

Airborne Geophysical and Geological Mineral Inventory**FY2009 Request:****\$1,200,000****Reference No:****6852****AP/AL:** Appropriation**Project Type:** Planning**Category:** Natural Resources**Location:** Statewide**Contact:** Leta Simons**House District:** Statewide (HD 1-40)**Contact Phone:** (907)465-2400**Estimated Project Dates:** 07/01/2008 - 06/30/2009**Brief Summary and Statement of Need:**

The Airborne Geophysical/Geological Mineral Inventory Project seeks to catalyze private-sector mineral development investment on Alaska State lands that: 1) have major economic potential; and 2) can be developed in the short term to provide high quality jobs for Alaska. This project satisfies the statutory mission of DGGs to: "Conduct geological and geophysical surveys to determine the potential of Alaskan land for production of metals, minerals..."(AS 41.08.020). Mineral resources comprise a major part of Alaska's economic assets, yet the location and magnitude of these resources are largely unknown. Knowledge of the State's mineral resources is a key to responsible development of the state's resources and economy.

| Funding: | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 | FY2014 | Total |
|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Gen Fund | \$850,000 | \$1,000,000 | \$1,000,000 | \$1,000,000 | \$1,000,000 | \$1,000,000 | \$5,850,000 |
| Stat Desig | \$350,000 | \$350,000 | \$350,000 | \$350,000 | \$350,000 | \$350,000 | \$2,100,000 |
| Total: | \$1,200,000 | \$1,350,000 | \$1,350,000 | \$1,350,000 | \$1,350,000 | \$1,350,000 | \$7,950,000 |

| | | | | |
|---|---|---------------------------------------|---|--|
| <input type="checkbox"/> State Match Required | <input type="checkbox"/> One-Time Project | <input type="checkbox"/> Phased - new | <input type="checkbox"/> Phased - underway | <input checked="" type="checkbox"/> On-Going |
| 0% = Minimum State Match % Required | | <input type="checkbox"/> Amendment | <input type="checkbox"/> Mental Health Bill | |

Operating & Maintenance Costs:

| | <u>Amount</u> | <u>Staff</u> |
|----------------------|---------------|--------------|
| Project Development: | 0 | 0 |
| Ongoing Operating: | 0 | 0 |
| One-Time Startup: | 0 | 0 |
| Totals: | 0 | 0 |

Additional Information / Prior Funding History:

| | | |
|-------------|------------|--|
| SLA07/CH30 | \$ 850,000 | Geophysical data to be released spring 2008; Field work to initiate in summer 2008 |
| SLA06/CH82 | \$ 600,000 | Bonnifield geologic field work to initiate in summer 2008; NE Fairbanks geology to be released in FY09 |
| SLA05/CH03 | \$ 700,000 | Council geology to be released in FY08 |
| SLA04/CH159 | \$ 200,000 | Complete |
| SLA03/CH82 | \$ 100,000 | Complete |

Project Description/Justification:

Mineral resources comprise a major part of Alaska's economic assets. The location and magnitude of these resources are largely unknown, yet that knowledge is key to orderly development of the State and maintenance of a stable economy. Experienced mineral exploration managers have characterized Alaska's present state of mineral development as analogous to that of the entire group of states west of the Rocky Mountains in the late 1800s. At that time a few major ore bodies had been found and prospectors had located hundreds of prospects but none of that region's scores of subsequent world-class mines had been discovered. Alaska is like that. We, however, have the opportunity, capital, and technology to expedite discovery.

Alaskans cannot efficiently manage or develop assets that are unknown and not quantified. The present lack of geologic knowledge is a formidable impediment to long-range planning for both industry and the state. The lack of resource knowledge discourages private-sector investment in Alaska, and instead favors capital allocation to other areas of the world where comprehensive assessments exist or are being actively generated. Major mining companies rely on government-supplied, exploration scale (1:63,360) geological, geophysical, and geochemical maps to design and implement their programs. They expect at least this level of effort from any government that seriously desires a mineral industry. Products and applications of a thorough resource information base include:

- 1) Enhancing community and local government economies and revenue opportunities;
- 2) Stimulating private-sector exploration and competitive development of Alaska's mineral resources;
- 3) Developing transportation corridors and infrastructures, which always requires cost justification based on prior knowledge of resources; and
- 4) Developing long-term decisions on management of state-interest lands.

To fulfill the State's need for base-line geologic information, the Airborne Geophysical/Geological Mineral Inventory (AGGMI) project was initiated in 1992. The project is designed to systematically acquire geophysical, and where necessary, ground-based geological data for about 40 million acres of state-owned lands having high perceived mineral potential. The geophysical data are of limited effectiveness unless good geologic data are available to guide analysis and interpretation of the geophysics. If existing geologic data are inadequate, at least one additional year of ground-based field studies is needed to complete a project after geophysical surveying. The candidate lands for this project have been identified on the basis of existing geologic knowledge, land ownership, and responses to solicitations for nominations from Alaska's mineral industry and Native regional corporations. The AGGMI project is congruent with the statutory mission of the Division of Geological and Geophysical Surveys (DGGs) to: "Conduct geological and geophysical surveys to determine the potential of Alaskan land for production of metals, minerals, [fuels, and geothermal resources]..." (AS 41.08.020).

The AGGMI project has a 14-year track record of timely acquisition and release of geophysical and geologic data. Geophysical data is released within a year; geologic data is released about 1.5 years after field work. To date 6.9 million acres of state-owned lands have been surveyed from some of the highest mineral potential tracts within 21 of 51 candidate areas. Over 3.6 million acres of these lands have been geologically mapped. Recent publications include Bonnifield geophysics and Liberty Bell geologic maps. Ongoing projects are Lime Hills-Tyonek area geophysics, and Council and NE Fairbanks geologic maps. Field-geologic mapping for Bonnifield will start in FY08. Previously authorized CIP funds are designated to support ongoing geophysical and geological activities.

The project has been successful in catalyzing private sector investment and job generation at a level that far surpasses the cost of conducting the surveys. This project has led mineral exploration companies, both major and junior mining companies, to spend multimillion to tens of millions of dollars in areas across Alaska. These companies have consistently praised the program for the high quality and timeliness of the products. Jobs are created both as a direct result of the project's execution and as a result of the knowledge generated during the project about Alaska's mineral resources. During execution of the project immediate jobs are created in the private sector; about 85% of a \$1,000,000 CIP allocation goes to the private sector in the form of geophysical, helicopter, logistical, lodging, analytical, and various small contracts. Jobs are also generated in the private sector from the typical increase in the amount of exploration dollars spent and in the number of mining claims staked.

The true economic benefits in terms of job generation or revenue for the State of this project are impossible to predict. Although mineral exploration is a high-risk enterprise, there is a good probability that several of the prospects identified with the help of data generated by this project will become major mines and thus return the amount of the State's data-generation investment a hundred fold. A similar investment in geologic knowledge in 1982 contributed to the ultimate development of the Fort Knox gold mine near Fairbanks. Fort Knox Mine has a workforce of 406, creates \$107 million annually in local purchases, and creates 300 indirect jobs in the area. About \$4.4 million of local property taxes are generated annually by the mine and its employees since 1997. Average residential electricity rates in the area have been reduced by about 7% because of the mine. These economic benefits to Fairbanks and Alaska are currently estimated to last 20 to 22 years. Similar economic benefits for Fairbanks and Delta Junction are expected after development of Pogo Mine.

Why is this Project Needed Now?:

The Airborne Geophysical/Geological Mineral Inventory Project encourages resource development, creates Alaska jobs, and helps provide revenue to the State and municipalities. This project is the most cost-effective method for State

government to increase geologic knowledge that will enable resource development planning and management and aid the mining industry. The AGGMI project is a strategic and effective investment that aids in identifying mineral resources that contributed \$17.1 billion to the state's economy from 1994 to 2006 and more than \$172.3 million dollars in direct revenue to the State and municipalities for items like mining license fees, royalties and rents in 2006. More than 3,523 people were employed directly in the mineral industry in Alaska in 2006 and another 6,382 indirectly at an estimated payroll of \$825 million.

The State is far behind most of the resource-rich areas of the world in basic geologic knowledge of its lands. Appropriations for the years with low funding for the program are usually combined with the next years funding to allow efficient use of the money. These missed opportunities place us even further behind; areas that could be generating revenue are left still not understood. If we do not prepare, we will not be able to plan or manage lands accurately and responsibly, nor be prepared for the current and future mineral industry boom cycles. It takes years to explore, identify, investigate, permit, and develop mineral resources. Without further exploration and discoveries, the amount of money generated by the mineral industry in the State and the number of jobs will significantly decline. Products from this project allow the state to look beyond the short-term rise and fall of commodity markets in formulating mineral-resource policies and in responding to related issues, such as land trades, corridor development, and area plans.

Specific Spending Detail:

Contingent upon funding levels, DGGS proposes to conduct airborne geophysical surveys in FY09 in one or more of the following areas:

- 1) eastern Seward Peninsula,
- 2) Haines,
- 3) Mentasta/Slana,
- 4) Willow, and
- 5) an area in southwestern Alaska.

Products will include 1:63,360-scale (inch-to-a-mile)

- 1) aeromagnetic and airborne-electromagnetic maps,
- 2) bedrock geologic maps, and
- 3) various other supporting data compilations such as geochemistry.

Cost of the geophysical surveys varies depending on each tract's size, location, and bid responses from geophysical services vendors. About 30% of the CIP allocation could be designated as a state match for federal funds within the federal STATEMAP National Cooperative Geologic Mapping Program, further increasing the amount of money that goes into the private sector in the manner of helicopter contracts and field logistics. No new positions are created as a result of this project.

\$350,000 of Statutory Designated Program Receipts (SDPR) authorization is included in the FY09 budget request to cover anticipated industry support of this project. Acceptance of non-state funding allows DGGS to dramatically increase data collection in areas of state-owned land with high minerals potential, thereby leveraging private support for the state's long-term benefit and responsible development of its resources.

| <u>LINE ITEM</u> | <u>AMOUNT</u> | <u>DESCRIPTION (text)</u> |
|-------------------|---------------|--|
| Personal Services | \$ 110,000 | Partial funding for 2 existing employees (geophysicist, geologist) and intern |
| Travel | \$ 12,000 | Travel/per diem for monitoring survey, releasing data, and geologic field crew |
| Services | \$ 1,070,000 | Geophysical survey, helicopter, lodging, small miscellaneous contracts |
| Commodities | \$ 8,000 | Helicopter fuel, plotter paper, misc. field and office supplies |

Project Support:

Airborne Geophysical and Geological Mineral Inventory**FY2009 Request: \$1,200,000****Reference No: 6852**

Local communities, Native corporations, private resource industry, Alaska Minerals Commission, Alaska Miners Association, regional borough governments, Department of Commerce, Community, and Economic Development, and Department of Natural Resources support the project. Several surveys were conducted in cooperation with the Bering Straits Native Corporation, Sitnasuak Village Corporation, Calista Native Corporation, and/or Doyon Native Corporation. As owners of large tracts of land intermingled with state lands, they contributed various combinations of services, private geoscience data files, and funding to support the surveys.

Project Opposition:

None.