

THE NEWGATE PRISON AND SIMSBURY COPPER MINE, EAST GRANBY, CONNECTICUT

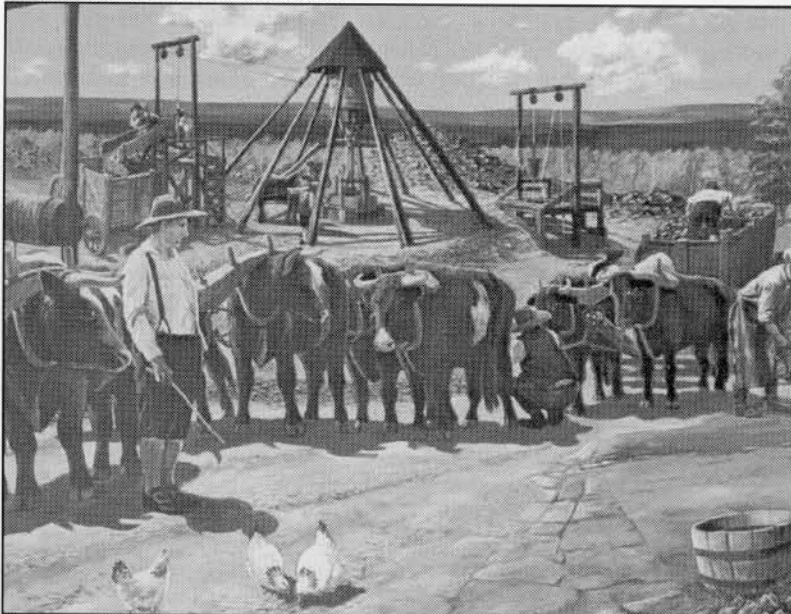
Lynn and Sheelagh Willies

This site is an National Historic Landmark, located on Route 202 not far from the major settlements of Springfield and Hartford in Connecticut. It is operated as a visitor attraction by the Connecticut Historical Commission and was unusual, though, bearing in mind Roman practices, far from unique, in being used to house prisoners underground. Use of local mines as prisons began in 1773 under the Colony of Connecticut then, during the Revolutionary War of 1776 (i.e. the American Rebellion) by the new State for prisoners of war and for some 28 "Tories" or British Loyalist political prisoners. It continued as the State Prison until 1827. Today a substantial part of the brick and stone-built stockade remains, complete with watchtower and a number of restored buildings which house an exhibition.

Copper ore was located in hard sandstone of Triassic age which, striking roughly north-south forms a narrow outcropping ridge, overlying rocks of Palaeozoic age and dipping east under Jurassic. There were a number of mines opened for copper along the ridge or "Copper Hill", including a "Bristol Mine" as well as that of Simsbury. The green-stained outcrops seem to have been noticed in, or, since the town had been settled in 1670, by 1703. Two years later the town set up a committee to seek for mines of copper and silver and in 1707 a company was set up by the proprietors of land in the town to work the mines. They were to pay a duty of 10 shillings per ton (a third of which was to go to the Collegiate School, which was later to become Yale University. Commissioners were appointed by the Colony Legislature to settle the affairs of the mines so this early venture was soon clearly in trouble. In 1712 the mines were taken over by a new company formed by Jonathan Belcher of Boston (later to become Governor of Massachusetts), Timothy Woodbridge the minister of the First Church in Simsbury, William Partridge and other investors from London, Holland and New York operating under a Charter. The mines operated from 1712 to about 1745 under Belcher.

This seems to have been their peak period, though spasmodic production probably continued until 1773 when they were rehabilitated by their new use. Belcher, or perhaps his Boston company, is supposed to have lost some £ 15,000 in the mines, so clearly substantial efforts were made and, to allow for this level of loss in what were little more than shallow outcrop mines, the output must have been reasonably considerable, with ore being shipped to Bristol in lots of ten tons (Raber pers. comm.). Blame for the losses "it was never possible for the miners here to make money" says the site guide, was firmly placed on England under whose mercantilistic laws the copper ore had to be shipped for smelting, though some was, apparently, illicitly smelted locally. We may take this with a pinch of salt since, although ore valued at £9.5.0 a ton had freight costs of £3.14.0, the prospect must have been assessed with this in mind in the first place. The dictum that "nothing is more expensive than a hole in the ground" no doubt applied in loss-making mines in the colonies just as it did in the home country. Very little seems to be known in detail about the mines, though a painting of c.1707 by David R. Wagner may show the actual mine with a horse gin under a conical structure. The gin appears more Central European in design than British and may have been boarded in against the weather in winter. German miners were introduced in 1720 and smelting took place in a nearby area of Granby known as Hanover.

Detail of the Simsbury Copper Mine from the painting by David R. Wagner, c. 1707



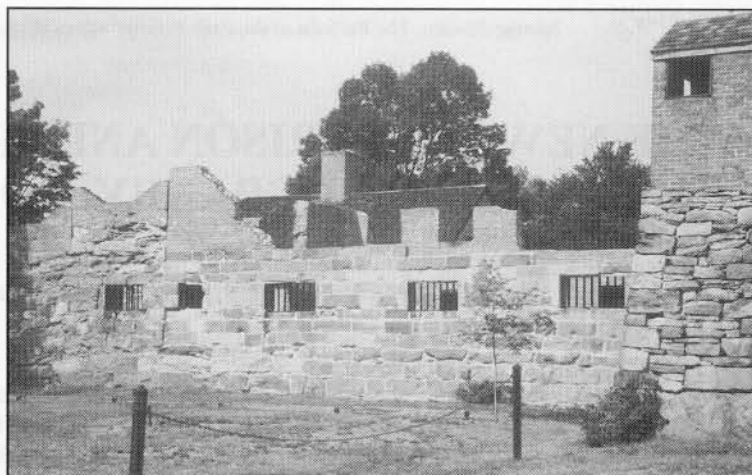
Further working took place in the 1830s by the Phoenix Mining Company of New York with a locally resident man, Richard Bacon, as their superintendent. In 1836 Bacon became associated with Bickford, Smith and Davey who manufactured safety fuse at their Tuckingmill works in what is now Redruth-Camborne in Cornwall, England, a year later forming the American Bacon, Bickford and Eales and Company, manufacturers of safety fuse, at the present site. Mining ceased soon after but the safety fuse company, at a nearby water-powered site as Toy, Bickford and Co., was later to become part of the modern day Ensign Bickford Industries. Undeterred by earlier failures Bacon acquired the mines in 1854 and a Connecticut Mining Company worked at Newgate for two years in 1855-57 before giving up (Raber pers. comm).

The mine today is entered by a recently-built (1972) concrete entrance which enters the original working at a depth of about 3-4 metres. The surveyed workings are very small, with a depth of about 20 metres or so. In the main they take the form of a 20 metre or so wide chamber, the centre of which is filled with mined waste. Several openings lead off from this area which is open to the public. Entry was by a short shaft some 6 metres deep (later controlled by a guardhouse) and another shaft some 13 metres deep (which served as a well). There is another shaft some 19 metres deep sunk to meet a short adit driven in from the west side of the outcrop hillside. A wooden pipe, perhaps part of a rag-and-chain or churn-pumping system probably allowed water from a slightly lower level to be brought up to adit level. Very little copper is in sight except for green staining, but locally obtained samples show small grains of malachite within the red sandstone and bornite and chalcocite have been noted too. These indicate mining within the secondary mineralisation zone, the latter from near its base. As worked, it is likely richer ore occurred in "bunches" or lenses and assays between 4 and 48% copper, for what such isolated assays are worth, have been reported.

Although no more than a cursory examination was undertaken, it was possible for us to see two sizes of shot-holes had been drilled, one about an inch (25mm.) in diameter and another about an inch and an eighth (28mm.). The adit was clearly made by pick-working: one can thus envisage an early period of working using hand-tools working down from outcrop, perhaps continuing in depth to the level of the well shaft, i.e. some 13 metres or just below using hand baling or during the freeze up of winter. This would have been followed by driving the adit which is unlikely to be more than a couple of hundred metres or so long and the associated shaft above where it connects with the mined workings. Since this required capital, it is possible to envisage the adit and deeper shaft as of the time of the Boston Company when also, it is likely, that the first use of powder was made. Romantically, it is possible one of the shot-holes marks the first American use of safety fuse!

Local people consider smelting may also have taken place on the site - possibly in a remaining arched brick and stone structure which has cinder or slag-encrusted firebricks stamped as made by Pidcock, Stourbridge (England?). It is possible such a structure may have housed two roasting stalls (for oxidising chalcocite) or even a small blast furnace (or assay furnace) for the relatively easy operation of smelting malachite using charcoal. But the structure could also have served as an outdoor kitchen or for other usage such as shelter and does not appear to have the degree of inside damage one would normally expect with roasting or smelting activity..

The importance of the mine at Newgate is more symbolic than economic. It was clearly one of a number of such ventures and, given the amount of capital apparently lost, was probably one of the more minor of those. The production of copper in that area at such an early date (1705 onwards) is very early indeed. After the rather modest production of copper by the Germans introduced by Elizabeth I's government at, especially, Keswick, its production languished in England until it began again at Ecton in the 1660s being again abandoned by the 1680s in face of much cheaper copper from, especially, the Falun Mine in Sweden. The motivation for revival of what was to become an industry dominated by England and Wales in the late 18th and first half of the 19th



Newgate Prison, East Granby, Connecticut.

centuries came from the cancellation of redundant production monopolies in 1689 and 1694 and the development of coal-fired reverberatory copper smelting at Bristol in the 1680s and their use, soon after, in Gloucester and South Wales. The Bristol companies seemed to have gone to some trouble from about 1695 to stimulate the production of copper ore, with a working association with Cornish producers, probably the Beauchamps of Trevince at Gwennap in Cornwall. The Metals Company there was an early manifestation. It was not until about 1720, however, that John Coster of Bristol played a major role in increasing Cornish copper ore production from a mere few hundreds of tons a year. Thus the production of copper ore even in modest quantity from around 1707 in distant Connecticut is very early indeed in the context of industrial development. The name of the Bristol Mine near Granby and the paucity of other feasible smelting outlets suggests a trading if not closer linkage between the Bristol smelters and the Granby mines. There is obviously scope for further investigation at both ends of the trade.

As a visitor site the combination of mine and prison makes for both a good monument and story which visitors of all ages clearly enjoy. As visitors to New England, it ranked high for us alongside the large-scale granite quarries works of the Rock of Ages quarries at Barre and the textile mills at Pawtucket, Rhode Island and mills and museum at Lowell, Massachusetts.

ACKNOWLEDGMENTS AND SOURCES

We are grateful to the volunteers, Friends of Newgate, who introduced us to the Newgate prison and mine, especially Mr Christopher S. Riley who took care of us. The information about the site comes from the site leaflet, a postcard of Wagner's painting and various typewritten flyers, one prepared by William S. Vibert assisted by Betty Guinan (1989). The comments on Cornish copper ore production arise from current research into copper mining at Gwennap. We are also grateful for discussion via letters with Dr Michael Raber of Raber Associates, South Glastonbury, Connecticut and with Professor Bob Gordon of Yale University. As this article was about to go to press, we were grateful to receive the following report by Raber Associates on the prison and mine:

Raber, M.S; Gordon, R.B. and Harper, G. 1999 *Report of the Archaeological and Historical Investigations and Site Management Plan for Old New-Gate Prison and Copper Mine*. Connecticut Historical Commission.

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