Did You Know.....?

- ✓ ***The GMC opened its doors on December 12, 1984,*** at its current location in Eagle River.
- ✓ ***The facility was once a fish hatchery*** before it was renovated to store Alaska's oil and gas and hard-rock mineral core.
- ✓ ***The center is permanently managed by the State of Alaska*** under cooperative agreements with several other state and federal agencies.
- ✓ ***Chief users of the GMC are the oil and gas industry,*** although use by the minerals industry, government, engineering firms, and academic institutions is increasing.

GMC: By the Numbers

- ✓ 13,000,000 feet of oil and gas drilling represented
- ✓ 450,000 feet of hard-rock mineral core
- ✓ 1,600 wells and 1,100 boreholes
- ✓ 150,000 processed slides & thin sections
- ✓ 80,000 surface, outcrop, grab samples
- ✓ Approximately 500 visitors per year (30+ agencies)

GMC: The Big Picture

The cores and samples stored at the GMC are extremely important, as the information they provide may potentially help discover new or additional oil and gas reserves, regions of viable geothermal energy, or new mineral prospects. Although many other tools are available for natural resource exploration, the examination of rock samples and cores is the greatest single source of information. Despite the constant evolution of earth science concepts and analytical techniques, there is often a need to revisit and re-examine rock samples over time, and with new technologies.

Alaska Geologic Materials Center

- - More than a box of rocks

The Alaska GMC permanently archives, indexes, and protects nonproprietary geologic samples and data to help advance exploration and knowledge of Alaska's natural resources.

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Alaska
Division of Geological & Geophysical Surveys

Information Circular 27
(revised 2011)

The Alaska Geologic Materials Center, operated by the Division of Geological & Geophysical Surveys (DGGS), is the state's principal archive of nonproprietary geologic samples collected by oil and gas exploration companies, mineral exploration companies, geotechnical companies, and state and federal agencies.

The collection includes unique core samples, micropaleontology samples, surface samples, well cuttings, and geochemical samples, and currently occupies roughly 30,000 square feet of storage area in Eagle River, Alaska.

With specimens dating from early 1900s to the present day, the Alaska Geologic Materials Center contains:

- ✓ rock core samples and drill cuttings representing about 13 million feet of exploration and production drilling;
- ✓ samples from more than 1,600 oil and gas exploratory and production wells from nearly every major sedimentary basin in the state;
- ✓ nearly 450,000 feet of diamond-drill core samples from more than 1,100 exploratory hard-rock mineral drill holes;
- ✓ collections donated from the U.S. Minerals Management Service (MMS), U.S. Geological Survey (USGS), U.S. Bureau of Mines, U.S. Bureau of Land Management (BLM), Alaska Oil and Gas Conservation Commission (AOGCC), Amoco, BP, Shell, Marathon, Phillips, Unocal, Kennecott, Aleut Corporation, and many others;
- ✓ more than 275,000 glass slides for microscopic analyses;
- ✓ and nearly 400 data reports on sample analyses.

- ✓ Many successful prospects across the state were initially identified by examining the rock samples at Alaska's GMC.
- ✓ Each year, GMC samples are inspected or analyzed by 400–500 clients from industry, government, and academia.

Rock samples from oil and gas exploration are obtained by drilling into the earth, sometimes more than a mile, often in very remote locations.

A geophysical well log measures properties of the rock surrounding the well bore from the surface down to the bottom of the drilled hole. Inspection of Alaska GMC core and samples is necessary to correctly calibrate these remote-sensing tools.

Drill core samples (background photo) are labeled with the depth in feet (white lettering), and archived at the Alaska GMC.

Photomicrographs from thin sections of the core samples allow detailed analysis of the rock.

Ultimately, analysis based on Alaska GMC archives and data can lead to resource discovery and production.

- ✓ Since 2005, about 80 percent of the GMC's clientele has represented energy interests, while 20 percent has been related to mineral exploration and development.
- ✓ Modern, sophisticated analysis of archived samples is widely recognized as a cost-effective alternative to the tremendous expense of core drilling and resampling in the field.
- ✓ One foot of core can provide critical information to an exploration/development company, potentially leading to discovery and ultimately to millions of dollars in lease, tax, and royalty revenue to both state and federal governments.
- ✓ Private companies that lack capacity for preserving these resources must secure storage at significant expense; consequently, they may discard much important information and materials after initial use. Donating samples to Alaska's GMC for public use provides a responsible alternative for preserving these invaluable resources.

Alaska Statute 41.08 charges the Alaska Division of Geological & Geophysical Surveys with conducting geological and geophysical surveys to determine the potential of Alaskan land for production of metals, minerals, fuels, and geothermal resources; . . . and to determine the potential geologic hazards to buildings, roads, bridges, and other installations and structures. DGGS is further instructed to collect, evaluate, and distribute geologic data on seismic events and engineering geology of the state; identify potential seismic hazards that might affect development in the state; and inform public officials and industry about potential seismic hazards that might affect development in the state. The statute also assigns DGGS the responsibility to conduct such other surveys and investigations as will advance knowledge of the geology of Alaska.

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