federal government is unreceptive to recognizing RS 2477 rights-of-ways across federal land in the State of Alaska and will not formally recognize the RS 2477s when conveying land to Native corporations. The state diligently reviews conveyance decisions to Native corporations to ensure adequate access through ANCSA 17b easements, and successfully challenged BLM decisions in the Interior Bureau of Land Appeals that did not provide adequate access.

BLM and other federal agencies are generally willing to process a FLPMA right-of-way (ROW) at the request of the state or individuals. However, this process is burdensome, expensive, and time consuming. Secondly, for individuals, there are conditions of maintenance and processing that place this type of ROW out of reach financially.

Where appropriate, the state should push for these various types of access rights of way to resource areas. In cases where the state has a congressionally granted RS 2477 ROW and the federal agency fails to recognize that grant, the state must be willing to actively assert its interest.

While the state recognized over six hundred RS 2477 rights of way by legislative action, this action did not resolve the dispute between the state and the federal government about the existence of these routes. The federal government only recognizes that the RS 2477 right of way is valid when there is a supporting court decision. Absent a court decision, the state does not have clear title to the ROW interest, adversely affecting its right to manage its ROW interest. The failure of a federal agency to recognize an RS 2477 ROW leaves the state with limited options to assert its interest.

With the funding provided to DNR during FY2012, the state is pursuing a variety of means to have the federal government recognize the state's ownership of the access rights granted to them by virtue of RS 2477 rights of way.

In 2011, the state filed 180-day notices to file quiet title action on eight RS 2477s. The state is presently reviewing and researching evidence to evaluate which rights of way to litigate to establish court acknowledgement of the federally granted rights of way and to resolve several other legal disputes.

It is imperative for the state government to claim its rights of public access to public lands and waters, as this same access is key to the growth and development of the state. Whether through mutual accommodation, cooperative agreements, recordable disclaimers of interest, or even quiet title actions, the ADNR must continue to actively pursue all valid access opportunities in the management of public lands and resources.

Increase the Investment in Geophysical and Geological Surveys

Alaska is one of the most sparsely mapped regions of the world and ranks far behind many less developed countries in spending for geologic data acquisition. Readily available public geological data serves to attract mineral exploration capital. Alaska can increase mineral development by investing greater amounts in geological mapping and mineral assessment.

Currently, there are bedrock geologic maps covering only 45 percent of Alaska at a scale of 1:250,000 to 1:100,000. Only 16 percent has been mapped geologically at a scale of 1:63,360. For most resource assessment purposes, 1:63,360 is the minimum acceptable scale. For comparison, the state of Nevada is mapped 100 percent at 1:250,000 and 45percent at 1:63,360. Many states consider

1:24,000 the minimum scale for their purposes, and many have significant coverage at this scale. Although the state produces high quality geologic maps every year, Alaska clearly lags far behind its peers in the percentage of high minerals-potential land assessed. Since 1993, the state spent an average of \$500,000 per year on airborne geophysics and geologic mapping in mineralized areas. The ground truth geologic mapping is the critical link for interpretation of the airborne surveys.

Since FY2010, the state expended \$800,000 annually for the Alaska Geologic and Geophysical Minerals Inventory Program (AGGMI). This important program acquired geophysical data for approximately 8.7 million acres, less than 10 percent of the state's land entitlement. At the current rate of mapping, and because Alaska has such a broad spectrum of minerals resource potential, 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.

State sponsored geophysical and geological surveys provide an immediate economic stimulus. Industry often responds to state findings by staking mining claims and investing millions of dollars in prospective lands. The AGGMI mapping program brings in revenue that help cover program costs.

The Alaska Geologic Materials Center

The Alaska Geologic Materials Center (GMC) is the state's archive of geologic samples collected by mineral exploration companies, oil and gas exploration companies, and state and federal agencies since the early 1900s. The facility is used heavily (400-500 visits per year) by industry, government, and academia in support of resource exploration, land-use management, and research. The archive contains core samples and cuttings representing approximately 12 million feet of oil and gas exploration and production drilling. The collection also includes nearly a quarter million feet of diamond-drill mineral exploration core samples, as well as collections from U.S. Geological Survey, BLM, Minerals Management Service, and the former U.S. Bureau of Mines. New collections are added every year.

For years these materials, occupying roughly 30,000 square feet of storage area, exceeded the capacity of an aging former state fish hatchery in Eagle River. Due to lack of heated space, approximately half the collection is currently stored outdoors in 60 unheated, unlit portable shipping containers. The facility lacks sufficient space and equipment for proper sample processing, layout, and viewing. Quoting the 2006 GMC Concept Study, "The lack of additional storage capacity coupled with inadequate processing and scientific examination space has resulted in a crisis situation – if a new repository is not developed soon, the State of Alaska, federal agencies, private industry, and the public will be at risk of losing irreplaceable scientific resources."

The sample collection stored at the GMC is an invaluable geologic library – a first stop for nearly all geologic-resource exploration projects in Alaska. Replacing the collection, if even feasible, would likely cost hundreds of millions of dollars. A modern facility with proper environmental controls, examination space and equipment is critical to the state's resource development and will pay for itself many times over in future revenues. The ADNR completed initial scoping and feasibility analysis for upgrade and replacement of the facility. ADNR also secured partial funding for architectural and engineering design. ADNR must stay diligent in pursuit of the remaining funding in order to mitigate this critical situation as soon as possible.

FINANCIAL ASSURANCE

Reclamation and Closure

Reclamation and closure financial assurance for mining activity is authorized through the ADNR and ADEC Solid Waste programs to provide secure, sufficient funds, held by the state, to ensure a mine site can be fully reclaimed. The regulations are designed to incorporate assurance should the mine permittee be wholly or partially negligent in meeting the requirements of the approved reclamation and closure plan.

Calculation of reclamation and closure financial assurance requirements are complex and include direct costs such as removal of infrastructure, backfilling, contouring, reseeding, monitoring, and wetlands mitigation projects. Also included are indirect costs such as contingency factors for equipment efficiency rates, project management, and inflation. Financial assurance requirements in recent years range from several hundred dollars (bond pool) to \$305 million per facility. Reclamation and closure costs represent a substantial component of overall project costs in Alaska.

ADNR and ADEC collaborated in writing, *DRAFT Mine Closure and Reclamation Cost Estimation Guidelines*. The document has not been formally reviewed or adopted. With no official state guidelines for determining reclamation costs, calculation estimates, particularly of indirect costs, are subjective, and at the complete discretion of the state permit writer. Disagreement between the permittee and agencies on these costs is common, with differences in each party's calculations ranging up to 50 percent or more.

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 to attracting mining companies to invest in Alaska.

The Commission supports the development of standardized guidelines and a standardized calculation model that is generally supported by industry and agencies alike. The ADNR should be tasked as lead on development of a standardized model acceptable to the public, stakeholders, state agencies, federal agencies, and industry.

MARKETING

Enhance Development of Foreign Investment in Alaska's Minerals Industry

Until the economic crisis in the fall of 2008, Alaska continued to enjoy growth in minerals exploration as a result of high metal prices, a strong minerals endowment, and a development-friendly administration. Alaska is considered one of the premier locations in the world for mineral exploration and development investment. Most of the exploration funding comes through foreign-based companies, particularly Canada. Interest from Japan and some European countries is also noted. U.S. companies are becoming more interested in Alaska as a stable investment opportunity. With the recent change in worldwide economics, Alaska must be even more competitive in the global arena.

More aggressive marketing of Alaska's virtues relative to its minerals endowment and development-friendly administration would further improve exploration investment and enhance other development opportunities in the minerals industry. The effectiveness of Foreign Trade Offices maintained by the state in Japan, China and Taiwan could be enhanced by more aggressive marketing support. Investments by North American companies could be improved by a better marketing effort in strategic locations. With capital markets in retreat, Alaska needs to accelerate the marketing of its resources and should consider additional value-added industries such as smelting and refining metal in state. Alaska is truly one of the best places in the world to explore and develop mineral deposits.