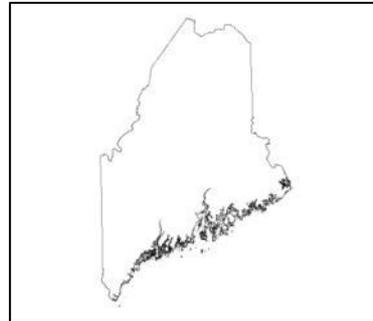


Geologic Site of the Month
April, 2000

Maine Geology at the Smithsonian Institution



Text by
R. Marvinney



Introduction

One of the most impressive museum displays of the wonders of geology and world-class minerals is at the [Smithsonian Institution's National Museum of Natural History](#) in Washington, DC. Visitors to the Museum are astounded by the diversity of rocks and minerals on display in the Janet Annenberg Hooker Hall of Geology, Gems, and Minerals. Beginning with the primordial solar system, this hall walks the visitor through the processes that formed and continue to transform our planet. From pegmatites bristling with beryl crystals to thick seams of galena, a most remarkable section of the hall is the Mine Gallery where underground mine workings are recreated in striking detail.

Prominently displayed in many sections of the Hall are rocks and minerals from Maine. Many of these specimens are discussed in the following section.



Rocks

Figure 1. Collected by Professor Charles V. Guidotti and his students of the University of Maine, this specimen of schist includes large andalusite crystals, a common mineral in the metamorphic rocks of southern Maine.



Rocks

Figure 2. The uncommonly large black crystals in this specimen of schist are staurolite, also a common metamorphic mineral in southern Maine. They are presented in a groundmass of fine-grained, silvery muscovite mica.

Rocks

Figure 3. Slate of the variety in this specimen is a common rock type throughout north-central Maine where metamorphic processes were not as intense as in southern Maine. Slate of this type is still quarried for many purposes.

Geologic Processes

Potholes form over thousands of years by the scouring action of pebbles and cobbles caught in a depression and swirled by water. In Figure 4 shows a two-foot wide pothole that formed in pegmatite (the rusty colored rock on the right) and schist (the dark layered rock on the left and bottom of the specimen). The fluting on the vertical sides of the specimen are where it was drilled to remove it from the ledge.

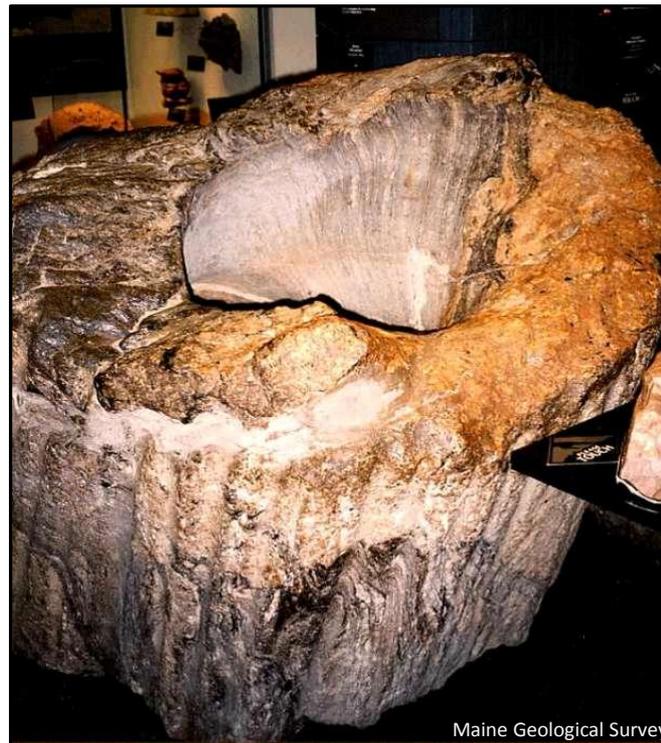


Photo by R. Marwinney

Figure 4. Between the Mine Gallery and the Minerals Gallery is a section of the Hall which focuses on geologic processes. Visitors are free to touch and feel the specimens on display here, including this large one of [a pothole that was excavated from a coastal setting in Georgetown, Maine.](#)



Geologic Processes



Photo by R. Marvinney

Maine Geological Survey

Figure 5. This close-up shows the smooth walls of the pothole created by the scour action. The pothole is about 3 feet deep in a specimen that is about 3 feet high and 5 feet across.

Geologic Processes



Photo by T. Weddle

Figure 6. This photo shows the site where the pothole was excavated in Georgetown. Note the fluting that resulted from drilling the specimen out.

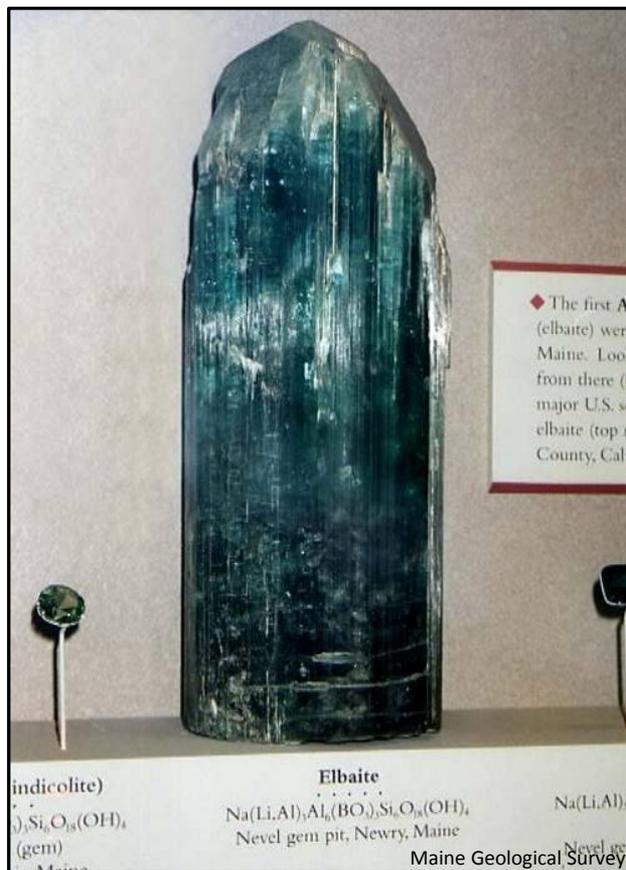
Minerals

Figure 7. One of the most spectacular specimens discovered at the Newry quarries is this tourmaline dubbed the "Jolly Green Giant." With a girth about equivalent to a soda can and a height of about 8 inches it is certainly one of the most outstanding specimens ever mined in Maine.

Minerals

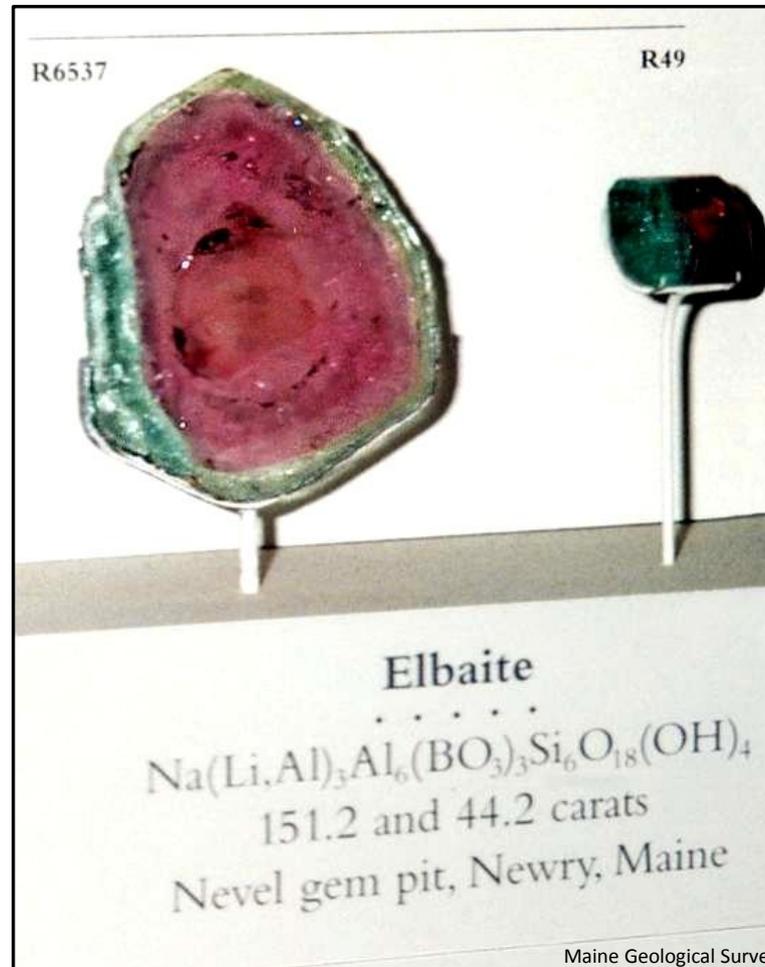


Figure 8. A beautiful slice and gemstone cut from "watermelon" tourmaline collected at Newry.

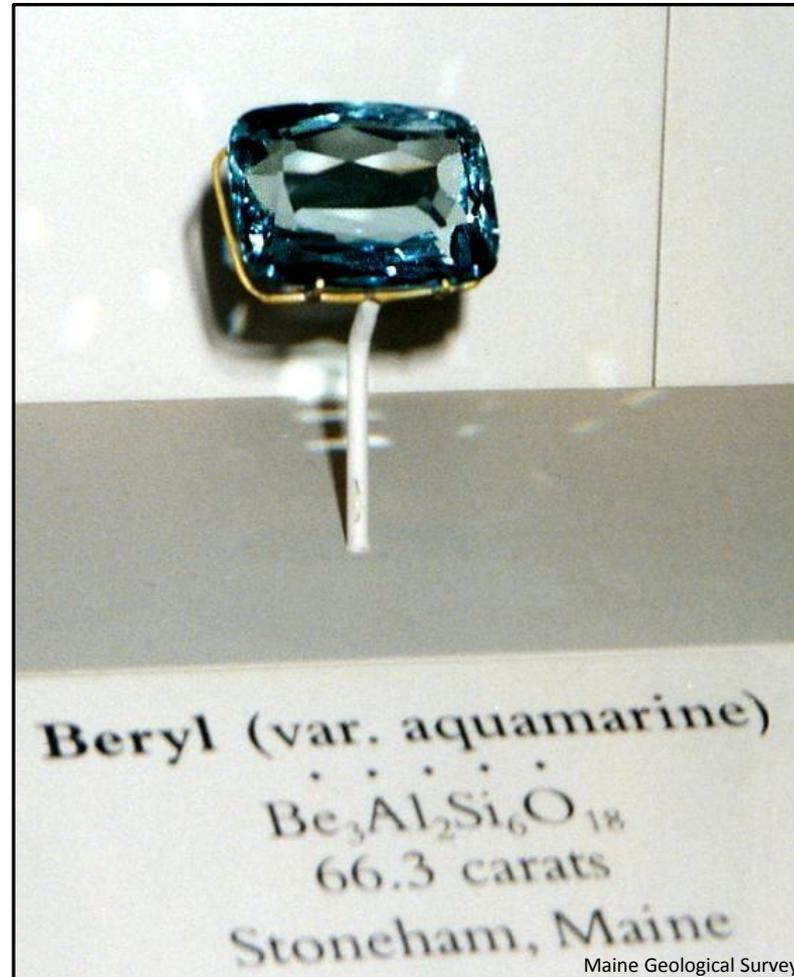
Minerals

Figure 9. This is a flawless aquamarine gemstone cut from a beryl crystal collected at Stoneham.

Minerals

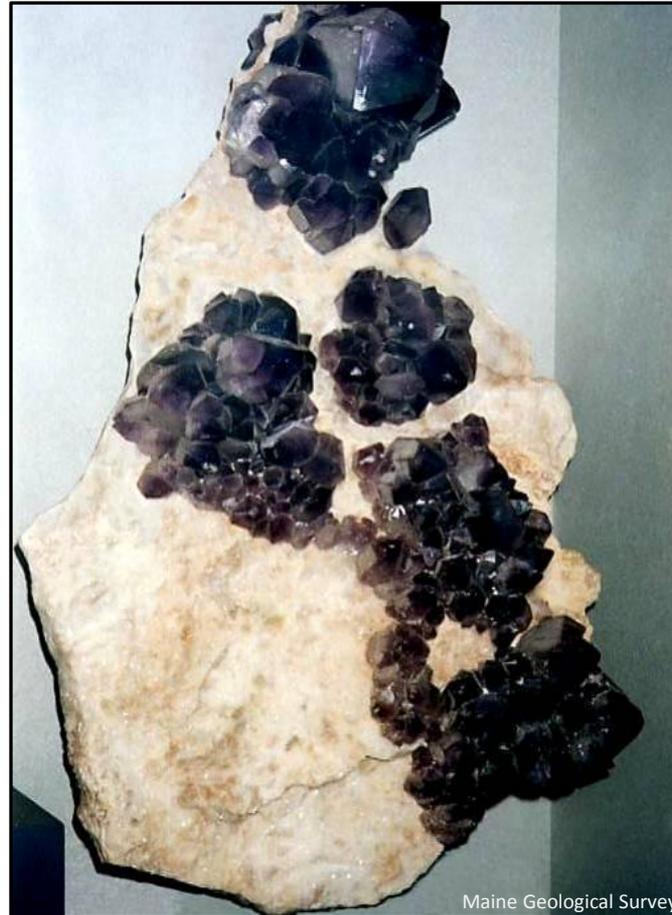


Figure 10. Amethyst is found at several localities in western Maine. This 3-foot specimen was mined in 1989 in Sweden, ME.

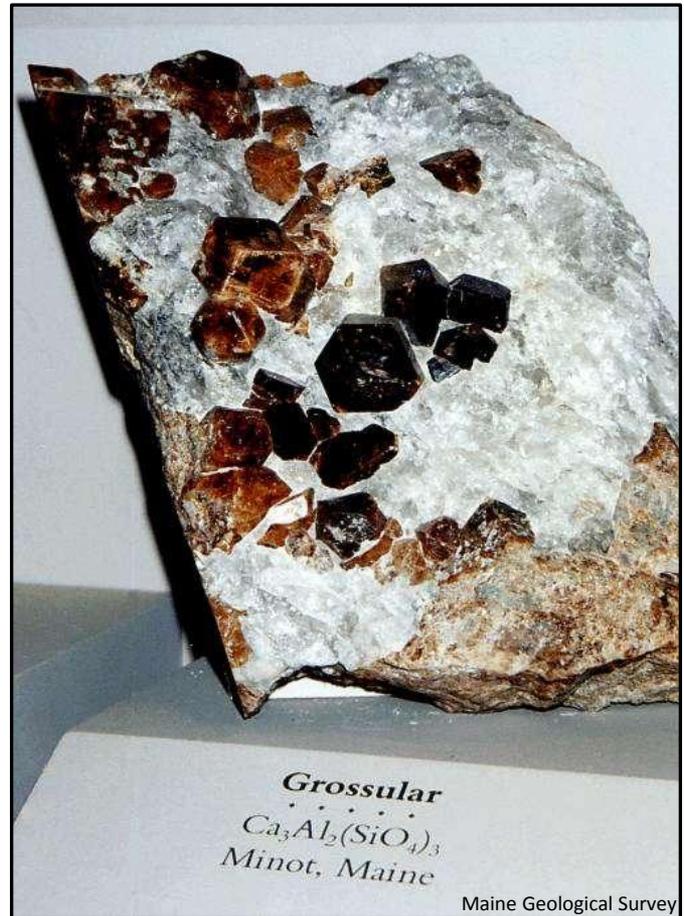
Minerals

Figure 11. Some more common minerals can also be spectacular, like this grossular variety of garnet. The largest crystals in this specimen are about an inch across.