

ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
FY13 Project Description

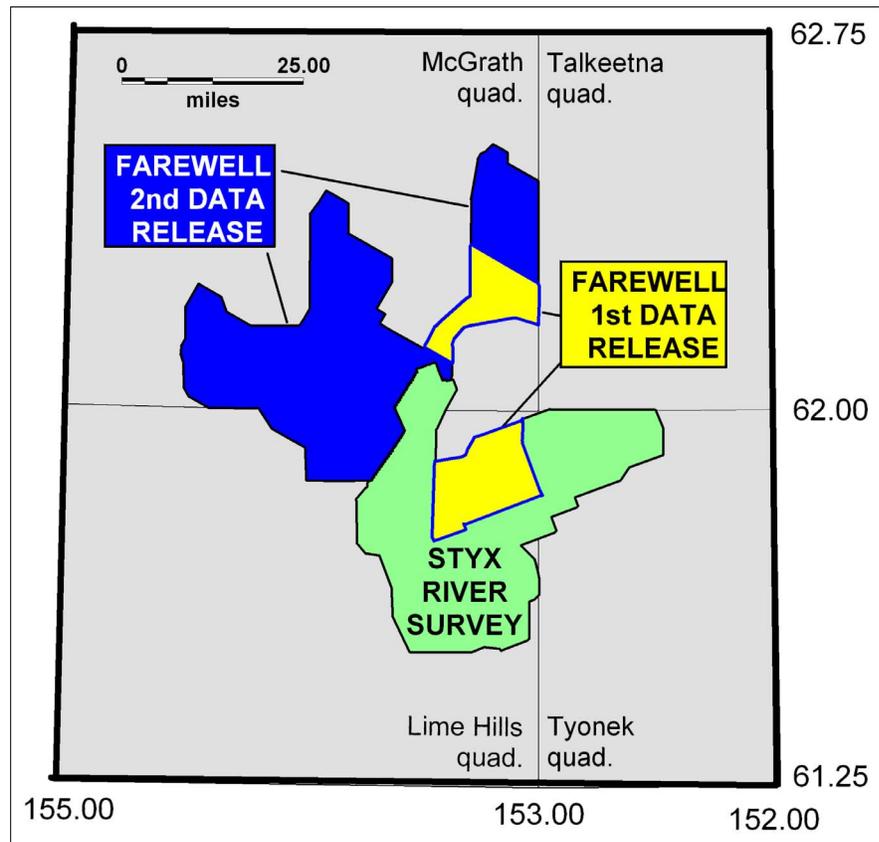
**AIRBORNE GEOPHYSICAL/GEOLOGICAL MINERAL INVENTORY PROGRAM:
AIRBORNE GEOPHYSICAL SURVEY OF THE FAREWELL AREA, MCGRATH AND
LIME HILLS QUADRANGLES, SOUTH-CENTRAL ALASKA**

The Airborne Geophysical/Geological Mineral Inventory (AGGMI) program is a special multi-year investment to expand the knowledge base of Alaska's mineral resources and catalyze private-sector mineral development. The program seeks to delineate mineral zones on Alaska state lands that: (1) have major economic value; (2) can be developed in the short term to provide high-quality jobs for Alaska; and (3) will provide economic diversification to help offset the loss of Prudhoe Bay oil revenue. Candidate lands for this program are identified on the basis of existing geologic knowledge, land ownership, and responses to solicitations for nominations from Alaska's geologic community. Products resulting from this program generally include (1) 1:63,360-scale aeromagnetic and airborne-electromagnetic maps; (2) 1:63,360-scale bedrock geologic maps; and (3) various other geological, geochemical, and geophysical data compilations. As a result of the AGGMI program, millions of dollars of venture capital have been spent in the local economies of the surveyed mining districts and adjacent areas in direct response to the new geologic knowledge provided by the surveys.

As part of the state-funded AGGMI program, the Strategic and Critical Minerals Assessment project is geophysically surveying 1,045 square miles in the southeastern McGrath and northeastern Lime Hills quadrangles in 2012 and 2013 (see figure). The new survey is adjacent to the Styx River survey released in 2008. Aeromagnetic, electromagnetic, and radiometric data are being acquired. About 240 square miles of the Farewell survey will be released by spring 2013. The remaining areas of the survey will be flown starting in June 2013 and will be released in late 2013 or early 2014. The Farewell survey blocks, located about 135 miles northwest of Anchorage, are over State-owned land except for about 50 square miles of Native-owned land. Most of the land is in the McGrath mining district, and about 18 square miles in the Yentna mining district.

The Farewell geophysical survey is located just south of the Denali-Farewell fault and is underlain by structurally deformed rocks of the Dillinger and Mystic subterrane. The region notably contains numerous, Cretaceous and Tertiary age, plutonic complexes, dike swarms, and volcanic fields, many of which are spatially and genetically associated with mineral occurrences. Most of the abundant mineral prospects and occurrences throughout the area are considered porphyry copper ± molybdenum ± gold deposits and polymetallic veins. Lead-zinc skarns, molybdenum-bearing quartz veins, sediment-hosted base-metal, platinum-group-element, and rare-earth-element deposit types are also present. The areas around Bowser Creek, and the Chip-Loy and Robert's PGM prospects are currently being actively explored, as well as several other areas.

Airborne geophysical surveys combined with detailed geologic mapping will provide a way to differentiate various rock units, especially distinguishing between granitic rocks and the various metamorphic rocks, and to delineate regional structures. By completing an integrated geophysical-geological mineral inventory study, new zones of mineralization may be identified, and extrapolation of some of the information into surrounding areas may be appropriate. DGGs believes that geophysical and geologic data, which lead to a better understanding of the geologic framework hosting identified and potential ore deposits in these districts, will stimulate increased mineral exploration investment within these belts of rocks and the surrounding areas, and will provide information useful for state resource management and land-use planning.



**ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
FY13 Project Description**

**AIRBORNE GEOPHYSICAL/GEOLOGICAL MINERAL INVENTORY PROGRAM:
AIRBORNE GEOPHYSICAL SURVEY OF ANIAK-IDITAROD SUBURBS,
IDITAROD, INNOKO, AND ANIAK MINING DISTRICTS, WESTERN ALASKA**

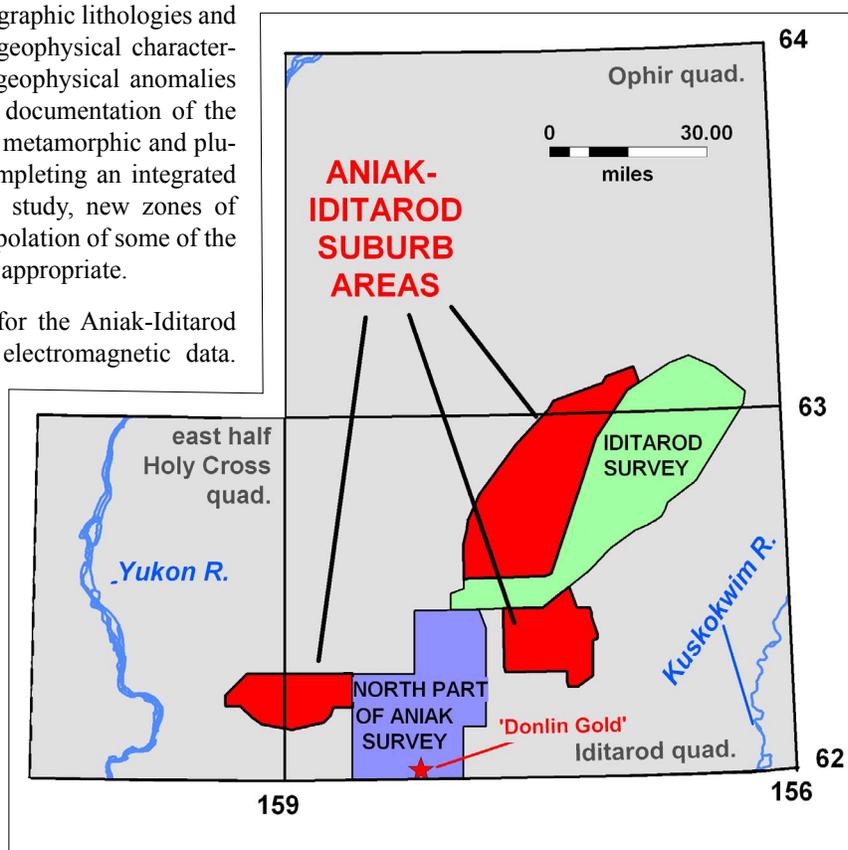
The Airborne Geophysical/Geological Mineral Inventory (AGGMI) program is a multi-year investment to expand the knowledge base of Alaska's mineral resources and catalyze private-sector mineral development. The project seeks to delineate mineral zones on Alaska state lands that: (1) have major economic value; (2) can be developed in the short term to provide high-quality jobs for Alaska; and (3) will provide economic diversification to help offset the loss of Prudhoe Bay oil revenue. Candidate lands for this program are identified on the basis of existing geologic knowledge, land ownership, and responses to solicitations for nominations from Alaska's geologic community. Products resulting from these surveys generally include (1) 1:63,360-scale aeromagnetic and airborne-electromagnetic maps; (2) 1:63,360-scale geologic maps; and (3) various other geological, geochemical, and geophysical data compilations. As a result of this program, millions of dollars of venture capital have been spent in the local economies of the surveyed mining districts and adjacent areas in direct response to the new geologic knowledge provided by the surveys.

Through the State-funded AGGMI program, DGGs is acquiring airborne-geophysical data for three blocks adjacent to the Iditarod and Aniak surveys in the Iditarod, Ophir, Sleetmute, and Holy Cross quadrangles in FY13 (see figure) and in the Farewell area (see page 34 for project description). The three areas of the Aniak-Iditarod suburbs total 1,029 square miles, and are roughly centered around Flat, Alaska, about 85 miles southwest of McGrath and 275 miles west-northwest of Anchorage. Two thirds of the areas consist of State land, and the remainder consists of Federal land. Most of the survey area is part of the Iditarod-Innok mining districts, which have produced over 2.3 million ounces of gold; only 3,000 ounces of this production have been from lode sources. The discovery of over 33 million ounces of gold associated with a Late Cretaceous dike swarm at the Donlin Gold deposit, near the center of the three areas, has kept mineral exploration activity high in the region.

Like the Donlin Gold area, most of the survey area is composed of the Upper Cretaceous Kuskokwim Group, a flysch sequence consisting of interbedded sandstone and shale. Most plutons have quartz-monzonitic to monzonitic compositions and are calc-alkaline. Mineralization is thought to be contemporaneous with plutonism at several localities in the region. Besides plutonic-related gold deposits, other lode potential in the survey area includes mesothermal and epithermal deposits that contain mercury, tungsten, silver, antimony, and tin.

Airborne geophysical surveys enable users to delineate regional structures, and identify metamorphic-stratigraphic lithologies and plutonic rock types on the basis of their geophysical characteristics. Follow-up geologic mapping tests geophysical anomalies and interpretations, and provides detailed documentation of the types, locations, and spatial distribution of metamorphic and plutonic rocks and structural features. By completing an integrated geophysical-geological mineral inventory study, new zones of mineralization may be identified, and extrapolation of some of the information into surrounding areas may be appropriate.

Geophysical information being acquired for the Aniak-Iditarod suburb area includes aeromagnetic and electromagnetic data. Maps and digital data will be released as DGGs Geophysical Reports by April 2013. A second publication, containing a project report, interpretation, and electromagnetic anomalies, will be released in late 2013 or early 2014. DGGs believes these data will lead to a better understanding of the geologic framework of the area and will stimulate increased mineral exploration investment within the survey boundary and the surrounding area.



ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS FY13 Project Description

ANNUAL ALASKA MINERAL INDUSTRY REPORT

The Department of Natural Resources' Division of Geological & Geophysical Surveys (DGGS), and the Division of Economic Development (DED) in the Department of Commerce, Community & Economic Development gather, verify, collate, and distribute statistics and summary observations about Alaska's mineral industry and release this information in a timely manner to the public in the form of an annual report. The purpose of this cooperative effort is to supply information to the mineral industry, provide the State and the public with valuable data pertaining to the health of Alaska's mineral industry, and foster a better understanding of the significance of the mineral industry to Alaska's private sector and government.

The annual Alaska mineral industry report is a key source of information about exploration, development, and production of Alaska's mineral resources. Statewide and international circulation of the report and its findings at professional mineral industry conventions and trade shows, at chambers of commerce and other organizations' meetings, and in professional journals informs the general public, local and international mineral industry, and local, state, federal, and international government agencies about current activities in Alaska's mineral industry. The report serves as a barometer for the mineral industry's status in any given year and provides unbiased, authoritative information compiled in a consistent format. Government personnel rely on the report as an essential tool for formulating public policy affecting resource and land management.

After 30 years of publication, DGGS and DED are working together to evaluate the Alaska Mineral Industry reporting system's methodology of data collection and distribution so that we may more efficiently and comprehensively capture pertinent data and develop report products that will satisfy a broad user base. The agencies are working with industry representatives and the state Minerals Commission to develop a program that is comprehensive and statistically valid, minimizes redundant or archaic data collection methods, and keeps pace with evolving reporting needs. In the interim, DGGS and DED are committed to maintaining uninterrupted collection of mineral exploration and development data. The 2011 Alaska mineral industry exploration activity report, released in November 2012, summarizes information provided through replies to questionnaires mailed by DGGS, phone interviews, press releases, and other information sources. Exploration expenditures for 2011 were at least \$365.1 million, up more than \$100 million (nearly 40 percent) from the 2010 value of \$264.4 million. This marked the seventh consecutive year with exploration expenditures exceeding \$100 million, and set a new record for annual mineral exploration expenditures. Alaska mineral exploration expenditures account for approximately one-third of the annual total mineral exploration expenditures in the United States. Development and production data are being reported separately by DED.

ALASKA'S MINERAL INDUSTRY 2011— Exploration Activity

by
D.J. Szumigala

Special Report 67



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS



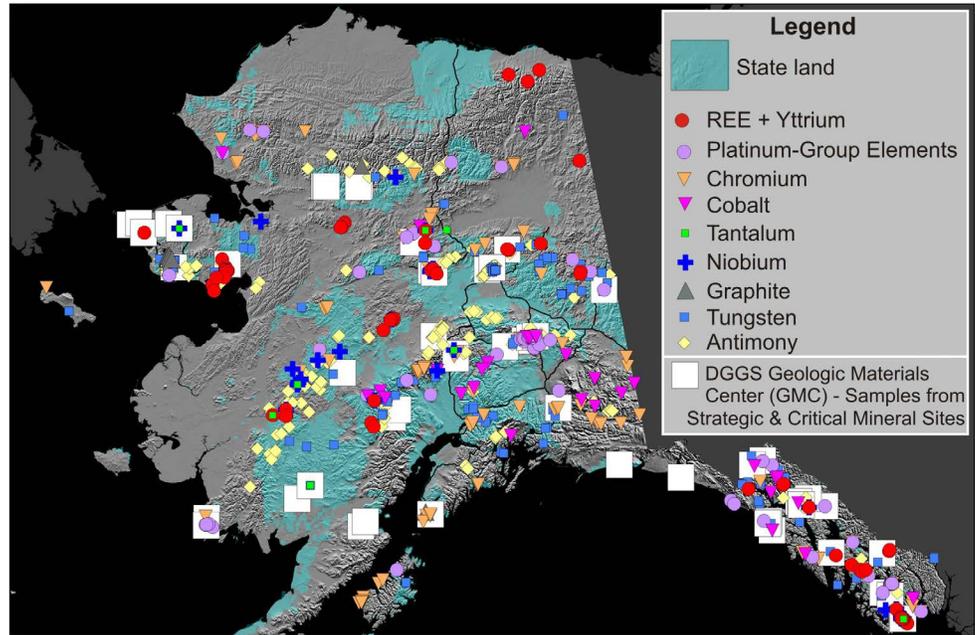
ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

FY13 Project Description

STRATEGIC AND CRITICAL MINERALS ASSESSMENT PROJECT

Strategic and Critical Minerals (SCMs) are essential for our modern, technology based society. For example, platinum-group elements (PGEs) are extensively used in electronics and catalytic converters for vehicles. Rare-Earth Elements (REEs) are necessary for military and high-technology applications, as well as clean/renewable-energy technologies such as wind turbines, solar panels, and batteries for electric vehicles. REEs are used to convert heavy crude oil into gasoline, and are also used to make small permanent magnets, which enable miniaturization of electronic components like cell phones. Current technology and designs of U.S. defense systems depend heavily on REEs. In many cases, there is a lack of effective non-REE substitutes. The current U.S. Geological Survey (USGS) list of SCMs includes REEs, the PGEs, antimony, barium, chromium, cobalt, fluorine, gallium, graphite, indium, niobium, rhenium, tantalum, titanium, tungsten, and yttrium. The U.S. is more than 70 percent dependent on imports for 13 of these 16 elements and elemental groups, and 100 percent dependent on imports for 7. This leaves the U.S. vulnerable to disruptions in the SCM supply chain.

The Alaska Division of Geological & Geophysical Surveys (DGGs) *Strategic and Critical Minerals Assessment* project provides information necessary for comprehensively evaluating Alaska's statewide SCM potential. Many areas of Alaska are geologically favorable for hosting SCMs, but the lack of basic data statewide hinders evaluation of Alaska's SCM potential. Alaska has hundreds of known SCM occurrences (see figure), and millions of acres of selected or conveyed lands with the potential to contain SCMs, but the mineral-resource potential of these occurrences and lands is poorly understood; there has been no modern, systematic resource evaluation for SCMs in Alaska.



The DGGs *Strategic and Critical Minerals Assessment* project is specifically designed to address this data and knowledge gap, as described below. By assessing Alaska's potential for SCMs, the State of Alaska will benefit from expanded mineral-industry investment in exploration and development and associated employment, better understand the natural resources of its lands for land-management purposes, and contribute to the nation's need for domestic supplies of these critically important elements.

In FY2011, DGGs initiated the *Rare-Earth Elements and Strategic Minerals Assessment* project, which primarily focused on REEs. In FY2012, DGGs initiated the *Strategic and Critical Minerals Assessment* project, which expands the scope of our work to include select additional elements. The goals of these state-funded capital-improvement projects are: (1) to compile historical and industry-donated data in digital format; (2) to obtain new field and analytical data critical for assessing Alaska's SCM potential; (3) to evaluate the historical and new data to identify areas of Alaska with the highest SCM potential, as well as those needing additional geologic evaluation; (4) to communicate the results of our work to the public; and (5) to publish the data and results of our studies on the DGGs website (free access).

In 2012, the DGGs contracted for a 1,045-square-mile SCM-related airborne geophysical survey in the Farewell area of south-central Alaska (see page 34 for project description) and a 1,029-square-mile survey of three areas in the suburbs of the existing Aniak-Iditarod surveys (see page 35 for project description) of southwestern Alaska. In 2012, DGGs also conducted a 3,500-square-mile field project in the Ray Mountains-Dalton Highway area in Interior Alaska to evaluate its SCM potential (see page 38 for project description). Additionally, DGGs compiled over 5,390 historical geochemical analyses in digital format for areas with SCM mineral potential throughout Alaska, and to date, has obtained new, modern geochemical analyses for over 1,200 archived samples stored at the DGGs Geologic Materials Center. Similarly, in 2013 the DGGs will obtain new analyses from statewide historical samples from State land stored at the USGS Denver Federal Center warehouse. Publication of geochemical data is planned for late 2013. In the summer of 2013, DGGs will conduct additional geologic fieldwork in several areas identified as having high SCM potential.

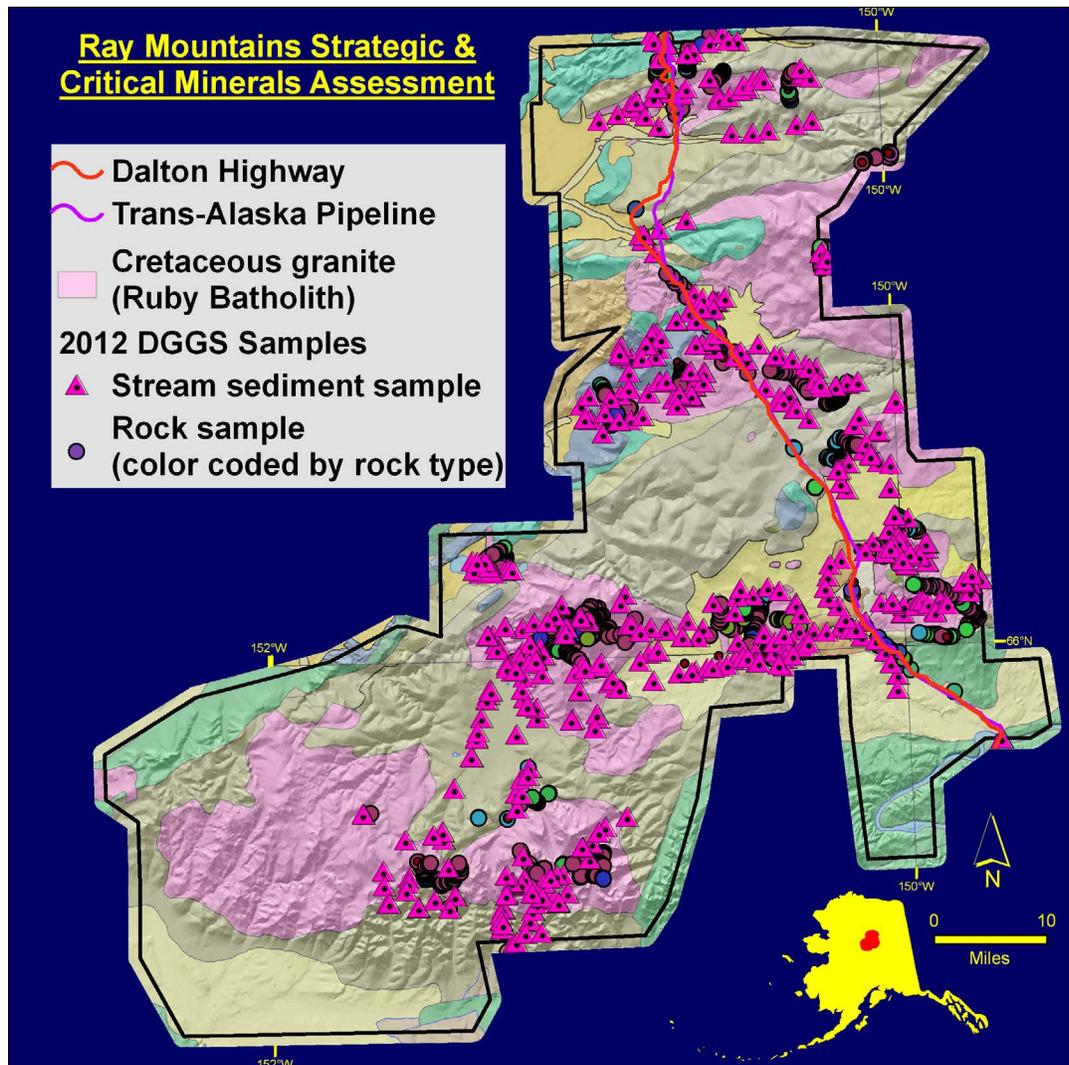
STRATEGIC AND CRITICAL MINERALS ASSESSMENT IN THE RAY MOUNTAINS AREA

During the summer of 2012, the Alaska Division of Geological & Geophysical Surveys (DGGs) conducted field work in the Ray Mountains area of north-central Alaska (see figure) as part of the DGGs *Strategic and Critical Minerals Assessment* project (see page 37). The Ray Mountains area has been recognized, since the 1970s, as having anomalously high values of uranium, thorium, tungsten, tin, and rare-earth elements (REEs). Recent private-sector work highlighted the potential for localized placer-REE concentrations associated with Cretaceous granite. Most of the land in this area is State selected or top filed under U.S. Public Land Order 5150, which closed a large area to mineral entry prior to finalizing the route of the Trans-Alaska Pipeline; the area is currently under U.S. Bureau of Land Management (BLM) jurisdiction. The DGGs field-based assessment in the Ray Mountains area builds upon previous

mineral-resource assessments conducted by the U.S. Geological Survey, U.S. Bureau of Mines, and BLM, and is supported by donations of proprietary data from private entities. Evaluation of all available geologic data will allow for science-based prioritization of the State-selected and top-filed lands based on their strategic and critical mineral-resource potential. Products will include interim data releases and a report of investigations that will be made available on the DGGs website (<http://dgg.alaska.gov/>) in 2013.

The 3,500-square-mile Ray Mountains study area is 125 miles northwest of Fairbanks in the Ray Mountains and Hodzana Uplands. The area extends from east of the Trans-Alaska Pipeline and Dalton Highway corridor, southwest 73 miles to the Ray Mountains. DGGs geologists examined and geochemically sampled known and newly discovered lode and placer occurrences, mapped and sampled granitic rocks, and collected stream-sediment and pan-concentrate samples. The field work and ongoing geochemical, geochronologic, and petrographic studies will allow us to determine appropriate ore deposit models and assess the strategic and critical mineral-resource potential for lode and placer deposits.

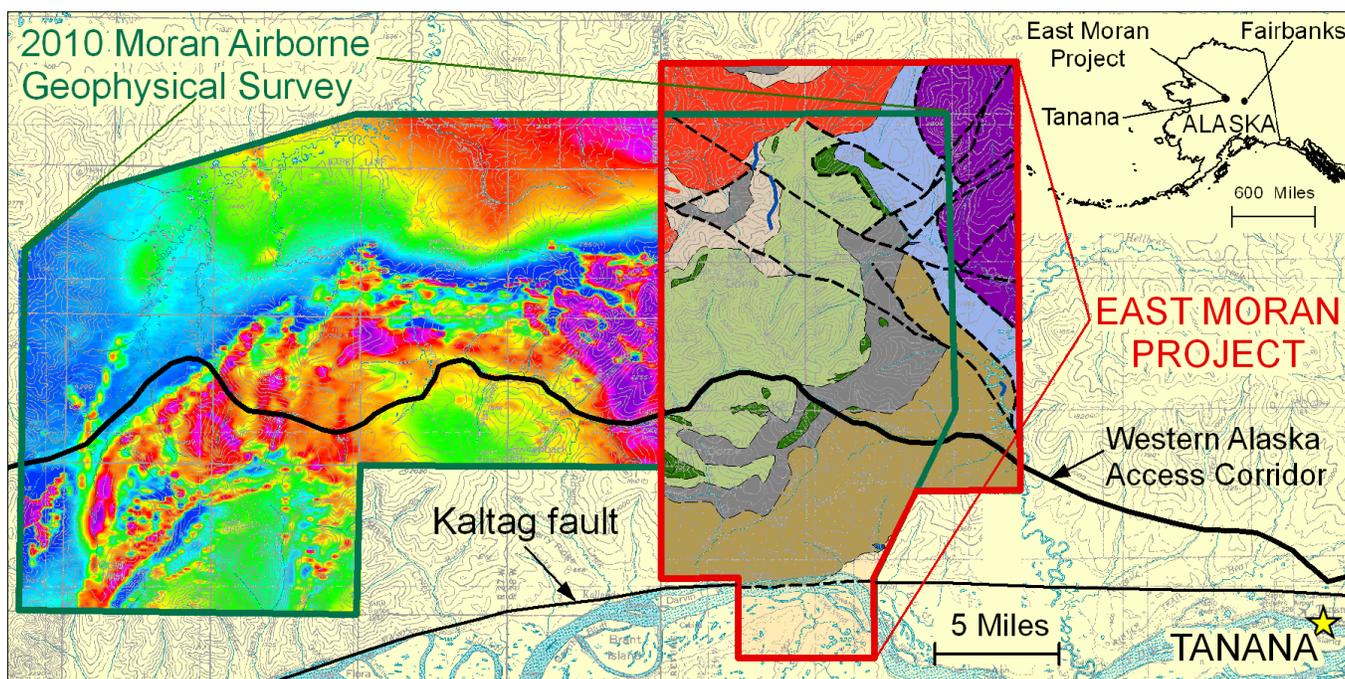
Initial results indicate the Cretaceous granites of the Ruby Batholith are variably enriched in REEs and that the REEs occur as widely disseminated accessory minerals. The accessory minerals are released as the granites are eroded, and are subsequently concentrated in ancient and modern river gravels. Further studies will include scientific interpretations of the granite source of the REE minerals, the concentration and type of REEs and other minerals contained in the ancient and modern gravels, and the extent of potentially economic concentrations of REEs and tin in the gravels. Land managers and policymakers will be able to use the results of this study to make informed and logical decisions on prioritization of State-selected lands for potential transfer to State ownership.



**ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
FY13 Project Description**

**GEOLOGIC MAPPING IN THE EASTERN MORAN AREA,
TANANA AND MELOZITNA QUADRANGLES, ALASKA**

Historical and active placer mines in the Melozitna mining district, which encompasses the Moran Dome area, have produced more than 12,000 ounces of gold and an undetermined amount of tin, yet little is understood about sources for the placer metals, or the area's gold and polymetallic lode occurrences. To encourage renewed industry exploration for mineral deposits in this region, in 2010 DGGs released the 653-square-mile Moran airborne-geophysical survey (see figure) as part of the State-funded Airborne Geophysical/Geological Mineral Inventory program. The Moran survey area is 150 miles west of Fairbanks, on the north side of the Yukon River between the villages of Ruby and Tanana. The state's preferred Western Alaska Access Corridor transects the survey area. During the summer of 2011, the DGGs geologically mapped 301 square miles in the eastern part, and conducted reconnaissance mapping in the western part of the Moran geophysical survey. Geochemical data from the project were released in 2011 and additional products, including geochronologic data and the final 1:63,360-scale geologic map, will be published in 2013. The products will foster a better understanding of the area's geology and mineral potential. This mapping project was funded primarily by State general funds, with supplemental funding from the federal STATEMAP program through the U.S. Geological Survey.



Prior to 2011, only reconnaissance-level, 1:250,000-scale geologic maps were available for the Moran area; DGGs's 2010 geophysical data indicate the geology is much more complex than shown on these maps. During 2011 fieldwork, DGGs geologists field-checked airborne geophysical interpretations, identified the location, type, and character of bedrock and surficial-geologic units, examined and geochemically sampled known and newly discovered lode and placer occurrences, and determined the location and kinematics of structural features. This detailed geologic framework, supported with ongoing geochemical, geochronologic, and petrographic studies, will allow us to develop deposit models for the area's gold and polymetallic lode prospects and explain the distribution and metal content of local placer deposits. Regional geologic hazards are also of concern, and potentially include the Kaltag fault, which crosses the southern edge of the map area. Part of the 2011 study includes evaluation of possible Holocene and Quaternary displacement history of the Kaltag fault and its associated seismic hazards between Tanana and Ruby.

The primary objective of the eastern Moran project is to map the geology in sufficient detail to inform State and local land-use decisions and to guide mineral industry exploration efforts. The timing of this project coincides with renewed mineral-industry interest in underexplored gold districts and in strategic and critical minerals. Because economic or infrastructure development could potentially conflict with other land uses, the availability of DGGs's detailed geologic, mineral-resource, and hazard assessments is important for long-range planning by state and local agencies that need to balance resource and infrastructure development with other land-management strategies.

ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

FY13 Project Description

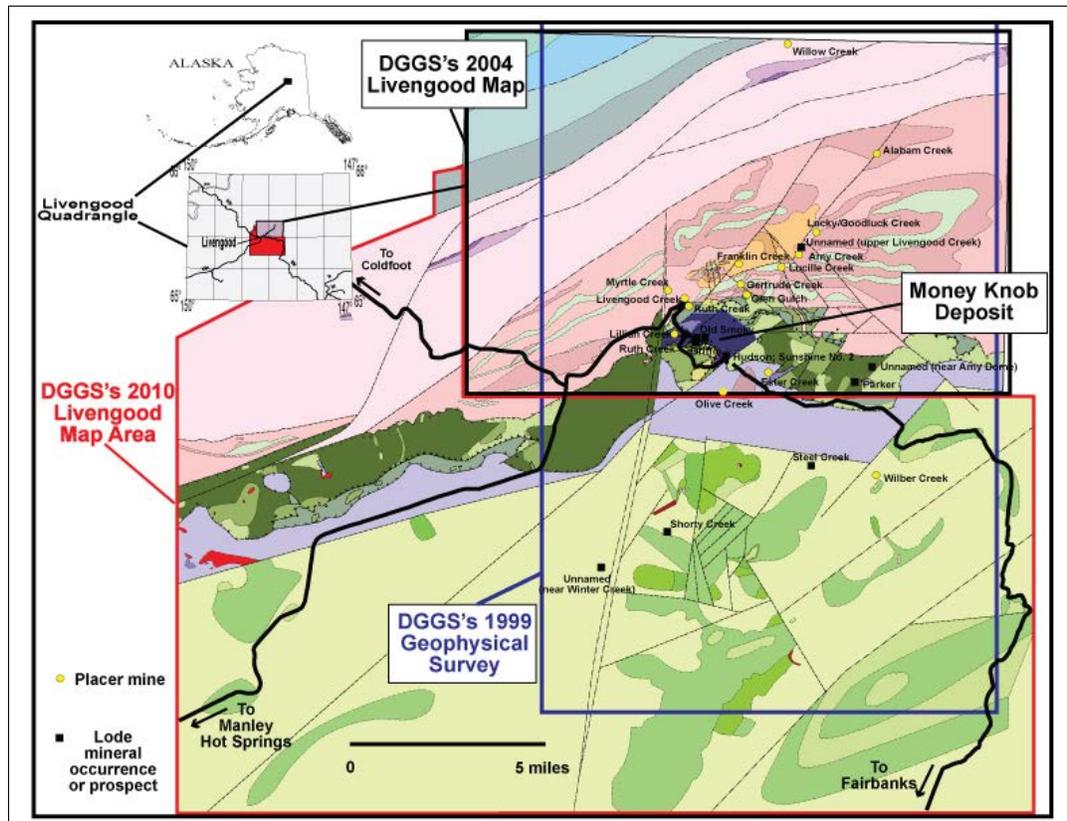
BEDROCK GEOLOGIC MAPPING IN THE TOLOVANA MINING DISTRICT, LIVENGOOD QUADRANGLE, ALASKA

Historical and active placer mines have produced more than 500,000 ounces of placer gold in the Livengood area. To encourage renewed industry exploration for mineral deposits in this region, and to provide geologic data for State and local land-use management, the DGGS has conducted a series of geophysical and geological investigations in the area. This work is part of the Airborne Geophysical/Geological Mineral Inventory (AGGMI) program, supported by State general funds. DGGS released a 230-square-mile airborne-geophysical survey of the Livengood area in 1999. In 2004, DGGS published a geologic map and associated geologic report for an area that includes the northern portion of the 1999 geophysical survey (see figure). Subsequent mineral industry exploration within this map area resulted in the discovery of a large gold deposit at Money Knob, with a defined resource of 20.6 million ounces. In 2010, DGGS conducted geologic mapping and sampling of the southern portion of the 1999 geophysical survey and surrounding area (see figure). A geochemical report for the south Livengood area was published in 2010, and a 1:50,000-scale bedrock-geologic map and accompanying interpretive report will be published in 2013.

The purpose of DGGS's mapping is to provide geologic context for known lode and placer deposits and occurrences, and to evaluate the area's mineral-resource potential. The only known significant lode mineralization within the 2010 map area is located 5.5 miles south of Money Knob at Shorty Creek, a high Ag-Bi-Sn and locally anomalous Au prospect. Felsic igneous rocks spatially associated with the Shorty Creek prospect are compositionally different and temporally about 25 million years younger than the Money Knob gold-related plutonic rocks; hence they represent two different types of mineralizing systems. Rocks of the Cascaden Ridge pluton, 13 km southwest of Money Knob, are compositionally equivalent to Money Knob dikes and, similarly, intrude Devonian volcanic rocks that act as the host rock in the Money Knob system. The Money Knob prospect is currently being further delineated for possible development and production by International Tower Hill Mines.

Wilber Creek is the only creek in the 2010 map area with known placer gold production. Its gold compositions are similar to placer gold of the Livengood area, and the area's present stream morphology suggests the gold is derived from the 2010 map area. Magnetic anomalies in the 1999 geophysical survey indicate a potential igneous source for the Wilber Creek placer deposit. A group of felsic dikes, of similar composition to the gold-related Money Knob rocks, occur within the area and may represent the placer source.

In 2013, DGGS will release an interpretive report and bedrock-geologic map of the entire Livengood study area. These publications will summarize the collective findings of the DGGS 2004 and 2010 investigations, as well as incorporating industry data around the Money Knob deposit. Anglo-Gold (2003-2006) and International Tower Hill Mines Inc. (2006-present) have conducted detailed geologic mapping of Money Knob and the surrounding area, and contributed to geologically subdividing the Paleozoic Amy Creek assemblage, the Cambrian ophiolite package, and the Devonian Cascaden Ridge unit. DGGS also utilized the 2010/2011 lidar survey of the Trans-Alaska Pipeline corridor to identify faults within the map area. The lidar project is described separately (page 43).



ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

FY13 Project Description

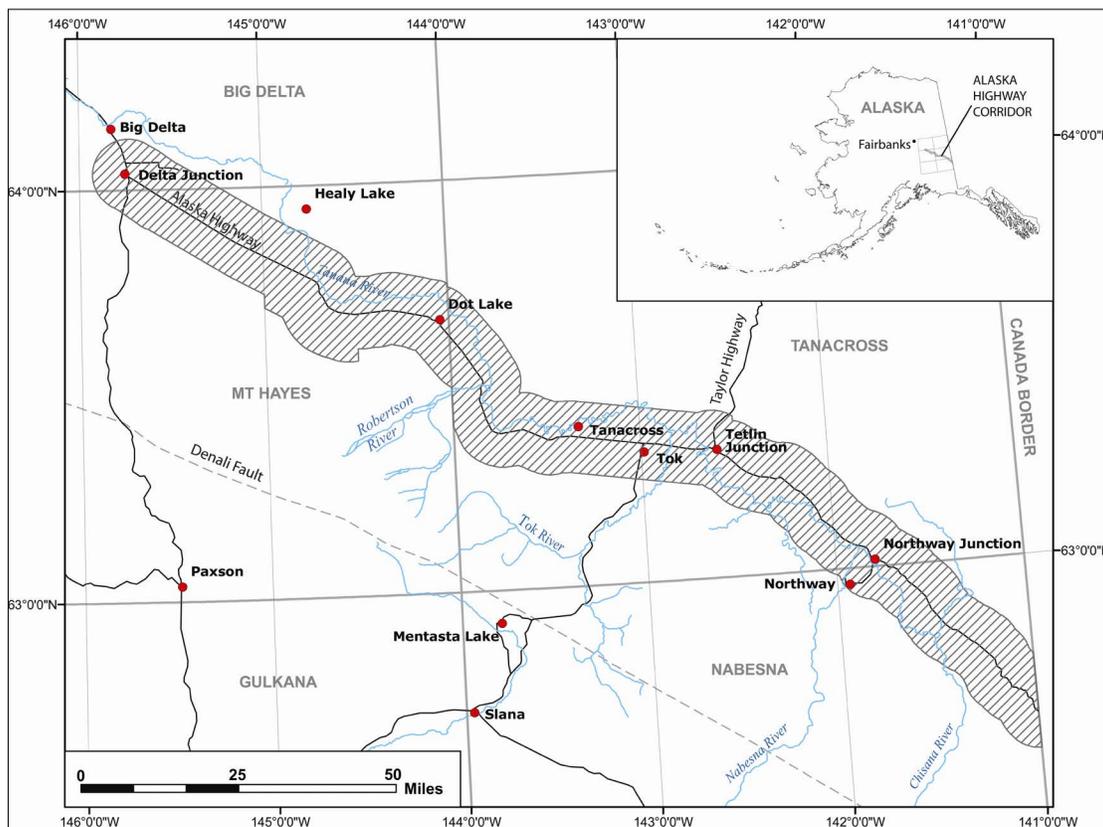
BEDROCK GEOLOGY & MINERAL-RESOURCE ASSESSMENT ALONG THE PROPOSED GAS PIPELINE CORRIDOR FROM DELTA JUNCTION TO THE CANADA BORDER

The Alaska Highway is the primary land transportation route to Interior Alaska from the contiguous United States, and is likely to become the locus of increasing development, especially if the proposed natural gas pipeline or Alaska Railroad extension are constructed along this route. Despite the corridor's strategic location, relatively little geological and geotechnical work has been published relating to this corridor. This multi-year program, primarily supported by State Capital Improvement Project (CIP) funds, is providing a framework of geologic data upon which engineering, design, and resource decisions may be evaluated for future development between Delta Junction and the Canada border. In 2006, as the first phase of this project, DGGs collected, interpreted, and published airborne-geophysical data for a 16-mile-wide corridor centered on the Alaska Highway. In the second phase of the project, DGGs is charged with mapping the bedrock and surficial geology of the area and evaluating the geologic hazards and resources. The surficial-geology and geologic-hazards segments of the project are described separately (page 49).

DGGs staff have completed the field data collection phase needed to assess the mineral resources of the area and create a 1:63,360-scale bedrock-geologic map. In 2006 and 2007, DGGs conducted geologic fieldwork between Delta Junction and Dot Lake, in 2008 between Dot Lake and Tetlin Junction, in 2009 between Tetlin Junction and the Canada border, and in 2010 from Delta Junction to the Canada border.

The bedrock maps incorporate interpretations of DGGs's airborne magnetic and resistivity data, field data, and various scientific analytical data. The geophysical data are particularly valuable for interpreting the geology in areas covered by surficial deposits or vegetation. Numerous plutonic rock suites were defined; these plutons intruded complexly deformed, amphibolite-facies metasedimentary and metaigneous rocks similar to those elsewhere in the Yukon-Tanana Upland, as well as a suite of greenschist-facies metasedimentary rocks and metamorphosed mafic intrusions, which likely correlate with similar units directly across the border in Canada. DGGs also determined the location and kinematics of many smaller-scale faults in the corridor that are related to the Denali fault system; these data will provide a better understanding of the history and potential impacts of these faults.

DGGs also evaluated the mineral-resource potential of bedrock units by sampling and analyzing altered rocks to provide baseline geochemical data for use by State land-use planners and mineral exploration companies. Geochemical analyses, and U-Pb and $^{40}\text{Ar}/^{39}\text{Ar}$ age dates for samples collected during 2008–2010 fieldwork will be published in 2013. The three bedrock-geologic maps for the proposed gas pipeline corridor segments will also be published in 2013.



ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

FY13 Project Description

DISCOVERING ONLINE ALASKA GEOPHYSICAL DATA: AIRBORNE GEOPHYSWEB

As part of the Airborne Geophysical/Geological Mineral Inventory (AGGMI) program (see pages 34 and 35), DGGS is developing an online application to facilitate public discovery of published airborne geophysical data in Alaska. The Airborne GeophysWeb application contains an interactive map interface and text-search capability to easily search for and locate airborne geophysical datasets published by DGGS, U.S. Geological Survey, and Bureau of Land Management (BLM) since 1993. The application displays a representative image for each survey area and type of survey so users can get an idea of what the processed dataset might look like before they download the information.

Details about the geophysical surveys that will be available through GeophysWeb include publication information, airborne geophysical data collection parameters, and information about the representative images displayed in the application. These data will also be available as a separate downloadable text file. The detailed information will help users understand the intricacies of the datasets and process the data appropriately for their purposes. The application will be kept current as older datasets are published or revised, and newly acquired data are published. The survey outlines and detailed information may be published as a downloadable GIS file in the future.

Airborne geophysical data are used to delineate regional geologic structures and identify rock types based on their geophysical signatures in conjunction with information collected from “boots on the ground” field work. Geophysical data are often used to help delineate mineral exploration targets and areas of interest and may also be used for energy exploration and locating natural hazards like permafrost.

DGGS anticipates the application will be released by early-spring 2013 through DGGS’s interactive map splash page: <http://maps.dggs.alaska.gov>. Geophysical survey area outlines and supporting information will also be released as a Web Feature Service (WFS), a real-time, online data format supported by most Geographic Information Systems (GIS) software. DGGS believes this online tool will lead to better access and increased use of important airborne geophysical data critical to the understanding of the framework geology of the state and its resources.

