

Vermont's State Gem, Mineral, Rock & Fossil

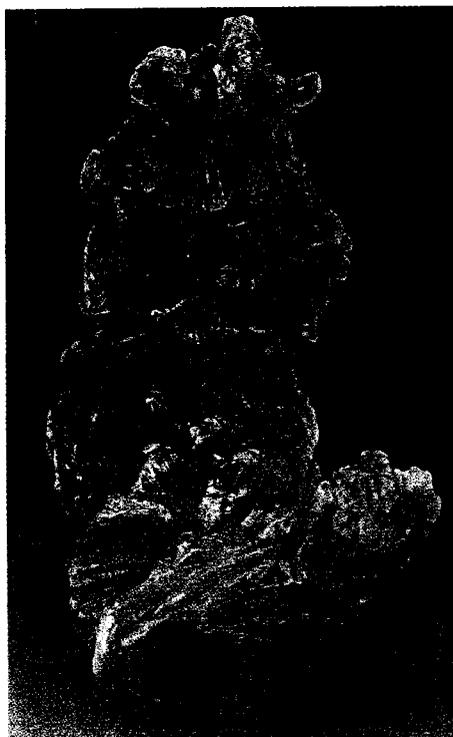


Photo by Jeff Scovil.

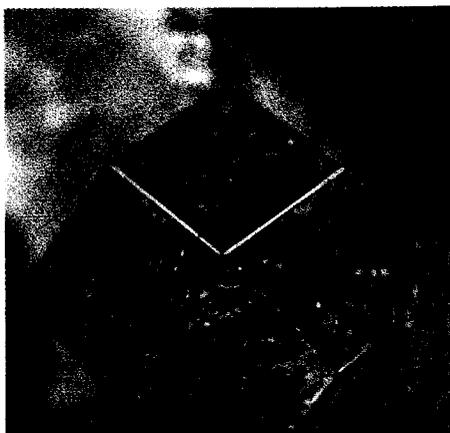


Photo by Jeff Scovil.



Photo by Jeff Howe.

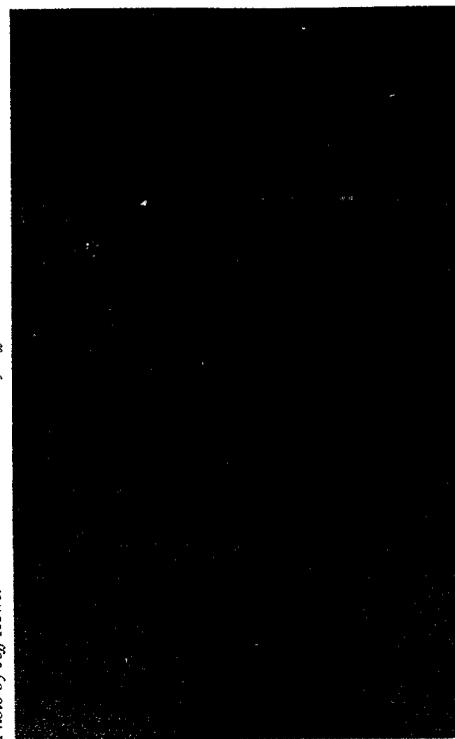


Photo by Ken Hollmann.

The Vermont state gem, mineral, and rock were adopted by the state legislature on 23 May 1992. They were proposed by Sue H. Hadden, sanctioned by the mineral clubs of Vermont and geologists of Middlebury College and the University of Vermont, and cosponsored by Vermont State Representatives Michael Obuchowski and Sean Campbell. The state fossil was adopted in 1993.

State Gem - Grossular (garnet): The most famous locality for Vermont grossular is the Belvidere asbestos quarry in Lowell. Here gem grossular ranges in color from white through honey-yellow to pinkish-yellow, pinkish-orange, cinnamon, and green. Grossular dodecahedra have been found up to 3.8 cm in size, sometimes in spectacular combinations with vesuvianite (idocrase), diopside, epidote, and calcite. In *The World's Finest Minerals and Crystals* by Peter Bancroft, a specimen of grossular from the Belvidere quarry is pictured and described as the finest example of its kind in the world. The well-known Elsevier *Minerals of the World* chart also pictures a gem grossular specimen from the Belvidere quarry.

State Mineral - Talc: Talc is found in irregular lenses or pods in a broad band of quartz-sericite schist in a number of localities throughout Vermont. This magnesium hydroxyl silicate varies in color from the common white to the rare and beautiful foliated green. Crystals are rare and prized by collectors. Talc is important to the state's economy; 20% of the combined U.S.-Canadian production comes from Vermont.

Soapstone is a composite of talc and chlorite and is highly heat resistant. It has had enormous historical impact on the growth of Vermont, especially during the mid-1800s. Used to line furnaces, stoves, fireplaces, and limekilns, the easily sawn

soapstone withstands intense heat without cracking. Footwarmers and window and door sills were also milled from soapstone, as were waterpipes, which, according to advertisements of the time, "lasted a lifetime and kept the water tasting sweet." The Smith quarries in Grafton and the Goodrich quarry, which extended from the town of Grafton into the town of Athens, supplied products to local markets and those as far away as Boston. Sawn blocks of quarried soapstone were loaded onto ox-drawn wagons for the trip down the mountain. They were turned into marketable products in a finishing mill in nearby Cambridgeport and then were carted to Bellows Falls for the journey by barge or rail to Hartford, Connecticut, and Boston. The 1861 *Report on the Geology of Vermont* by the Hitchcocks (Edward senior, junior, and Albert) and Albert Hager declared Grafton soapstone to be of "the finest quality"

Left: Talc, 6.1 cm high, Rochester, Vermont; Bob Whitmore specimen.

Middle top: Grossular, 9 mm across, Lowell, Vermont; Bob Whitmore specimen.

Middle bottom: The beluga whale, Perkins Museum of Geology.

Right, top to bottom: Vermont slate, Fairhaven; Vermont granite, Barre; Vermont marble (Imperial Danby), Danby.

and the quarries to have produced more stone than any other soapstone quarries in Vermont. Examples of Grafton's soapstone products plus photos of the quarrying operations can be seen at the Grafton Historical Society museum, which is open weekends May through October.

State Rock - Marble, slate, and granite: Marble, as originally proposed, was joined by granite and slate as state rocks. The latter were added by legislators who felt that one of the state's dimension stones should not be honored over another. In addition to the famous white crystalline Imperial Danby marble, mined in the world's largest underground marble mine, Vermont is well known for its fossiliferous black marble, which contains nearly intact gastropods and cephalopods and is extracted from the quarries located on Isle La Motte. Marble, slate, and granite are all important to the Vermont economy and are still mined in abundance. Historically, the three are famous. Vermont marble, as a facing, graces parts of the Jefferson Memorial, and Vermont slate is on the roof of both the White House and Vermont's State House. (See "Vermont Visitor Information" in this issue for locations of museums and displays of dimension stone.)

Sue H. Hadden

State Fossil - *Delphinapterus leucas*: In the spring of 1993 the Vermont state legislature designated a fossil originally collected in Charlotte, Vermont, in 1849 as the state fossil. A white whale skeleton, of the Late Pleistocene, was discovered by a railroad work crew in a hillside they were excavating to widen the railroad right-of-way. At first the skeleton, preserved in a lens of blue clay, was not recognized as anything unusual. By the time Zadoc Thompson, Vermont's first state geologist, learned of the find, many bones had been carted away. After retrieving most of them, he sent the skeleton to Louis Agassiz at Harvard for identification. Confirmed as a beluga whale, the fossil was wired together and displayed for many years in the Vermont Historical Society's museum at Montpelier, the state capital. It can now be seen at the Perkins Geology Museum at the University of Vermont (see article this issue). An explanation for the presence of this whale in glacial clay deposits can be found in the article on Vermont fossils in this issue.

Ethel M. Schuele

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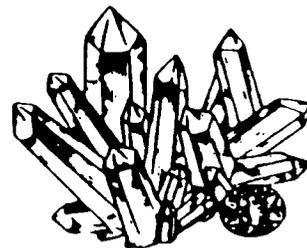
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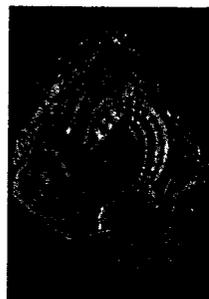
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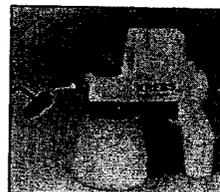


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