EXAMPLES OF GEOLOGIC MAP SYMBOLS

STRUCTURAL SYMBOLS

Drawing

Legend

DGGS offices are located:

- 3601 C St (10th fl.)
  Pouch 5-026
  Anchorage, 99510
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  (Basement)
  Fairbanks, 99701
- 230 So. Franklin
  (4th fl.)
  Juneau, 99901
- P.O. Box 2116
  Eagle River, 99577

LETTER AND COLORS COMMONLY USED TO REPRESENT GEOLOGIC AGE OF ROCK UNITS

<table>
<thead>
<tr>
<th>Period</th>
<th>Letter</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quaternary</td>
<td>Q</td>
<td>Light yellow to tan</td>
</tr>
<tr>
<td>Tertiary</td>
<td>T</td>
<td>Medium yellow to tan</td>
</tr>
<tr>
<td>Cretaceous</td>
<td>K</td>
<td>Green</td>
</tr>
<tr>
<td>Jurassic</td>
<td>J</td>
<td>Light blue to blue gray</td>
</tr>
<tr>
<td>Triassic</td>
<td>R</td>
<td>Blue to green</td>
</tr>
<tr>
<td>Permian</td>
<td>P</td>
<td>Blue</td>
</tr>
<tr>
<td>Pennsylvanian</td>
<td>P</td>
<td>Brown to gray</td>
</tr>
<tr>
<td>Mississippian</td>
<td>M</td>
<td>Gray to purple</td>
</tr>
<tr>
<td>Devonian</td>
<td>D</td>
<td>Red to purple</td>
</tr>
<tr>
<td>Silurian</td>
<td>S</td>
<td>Rust to red</td>
</tr>
<tr>
<td>Ordovician</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Cambrian</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td>Eras</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cenozoic</td>
<td>Cz</td>
<td>Yellow to tan</td>
</tr>
<tr>
<td>Mesozoic</td>
<td>Mz</td>
<td>Green to blue</td>
</tr>
<tr>
<td>Paleozoic</td>
<td>Pz</td>
<td>Blue to gray to purple</td>
</tr>
<tr>
<td>Precambrian</td>
<td>Pc</td>
<td>Brown to gray</td>
</tr>
</tbody>
</table>

Volcanic rocks, dikes, or veins are generally red, and colors used to represent igneous rocks are generally brighter than those used for other rock types.

MAP UNITS

- Monzonite
- Hornfels
- Rhyolite
- Andesite
- Shaie
- Conglomerate
- Sandstone
- Limestone
- Schist
- Gneiss
- Fossil locality
- Gossen
- Prospect pit
- Mine

STATE OF ALASKA
Bill Sheffield, Governor
Esther Wunnice, Commissioner, Dept. of Natural Resources

Information Circular 28
USES OF GEOLOGIC MAPS EXPLAINED
November 1, 1983

State of Alaska
Department of Natural Resources
DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS
Ross G. Schaff
State Geologist
What is a geologic map?

Unlike the topographic, or 'topo' map, the geologic map does not portray the form of the land's surface, showing us its peaks and valleys, nor does it locate man-made features such as highways, roads, and buildings. Rather, the geologic map displays the extent, location, and relative ages of rocks and other geologic materials. When many geologic maps are assembled, they form a comprehensive picture of the earth's surface. A typical geologic map is shown in the centerfold.

GEOLITICAL MAPS EXPLAINED

The Alaska Division of Geological and Geophysical Surveys is charged by state law (A.S. 41) with, among other duties, conducting "geological and geophysical surveys to determine the potential of Alaska lands for production of metals, minerals, and fuel." In doing this, the production of geologic maps is essential.

The surface area of Alaska is large—about the size of France, Spain, Germany, and the United Kingdom combined—but its 'volume' is much, much greater. Thus, the geologic map, which helps us 'see' Alaska in a third dimension, gains increasing significance—especially because 'The Last Frontier' is not only America's largest state, but contains a sizable proportion of the nation's mineral wealth.

What is the current status of geologic mapping in Alaska?

Alaska lags far behind the other 49 states in the knowledge of its physical resources. Only about half of Alaska is covered by up-to-date regional geologic maps. Most of these maps have been produced by DGGS and the U.S. Geological Survey (USGS) at a scale of 1 inch equals 4 miles (1:250,000).

What are some of the more common geologic map symbols?

Most geologic maps are several years in the making. Careful planning and a long-term commitment are essential. Many steps are involved in data collection for a typical geologic map.

How are geologic maps made?

Once geologic information has been mapped—meaning that it is, compiled, analyzed, and transferred to an image representing a particular part of the world—it is disseminated to a wide variety of users. Land managers use the maps for both planning and resource evaluation. Geologists and others analyze the maps to estimate the potential for energy, minerals, and construction materials and to interpret geologic conditions that may affect the construction of roads, dams, ports, and pipelines.

How do DGGS geologic mapping programs differ from those of other government agencies?

Almost all published geologic maps on Alaska are produced either by DGGS or the USGS. The aims of these two agencies, however, commonly differ. Geologic mapping programs of the USGS are largely designed to satisfy national goals and objectives. Most federal geologic mapping in Alaska is on a regional scale, and federal programs are commonly directed at assisting federal land-management plans.

DGGS mapping programs serve as a public resource, but with an emphasis on aiding the search for minerals and fuels. As part of the USGS, DGGS has access to aerial photography, satellite images, and airborne magnetic measurements.