

ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS

FY13 Project Description

THE ALASKA GEOLOGIC MATERIALS CENTER

The Alaska Geologic Materials Center (GMC) in Eagle River holds nonproprietary rock core and cuttings that represent nearly 13 million feet of exploration and production drilling (76,000 linear feet of core) on Federal, State, and private lands in Alaska, including the Alaska outer continental shelf. Additionally, the collection holds more than 252,000 linear feet of diamond-drilled hard-rock mineral core, representing more than 1,800 exploratory boreholes; rock samples from more than 1,650 oil and gas exploratory or production wells; samples for geotechnical boreholes; and numerous surface rock and sediment samples. The GMC also maintains extensive geochemical data and reports derived from third-party sampling and has an archive of more than 187,000 processed slides, including petrographic thin sections and paleontological glass slides derived from this rock.

The GMC is operated by the Alaska Department of Natural Resources, Division of Geological & Geophysical Surveys (DGGs), with support from cooperating government agencies that include the U.S. Bureau of Land Management (BLM), U.S. Geological Survey (USGS), U.S. Bureau of Ocean Energy Management (BOEM), and Alaska Oil and Gas Conservation Commission (AOGCC). The mission of the GMC is to permanently archive, index, protect, and make available for public inspection, accessible geologic materials and related data to help advance exploration and knowledge of Alaska's natural resources. 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 staff has incorporated 99 percent of the entire oil and gas collection and 95 percent of the hard-rock mineral core into a working bar-code/database system. This massive effort will make the future transition to a new, planned repository much more manageable and vastly improve the quality of the collection data. GMC staff, now with a better understanding of its entire inventory and sampling usage, is working with DGGs programmers to rewrite its archival database from scratch. The new structure will support web-based searches for the public and give staff members the ability to retrieve inventory information on-the-fly from a tablet device directly from the warehouse floor.

The GMC hosted 501 visits by industry, government, academic personnel, and the general public to examine rock samples and processed materials in 2012, down 10 from last year's record-breaking 511 visits. Just over half of the visits to the facility are from the oil and gas and minerals industries, however, academic researchers and the general public represented the second and third-largest groups to visit the GMC during the last three years. We would like to continue to improve upon this level of collaboration and make a strong, concerted effort to assist those involved in academic research, and provide high-quality education and outreach to the general public (fig. 1).

GMC staff has performed quality control on its entire 30-year archive of 400+ GMC data reports. Many of these reports are produced to document third-party analyses of samples at the GMC. Although the reports have not undergone technical peer review, the information and data are extremely useful and can help reduce the loss of sample material from the GMC archive, play a large role in multi-agency reanalysis projects, and aid in decision-making during the exploration process. Similarly, a recent interest in the field-sample information found within the GMC's massive collection of 3,500+ maps from the CIRI-Anaconda Corporation has created a beneficial opportunity (see quote) resulting in high-resolution scans of over 200 maps, many of which contain in-line tables of geochemical analyses for the located samples.



Fig. 1. GMC staff member Kurt Johnson "builds a geologist" with kids from the Parks & Rec. summer camp.

"Scans of the CIRI-Anaconda maps acquired from the GMC will save my client over a hundred thousand dollars worth of helicopter-supported geological mapping this field season, allowing us to focus our efforts and free-up more funds for drilling and potential discovery."
— Anonymous geologic consultant

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Contract curator and former Alaska State Geologist Don Hartman has completed a major curation project involving invaluable NPR-A core samples from the USGS collection that were at risk of substantial data loss and potential damage from transporting the samples. As a result, 1,187 three-foot core sections, representing 22 oil and gas wells, including Ikpikpuk Core Test #1, East Simpson Test Well #1, Atigaru Pt. #1, and Lisburne Test Well #1, were examined for quality control, re-boxed, bar-coded, and indexed into the GMC database.

The GMC has improved the usability and size of its core viewing area. An additional core viewing area has been added in the main warehouse with proper viewing tables and improved lighting to better accommodate users who wish to view and photograph samples (fig. 2). A private sample viewing area is also now available in a 20-ft section of a heated, mobile office trailer.

With the help of the Alaska Department of Transportation & Public Facilities (DOTPF), DGGGS completed a federally funded concept study in 2006 for a replacement facility for the existing GMC. Constructive discussions regarding the facility's design, engineering, and site-selection continue through a project managed by the Department of Administration (DOA) with support from State Capital Improvement Project (CIP) funds. A private engineering firm contracted by DOA is updating the concept design while GMC staff are proactively preparing the entire sample archive and finalizing an inventory transfer plan for an anticipated future move.

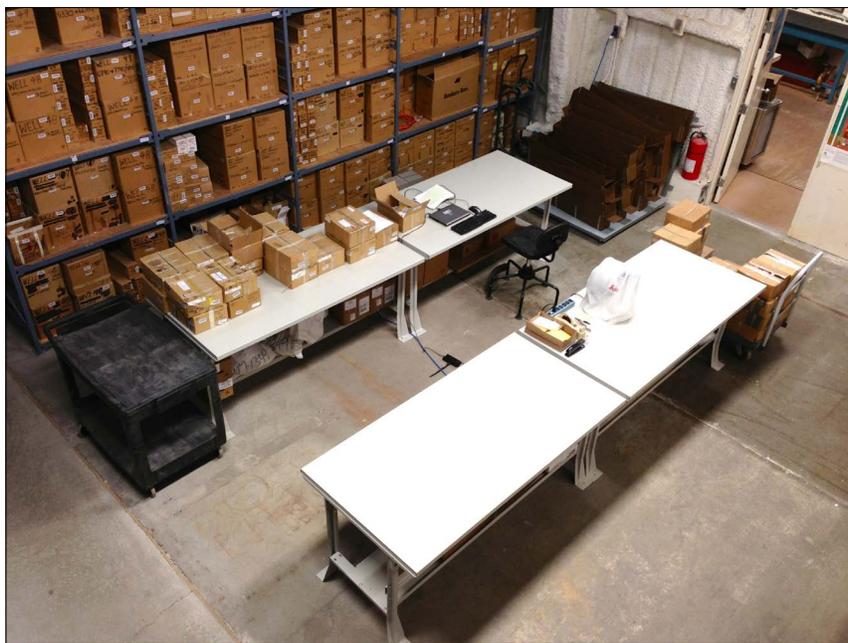


Fig. 2. A small section of shelving was removed to make room for a new, sample viewing area at the GMC.