

# The Alaska Geochemical Database: v. 1.0 – Geologic Materials

## What is the AGDB?

The Alaska Geochemical Database (AGDB) is a new, comprehensive compilation of geologic, spatial, descriptive, mineralogical, and analytical geochemical data for samples collected in Alaska and surrounding waters by the U.S. Geological Survey (USGS) from 1962 to 2009.

Data for geologic materials (rocks, minerals and mineral separates, soils, lake sediments, bulk stream sediments, and a variety of heavy-mineral concentrates) will be released as a two-sided DVD (USGS Digital Data Series DS 637 v. 1.0) in October of 2011. Future data releases will include water, organic and leachate samples.

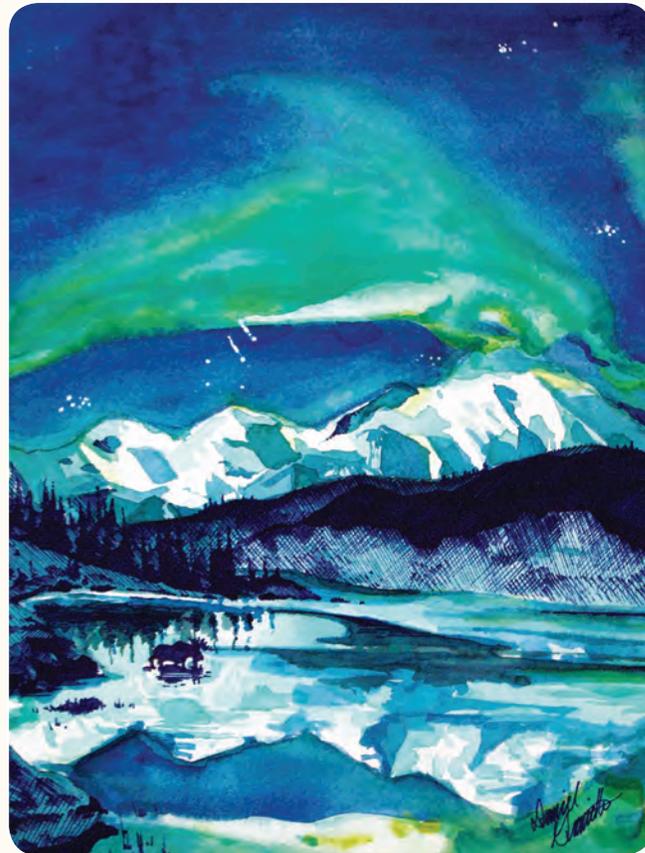
The AGDB contains all Alaskan data from USGS legacy databases (for example, the RASS and PLUTO systems), and all results produced by USGS in-house and contract chemistry laboratories through December 2009. The database includes geochemical data resulting from the reanalysis of archived materials, such as those from the Alaska Mineral Resource Assessment (AMRAP) and National Uranium Resource Evaluation (NURE) programs, for additional elements and by newer methods. Reanalyses include samples collected statewide as part of the National Geochemical Survey, and samples from a project across the Alaska Range (data released in 2010). The AGDB also contains data for geologic materials from Alaska submitted by USGS researchers to non-USGS and non-contract labs, and a variety of other Alaskan geologic materials samples.

## What types of samples are included?

### The Alaska Geochemical Database v. 1.0 includes data from:

|         |                                       |
|---------|---------------------------------------|
| 264,095 | unique samples of geologic materials; |
| 108,966 | rocks;                                |
| 7,470   | mineral separates;                    |
| 92,694  | bulk lake and stream sediments;       |
| 8,096   | heavy-mineral concentrates; and       |
| 6,869   | soils.                                |

For these geological materials, 9,667,206 individual geochemical analyses of 160 elements and chemical species by 85 different analytical methods are reported. Mineralogical identifications by optical microscopy are available for 18,138 of the heavy mineral concentrates.



## Quality Control

Data in the AGDB have undergone extensive quality control screening including searching field notes and maps for accurate location information, verifying media and sample type, linking analytical data to geologic parameters recorded by the submitter, and documenting sample preparation and analytical methods.

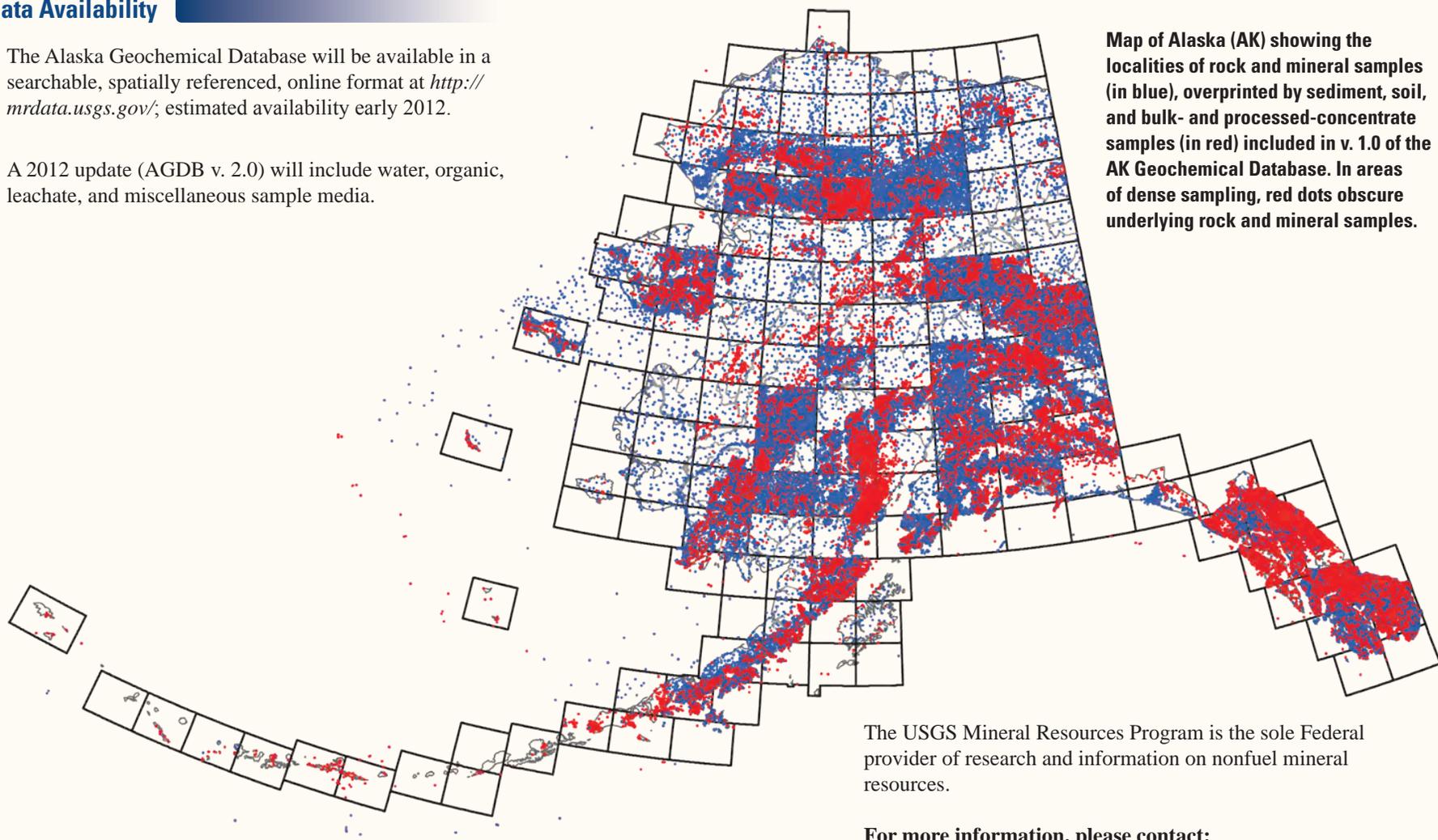
## Data Files

The AGDB v. 1.0 two-sided DVD includes:

- a 4.3 GB Microsoft Access® 2007 relational database (as two linked .mdb files);
- the same database in Microsoft Access® 2003;
- Microsoft Excel® spreadsheet tables (.xls files) and ASCII text files that display the results of common queries to the database (for example, Ag-Cr values for concentrate samples; rock samples by quadrangle);
- references for analytical methods;
- references to published data; and
- metadata in three file formats.

## Data Availability

- The Alaska Geochemical Database will be available in a searchable, spatially referenced, online format at <http://mrddata.usgs.gov/>; estimated availability early 2012.
- A 2012 update (AGDB v. 2.0) will include water, organic, leachate, and miscellaneous sample media.



Map of Alaska (AK) showing the localities of rock and mineral samples (in blue), overprinted by sediment, soil, and bulk- and processed-concentrate samples (in red) included in v. 1.0 of the AK Geochemical Database. In areas of dense sampling, red dots obscure underlying rock and mineral samples.

The USGS Mineral Resources Program is the sole Federal provider of research and information on nonfuel mineral resources.

## For More Information

### On sample media or analytical methods:

[http://minerals.cr.usgs.gov/projects/analytical\\_chem/references.html](http://minerals.cr.usgs.gov/projects/analytical_chem/references.html)

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