

*A Dark and Dangerous Tale:*  
**STURBRIDGE'S  
LEAD MINE**



A recreational nature preserve in Sturbridge was once the site of a working mine for the excavation of graphite, used in pencils and other manufacturing processes in early America.

The Tantiusques Reservation, approximately 3 miles from Old Sturbridge Village on the aptly named Leadmine Road, is a 57-acre property open to the public and owned by the nonprofit Trustees of Reservations. It connects with another 640 acres of conservation land and includes the site where a mine employee of African-American and Native American descent lived with his family.



An opening into the history of one of the earliest mining sites in the New World remains intact. There's a 60-foot passage into the mine on ground level – a rare, walkable area of the graphite deposit that mostly ran vertically into the ground in a "V" shape and was very difficult to extract.

Tantiusques reached its mining heyday in the mid-1800s, operated by names that we still read on modern pencils like "Tudor" and "Dixon." The site name derives from a Nipmuc Indian word meaning an area between two hills. The tribe used the ore to color ceremonial face paint, applying it in a mixture of bear grease. The colonial English adapted the name to "Tantasqua" at some point after it became an early prize of a prominent Puritan family.



***A colonial grant and a little wampum***

Kings loved their treasures, and England's Charles I was no exception. Through the General Court of his Massachusetts colony, charters to land were granted so Charles could bypass Parliament and rake in tax revenues. Mining ventures were especially welcome, because granting mineral rights would stoke what researcher George H. Haynes called "the hope that El Dorado might be discovered in New England."

John Winthrop Jr., son of the colonial governor, walked away with one of these grants in 1644, for the Tantisques lands. He was already active in mining in the eastern part of the colony, with salt works and iron mines turning him a profit. He dispatched an agent, Thomas King, with 20 English Pounds worth of "trading cloths and wampum" to settle with the Nipmucs, begin mining and store the graphite in a "safe house from the Indians."

At that time graphite, or “plumbago,” was thought to contain other, more valuable minerals, besides being useful in pencils and other industrial processes. Silver, tin, copper and iron were all objects of speculation about graphite in the 1600s and 1700s. Today it’s known to contain about 90 percent graphite and 10 percent carbon.

“Although it remained in his possession 32 years, there is no evidence he ever saw this property, from which he had hoped so much,” Haynes wrote in 1902, in “The Tale of the Tantisques”

Rock taken from the mine was heated and cooled, and the embedded ore was dug out, with much of the rock discarded. This proved an expensive process.

“Remoteness of the location made it difficult to get workmen and to land the “black lead” on the banks of the Connecticut River for shipping. While the mineral was commanding high prices in London, the high overhead and difficulties of extracting the ore, combined with other mining losses that occupied Winthrop’s attention and the uncertainty of the enterprise amid the “Indian Wars” of the time, led him to turn his attention elsewhere.”

Winthrop died in 1676. Then property boundary disputes and ill health kept other family members from exploiting the mine.



John Jr.’s grandson John Winthrop looked actively into marketing the graphite in the late 1730s and received erroneous info he could secure over 100 pounds per ton (more than five times actual value). Reality set in upon actually sending representatives to the mine. Sections of the flood-prone mine were under as much as 14 feet of water, there was difficulty carting in supplies and human harassment.

“The mine was located in a wilderness about which settlements were only just beginning, and the settlers had their grievances against Winthrop, and were not over-friendly in their dealings with his workmen,” wrote Haynes.

On top of that, the first 1.75-ton shipment brought low prices and was deemed of low quality in England. The mine went inactive in the 1740s.

The venture was idle for nearly a century, when higher-quality graphite was noted in an 1833 geological analysis by Edward Hitchcock, Professor of Natural History at Amherst College. But he also noted the difficulty of mining it. He described “a bed, varying in width from an inch to about two feet, and traceable along the surface, nearly one hundred rods [1600 feet]. The fact that the bed descends, almost perpendicularly, into the earth, is rather unfavorable to the miner.”

### ***Sharpening pencils to turn a profit***

In 1828, Frederick Tudor of Boston had formed a partnership with Joseph Dixon of Salem to manufacture graphite crucibles. Together they bought the Sturbridge mine to supply their enterprise.



Dixon had found use for graphite as a stove polish and an additive in lubricants, foundry facings, brake linings, oil-less bearings, and non-corrosive paint, and for making pencils, as well as the crucibles, which are containers for molten metals and minerals.

Pencils had been used for centuries in England, where high-quality graphite from Scotland was wrapped in tape, before Dixon encased it in wood here in the United States. "The mine at Tantisques was the only working mine in this country for a long time," Old Sturbridge Village Curator Thomas Kelleher says.

With more advanced technology and mapping, floodwaters were quickly pumped out of the mine and graphite was extracted and shipped over a better transportation network than existed in the wilderness of a century earlier. But within several months there was a falling out between the partners for unknown reasons.

It was known that Tudor, in the words of Old Sturbridge Village historians J. Edward Hood and Donald Weinhardt, "cut little slack" with business associates, competitors and employees.

Cave-ins remained a hazard, with two laborers killed and a third injured in an 1830 accident. Still, Tudor's laborers excavated 23 tons of graphite from the mine that year.

"Tudor's firm operated into the 1860s and also sold raw graphite to both domestic and international customers, who used it for a variety of purposes. One of the grades of raw graphite produced was "pencil grade," and Tudor's accounts include the sale in April 1860 of 1,068 pounds of graphite to "H.D. Thoreau of Concord Mass." This, of course, was the Henry David Thoreau of literary fame, who sometimes worked in his family's pencil manufacturing shop in Concord," according to Hood and Weinhardt.

Dixon went on to manufacture pencils on a grand scale in the United State, with the "Dixon Ticonderoga" still popular today.

With the exception of a brief effort to mine the hillside in 1902, Sturbridge's lead mine has been inactive since the Civil War era. Today most pencil lead is mined in Sri Lanka, Madagascar, Mexico, and Siberia.

The Tantisques site became a Trustees of Reservations property in 1962. It includes the former homesite of Thomas Crowd, added to the Trustees property in 2002. Crowd worked at the mine in the 1850s. He and his family abandoned the home after illness and the mine's decline a decade later. It burned down in 1924. The 20- by 25-foot foundation remains.

There is no admission to visit the Tantisques Reservation. For details on site features and activities, and driving directions, visit [HYPERLINK http://www.thetrustees.org/pages/368\\_tantiusques.cfm](http://www.thetrustees.org/pages/368_tantiusques.cfm).