

Heavy Industries
of
Yesteryear:

Harford County's Rural Heritage

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and
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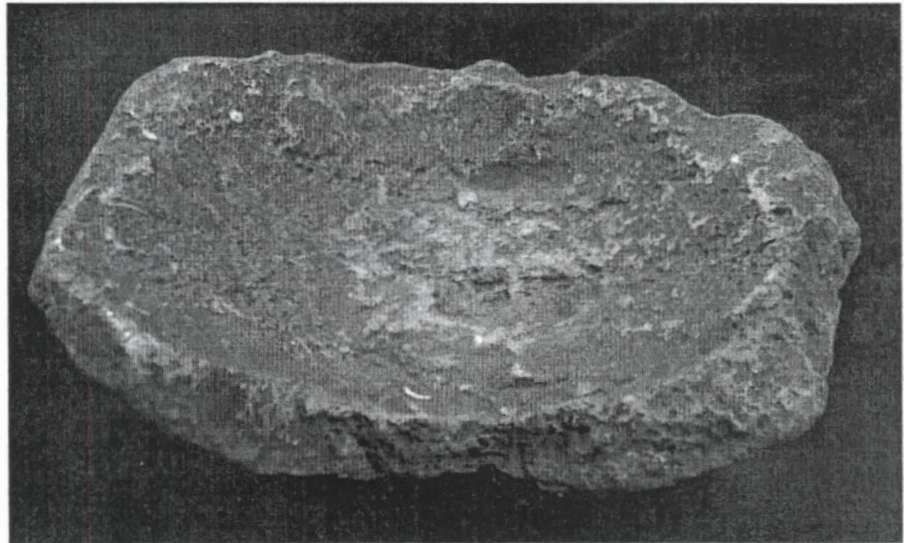
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Chapter 16 – Soapstone Mining

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16. Soapstone Mining

The first use of Harford County soapstone likely dates from 1700 to 2000 B.C. when Native Americans (probably Susquehannocks) visited a site above Dublin that is now known as the Orr Prehistoric Steatite (Soapstone) Quarry. Evidence from there based on amateur archeological reports from 1930s and subsequent field investigations suggest that early-on boulders and smaller stones were used to fashion bowls and cups (see bowl below) and later when the surface supply was exhausted, soapstone pits were opened to secure suitable material.¹

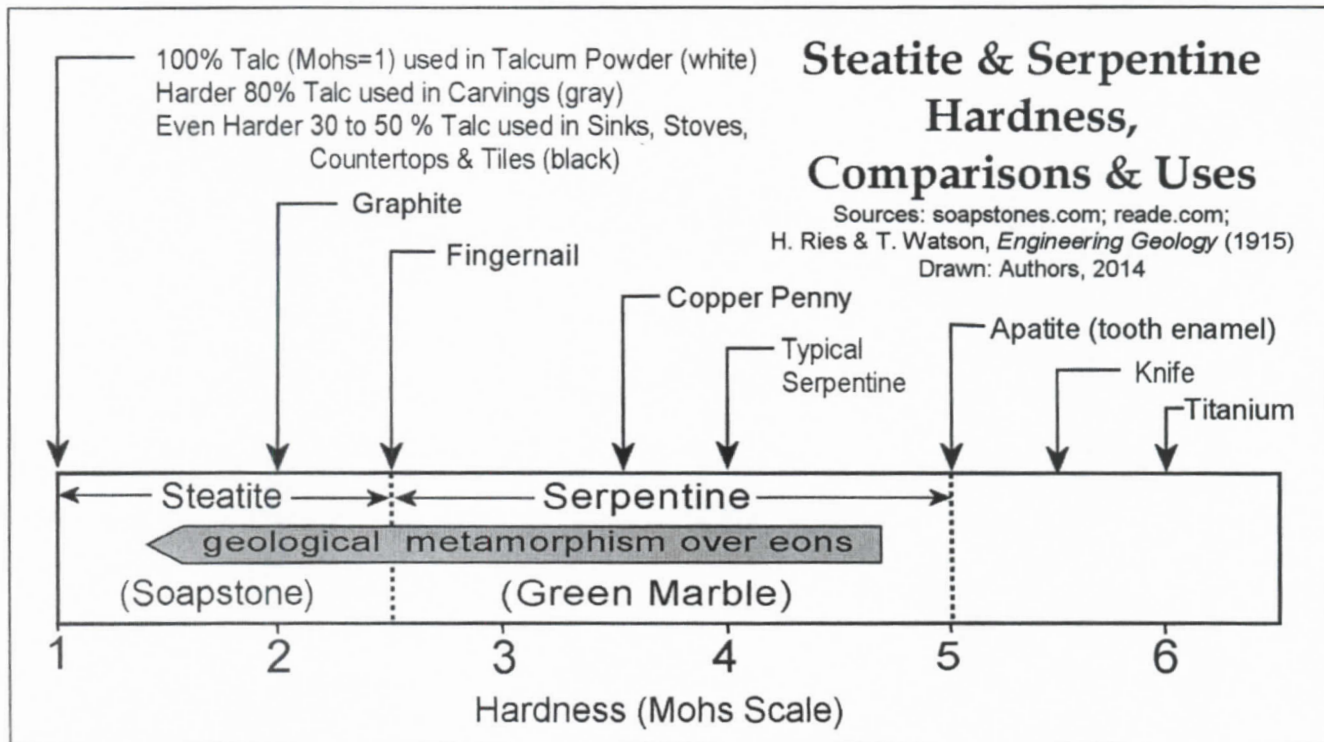


Soapstone bowl about ten to twelve inches long is typical of an object that would have been carved by Native Americans with material found at the Orr site. [Photograph by the authors in 2014 of an artifact from The Historical Society of Harford County, No. 00460.]

It is believed that a carver selected a boulder of the approximate size of the desired finished object and would begin to chip away the unwanted soapstone using a knife of bone or perhaps flint. If a hard spot were to be uncovered where it was too difficult to remove material, the rock would be discarded and another one selected. Carving on site minimized the weight that had to be transported back to the village, particularly when a piece had to be discarded because it broke or became impractical to complete because of an internal flaw.²

What is Soapstone? One of the difficulties of knowing which rocks are actually soapstone partially stems from the various names that have been applied over time and geographically. These include: saponite, talcite, alabaster (when used in vases),³ talc-schist, serpentine, and also soap rock because of its greasy or slippery feeling, especially when the surface is scraped. Further compounding the confusion is the name steatite (stee-uh-tyte) that is generally used by geologists, but has also been reserved by some for "fine-grained unfoliated"⁴ stone that can be easily carved. Lastly, but incorrectly, it is often referred to as talc.

Soapstone, like all materials called rock or stone, is comprised of a number of minerals not chemically linked, while talc is actually a chemically-bonded, rather inert, very soft mineral found in or near soapstone. To better understand the relationship between soapstone, talc, and serpentine, see the chart below.



The scale on the horizontal axis reflects the relative hardness of various materials as measured on the so-called "Mohs Scale," where any material with a higher number is capable of making a visible scratch on a material with a lower number (see scale origination on the right).

It will be surprising to most (as it was to the authors) that steatite or soapstone has through metamorphism been created from serpentine also called green marble. This helps to explain why the *serpentine* mined at Broad Creek and used in the walls of the Grace Memorial Episcopal Church in Darlington is often called *soapstone*. There does exist, however, a difference in hardness. Soapstone generally has a Mohs value of 1 to 2.5 while serpentine ranges from 2.5 to 5, typically being a value of 4. As a fingernail has a hardness of 2.5, it will mark a piece of soapstone, but it will take a copper penny or knife blade to scratch serpentine, depending on the actual hardness of the particular specimen.

Uses of Soapstone. At the top of the above chart it can be noted that 100 percent talc has a hardness of 1, and, as its content in soapstone decreases, the hardness of the soapstone increases. This allows the material to be used for different applications. Pure talc was routinely ground into a powder, which historically was frequently mixed with a fragrance and sold as beauty power for the ladies (see following page).⁵

About the Mohs Scale

In 1812, German geologist Friedrich Mohs created a nonlinear scale for gauging the hardness of materials based on ten minerals found in nature. It relied on the ability of a mineral with a higher number being able to visibly produce a scratch on one of a lower number. The minerals he selected were:

- 1 Talc
- 2 Gypsum
- 3 Calcite
- 4 Fluoride
- 5 Apatite
- 5 Feldspar
- 7 Quartz
- 8 Topaz
- 9 Corundum
- 10 Diamond



Clothing merchants would sometimes put talcum powder in boots and gloves to make it easier for potential buyers to try them on. Another use around the home was shaking a bit of the dust into cracks between boards to stop them from squeaking when walking across. Talcum also found use in lubricating gears.⁶

When steatite contains a lower amount of talc, say about 80 percent, this consistency is very useful for carvings such as the bear shown below that was produced from Harford County soapstone.



This beautiful specimen of carved soapstone exhibits a mottled golden color and was handcrafted in 1997 by Ben Henry of Ontario, Canada. [From the private collection of Jean Sherman who is a dedicated volunteer at The Historical Society of Harford County.]

With talc inclusion in the range of 30 to 50 percent, the stone can be used for bench tops and sinks in laboratories as it is not adversely affected by a wide range of chemicals or very hot temperatures. As early as 1820, soapstone was being used in heating stoves. That year stonecutter George T. Hope of 35 North Gay Street in Baltimore advertised:

To convince the public of his ability, a Double Stone Stove will be put in use on Tuesday next, at this shop and heated to that degree that the public will have to say, that they never saw any thing in the form of a Stove excel it; and likewise the times are hard, and we all wish for something to save fuel and keep us comfortable. You are all invited to call immediately.⁷

The secret of a soapstone stove was the rock's ability to be a great insulator, as the surface did not get so hot as to cause a severe burn, which was not the case of iron stoves, yet the stone evenly retained the heat allowing closer proximity. In 1847, this type of stove was still being advertised but never emerged as a standard method for heating a building or dwelling.

An article in the *Sun* on September 24, 1850 provided some practical reasons why soapstone could be easily worked to provide the desired product:

The stone . . . is susceptible of being sawed, bored, turned, planed and even screwed together with a facility equal to that of the hard kinds of wood, and its peculiar adaption to the necessities of the human family will undoubtedly continue to increase the demands which are made of it.

This account continued pointing out some of the applications and benefits of soapstone:

For purposes where wood soon decays or become disagreeable from moisture, and in shelving, linings to refrigerators [ice boxes], as a base board in dwellings where floors are marble, for water tanks, , bathing-tubs, and kitchen-sinks, it is especially desirable.⁸

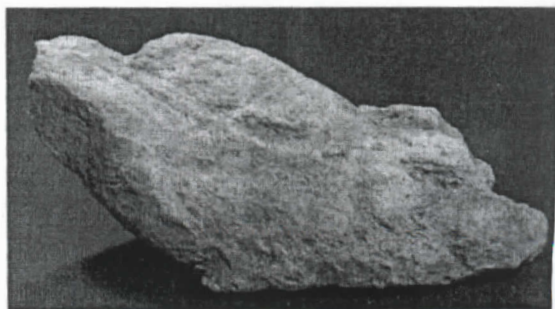
Soapstone also found use as a bed warmer as evidenced by this newspaper account that read, "A bachelor once remarked to a young lady that soapstone was excellent to keep the feet warm in bed. 'Yes,' said the young lady 'but some gentlemen have an improvement on that which you know nothing about.'"⁹

The young lady said to him, "Some gentlemen have an improvement on that which you know nothing about."



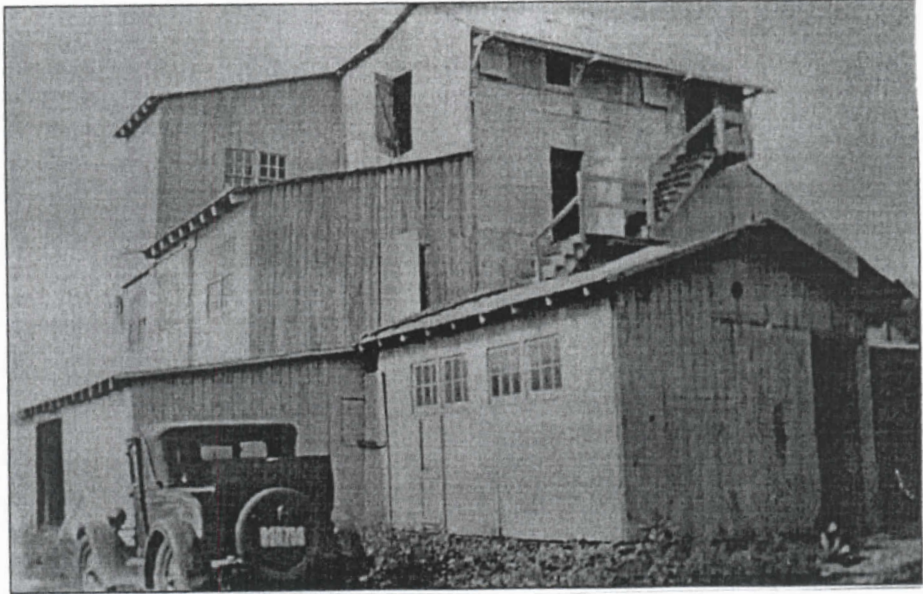
1916—The Harford Talc Company, Inc. On November 6, 1916, Clarence A. Huff leased to W. C. Boswell of Baltimore a parcel of land in the Fifth District of Harford County in the general location of the now Maryland Lava Company at the intersection of Dublin Road and Mill Green Road. Boswell was obligated to pay Huff 75 cents for each 2,000 pounds of talc or soapstone mined and used, subject to a minimum yearly rental fee of \$100.¹⁰ The lease ran for 49 years.

By December 7, 1916, Boswell was president of The Harford Talc Company, Inc., which had been incorporated under the laws of Maryland, and he transferred the Huff lease to his company.¹¹ Apparently no records have survived as to the specific operations at the facility, but it is likely that talc was shipped to locations that specialized in talcum powder and quarried soapstone was acquired by operations producing slabs for product fabrication or pieces (see right) for carvings.¹²

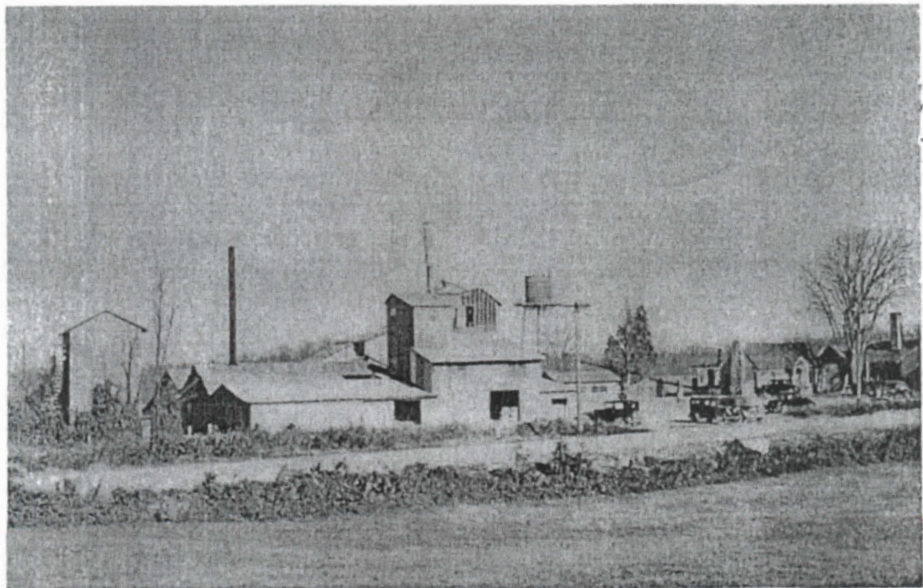


1933—Ernest L. Dinning Acquires the Business. On February 28, 1933, a deed was recorded in Harford County listing Ernest L. Dinning as president of both the extant Harford Talc Company and a new entity, the Harford Talc and Quartz Company. Dinning had emigrated to the U.S. from Quebec, Canada and had acquired an interest in a stevedore business in Baltimore. In 1925, he sold the stevedore operations "and began looking for another company to purchase."¹³

The appearance of the soapstone operations in 1933 are shown in the two photographs below.



The largest building on the soapstone site is shown. Note the outside stairs leading to the top portion. [Photographer is not known, but was likely taken by the *Aegis* in 1933.]



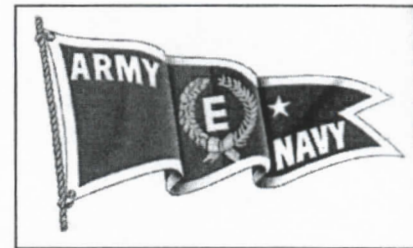
This image depicts an overall view of the company physical facilities located near Dublin. Observe the water tank near the center of the photo. [Photographer is not known, but was likely taken by the *Aegis* in 1933.]

Entrepreneur Dinning was launching a new business with the inclusion of "Quartz" in the company's name. He had determined that some varieties of soapstone he identified as "Lave Grade" could be machined to the required dimensions of an electrical insulator and then fired producing a strong, smooth, and very durable product. This would position the company for new business opportunities.

In less than a decade it appears the desirable Lave Grade soapstone was being exhausted from his Dublin/Scarboro site, as on February 1, 1941 the company signed an agreement with John T. and Althea S. Day to mine their properties along Glen Cove Road between Dublin and Castleton and also along Robinson Mill Road where Broad Creek traversed. These two areas had been identified as a result of prospecting expeditions during the years 1938 to 1940.¹⁴

The Harford Talc and Quartz Company would pay the Days \$2.00 per ton (2,000 pounds) for Lave Grade material and 75 cents per ton for all other stone that could be used for grinding purposes. The company was "to be the sole judge as to the quality of the stone quarried and removed."¹⁵

During World War II "The Dinning company gained perhaps its greatest measure of fame when a number of [their] insulators were used in the development and ultimate explosion of the atomic bombs dropped on Hiroshima and Nagasaki."¹⁶ These events led to the surrender of Japan and the end of the war. For their efforts they were awarded the coveted Army-Navy "E" Award (see example right).

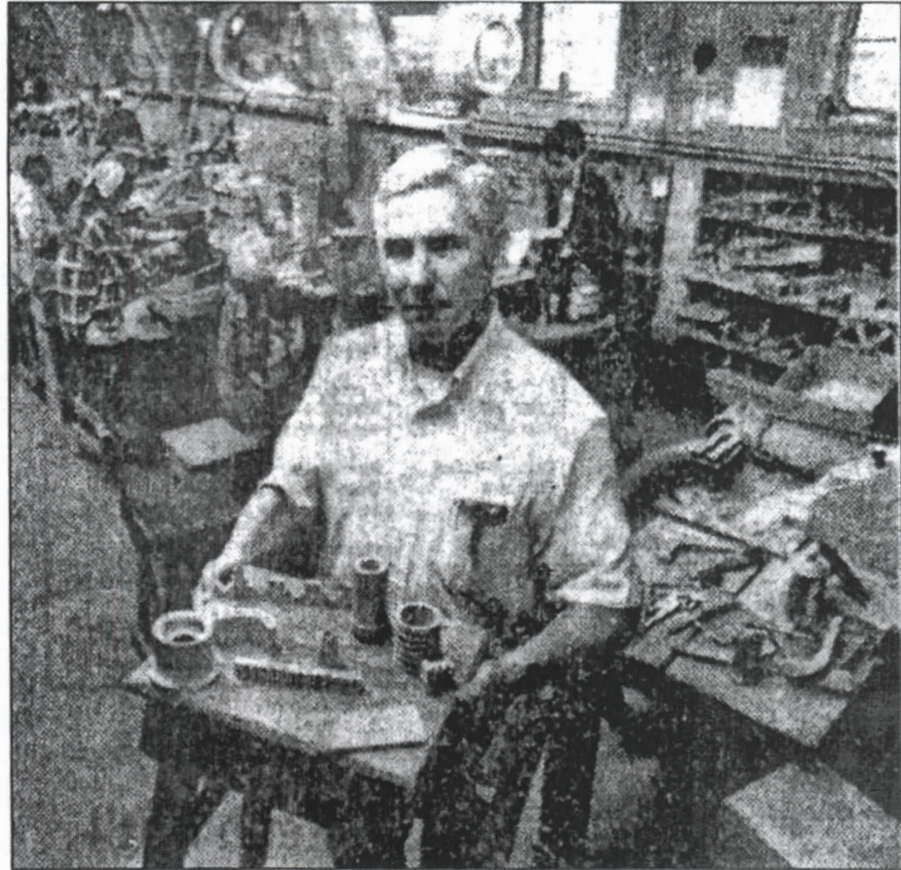


1949—Company Faces Setbacks. A fire at their facility in 1949 destroyed all of the company's records and compounding this loss the company's founder, Ernest L. Dinning, Jr., suddenly died the same year. His two sons John and Ernest III ably stepped up and almost immediately began to expand operations. "Buying out businesses in three different states, they organized the present [1975] Maryland Ceramic and Steatite Company," increasing employment to 85 people.¹⁷

To improve the quality of their product they began importing a higher grade of soapstone from South Africa and expanded their reach on products "to aircraft, missilery, computer and nuclear parts and advanced electronic fields." Under a working relationship with Union Carbide they began "manufacturing ceramic nozzles for inert gas welding on stainless steel and aluminum."¹⁸

1977—The Wonderful World of Talc. In 1977, the *Evening Sun*, as part of their Monday series on unusual "Made in Maryland," products (see paper's logo at right), featured the Harford County soapstone conglomerate beneath the banner, "The Wonderful World of Talc." At this time operations were under the management of John B. and E. Lawrence Dinning, two grandsons of the founder, and had "grown into three distinct entities: Maryland Lava Company for the production of soapstone insulators; Maryland Ceramics Company, synthetic insulators; and Harford Talc, the mining of soapstone."¹⁹ John Dinning was featured displaying a number of the company's many products (see following page).





John Dinning shows a variety of the company's products made from soapstone. At the left is an old lamp base that has been turned on a lathe, which is now part of the company's archives. [Dinning photo: Richard Childress, *Evening Sun*, May 2, 1977; lamp base photo: authors, 2014.]

The Maryland Lava entity made insulators for electrical and electronic applications. The pieces of soapstone were first sawed into blocks and then machined to size within two-thousandths of an inch. Afterwards, they were heated to transform the soft-soapstone into finished products that were durable, smooth, and hard insulators.

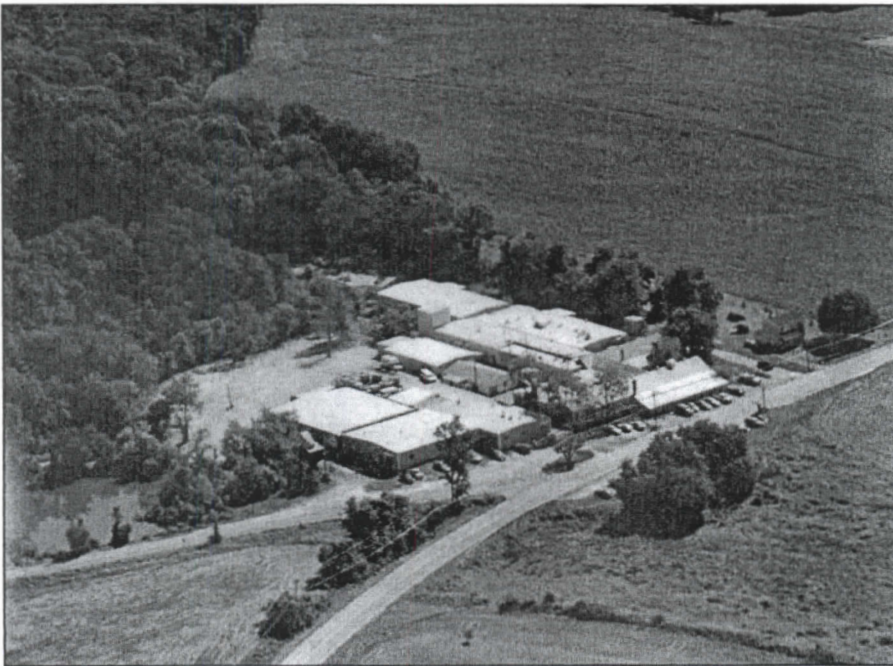
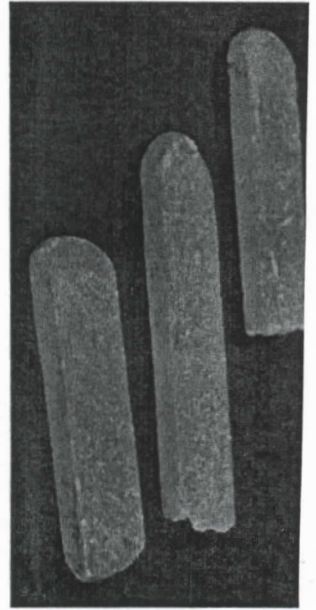
For very small insulators, powdered talc mined in the Sierra Nevada Mountains was pressed by using a pharmaceutical pill-making machine. First, the company's machinist made the dies for the press to customer specifications. There were thousands of different insulators fabricated with the company supplying devices to some of the country's largest aerospace and electrical manufacturers.²⁰

The Harford Talc entity removed soapstone from the company's quarry with a front end loader and used a chainsaw cut the slabs into 150-pound pieces. Thereafter, some of it was sawed to one-inch cubes and sold to the Gilbert Manufacturing Company for its mineral kit. As well, buyers would occasionally stop by and pick chunks of the material out of the piles in the yard, but for safety reasons this gleaning must be monitored by an employee.

Dinning noted that the company usually lost money on this type of sale, so they had to limited purchases to a 200-pound minimum. This business was only a small part of revenues.

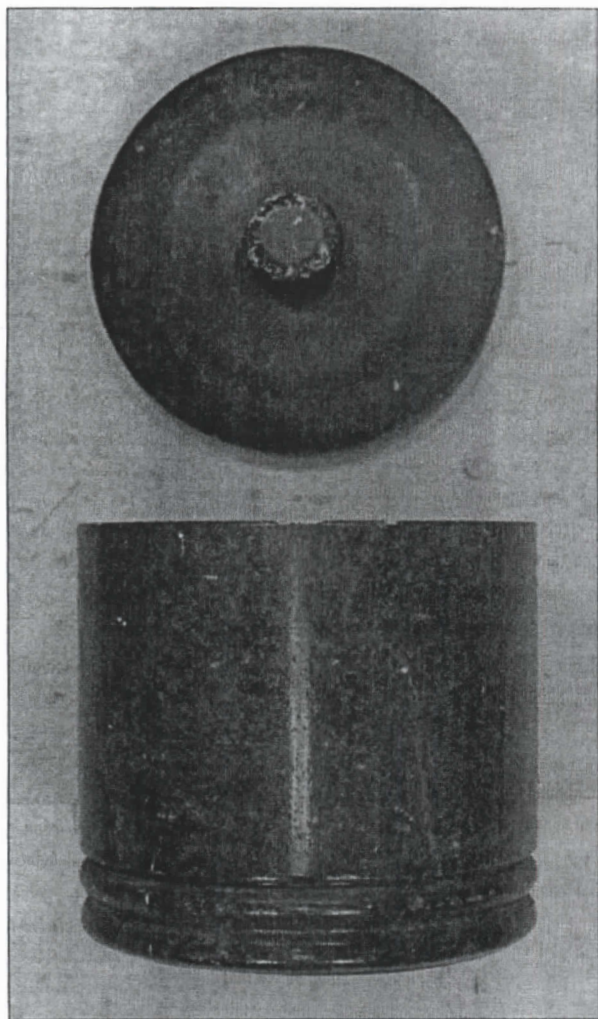
They also shipped soapstone to Alaska where Native Tribes carved it into "figurines and ornaments sought by tourists from the Lower-48."²¹ Jean Sherman who worked at the facility for a short period of time has in her collection pieces of soapstone pencils used by steel fabricator because their markings remained visible when metal pieces were welded together (see right).²²

The 61-employee firm occupying a facility of 40,000 square feet had a surprising advantage over larger suppliers of soapstone. Dinning explained, "We are small enough to change things in a hurry. If a company needs an insulator right away, we can get it made in a couple of hours."²³ Sales are made through manufacturer's representatives in the United States and abroad and in 1976 amounted to \$1.5 million. An aerial 1991 photograph courtesy of the company is shown below.²⁴

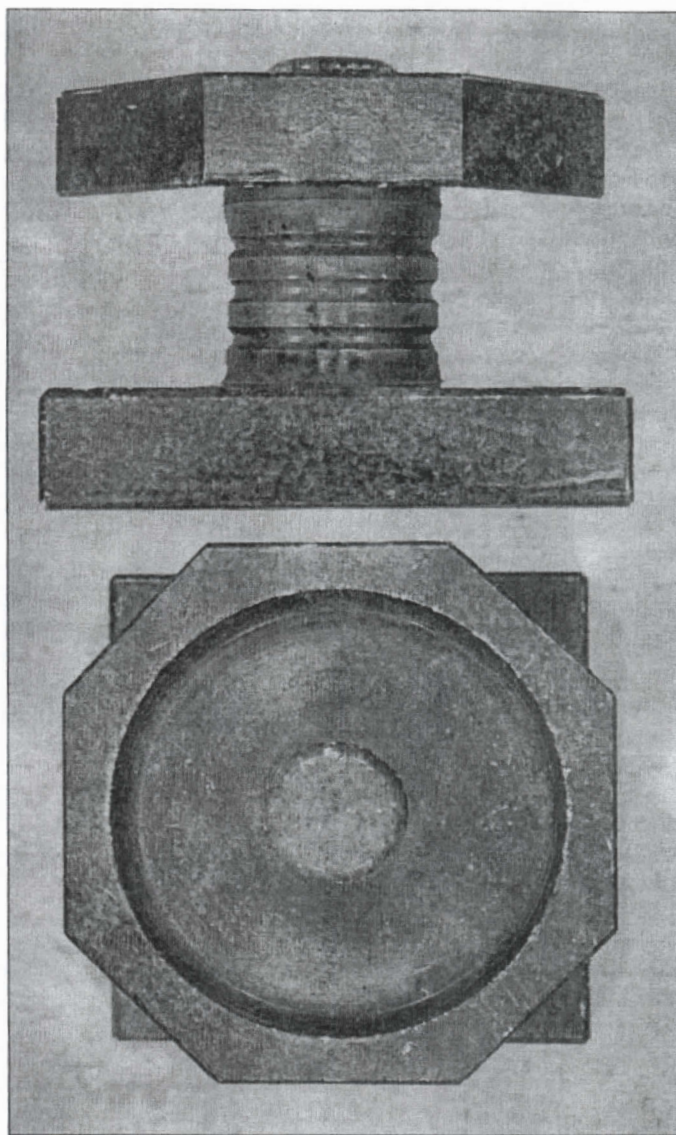


The Dinning manufacturing facility as it appeared in 1991. Dublin Road can be seen veering away where it is intersected by Mill Green Road.

Today, known as the Maryland Lava Company, operations continue with the firm supplying premium machined parts made from custom Grade "A" lava, and also supplying raw material of unfired rod, bar, plate, and block stock. They employ slightly fewer than 30 people who carry on the proud traditions of the company, which has operated for more than 80 years. Additional information can be found at the web site www.marylandlava.com. Two early soapstone products in their archives are shown on the following page.



This small soapstone canister with lid is dark green with yellow marbling. [Photo: authors, 2014, provided courtesy of Sharon Welsh of the Maryland Lava Company.]



Shown are the side and top views of a soapstone ash tray, which has a center post useful for tapping out the ashes from a pipe. It is green with much yellow marbling. [Photos: authors, 2014, provided courtesy of Sharon Welsh of the Maryland Lava Company.]