

Marking history

There's only one of these in the US and it's in the Lehigh Valley: 'It's an important thing for the public to know'



A three-story building once housed the President Pumping Engine in Upper Saucon Township. The massive one-cylinder engine was used in 1872 to remove water from zinc mines in the area. Rick Kintzel photos/The Morning Call



Mark Connar, a historical researcher, stands on Tuesday near the Upper Saucon Township location where a massive steam engine was housed in 1872 to remove water from zinc mines.

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By Paul Muschick | The Morning Call

When he was a child, Mark Connar would stare in awe at the towering stone structure on Old Bethlehem Pike in Friedensville as his dad drove him by.

“What is that thing?” he would think. “It looked like a castle.”

Nearly seven decades later, that thing is one of Pennsylvania’s newest official historic sites. And if all goes well, it eventually will be open to the public.

The building that caught Connor's eye is the only surviving example of a Cornish-style pumping engine house in the United States. It once housed the world's largest single-cylinder, rotative, stationary steam engine. The cylinder was 110 inches in diameter, large enough for even an NBA star to stand comfortably inside.

Known as the President Pumping Engine, its job was to remove water from the Ueberroth Mine.

And boy did it pump out water.

It could remove 17,000 gallons a minute from a depth of 300 feet, clearing the way for workers to mine for zinc ore. Ueberroth was the largest of five zinc mines in Friedensville at that time.

The boiler house that stood in front of the engine house is gone. But the engine house has remained largely intact. The third floor, which was made of wood, is long gone. The two chimney towers were demolished for safety reasons around 1950. But the fortress-like first two levels have survived.

It's not a surprise, as it would take quite a force to knock them down. The back wall is 9 feet thick, the others 3 feet thick. A sturdy structure was needed because the walls supported the massive engine.

The property is now owned by Lehigh University. Connor, of Bethlehem, graduated from Lehigh in 1984 with a master's degree in business administration. He worked for Air Products for 40 years, in project management, purchasing and other roles. When he retired in 2014, he needed a project to keep him busy.

He had never forgotten about the castle-like building that mesmerized him as a child. He started researching it, and mounted a campaign to make sure it got the recognition it deserved.

"The more I studied it, I began to learn how unique it was," Connor told me recently as he showed me around the site.

He partnered with Erin Kintzer, Lehigh's director of real estate services,

to nominate the site for a historical marker from the Pennsylvania Historical & Museum Commission. In December, the marker was granted. It is expected to be installed next year.

The property is fenced off and not open to the public. The mine adjacent to the engine house ruins is now a water-filled quarry that is 130 feet deep in some places. The ruins have been defaced with graffiti, and the empty beer cans in the bushes indicate how it has been used most recently.

Connar and Lehigh officials are trying to protect it from further vandalism and trespassers. They say the site is not safe in its present condition.

The next step is to raise money to stabilize the ruins and make it a public venue. Renderings by Spillman Farmer Architects in Bethlehem depict what it could look like. A walkway is envisioned into the engine house, with a platform the size of the President Pumping Engine inside for visitors to stand on.

And outside the engine house will be one of the 22 boilers from the boiler house. When it no longer was needed at the mine, the boiler was repurposed as a water tank at the Gottlieb Buehler furniture factory on Front Street in Allentown.

The 30-foot-long boiler recently was removed from that building, which is scheduled to be demolished. It will be the future site of the Riverfront Lofts development by the Manhattan Building Co.

“The intent is to refurbish it and bring it back to this site where it once stood,” Kintzer said.

“We have a great deal of fundraising to do,” she said. “Ideally, this history should be available to the greater public.”

It’s extremely rare to find an intact stationary steam boiler from the 1870s, said Mike Piersa, historian at the National Museum of Industrial History in Bethlehem. Most were melted down because they corroded or

became obsolete. Others went to scrap drives during World War I and World War II.

The museum has a display about the President Pumping Engine. It includes a working scale model built by Anthony Mount of Devon, England.

“It’s an important thing for the public to know,” said Kara Mohsinger, president and CEO of the National Museum of Industrial History.

“The engineering aspect of it, the fact that they were able to preserve the boiler. This whole area is just chock-full of history and I think it’s important that the people who were born and raised here really understand the importance of Lehigh Valley as the cradle of industry.”

The efforts to get the President Pumping Engine site recognized for its contribution to American industrialism is of great interest in part of the United Kingdom, Connar said.

The engine and engine house were designed by the Cornish, who were known worldwide at the time for their expertise in steam engine technology and hard rock mining.

The Ueberroth Mine opened in 1853. It was named after Jacob Ueberroth, a farmer who found strange rocks on his property. He investigated, leading to the discovery of veins of zinc ore.

The chemist who identified the ore as zinc was Theodore William Roepper. When Lehigh University was founded in 1865, Roepper became its first professor of geology and mineralogy.

So it was fitting that the university later acquired the mine site. It was part of a 755-acre tract donated to Lehigh in 2012 by the Donald B. and Dorothy L. Stabler Foundation.

“It’s kind of interesting that it has come back to Lehigh, because Lehigh has been involved in this site for a very, very long time,” Kintzer said.

Ueberroth sold his property to the Lehigh Zinc Co. The zinc mined there

was carried by mule trains and carts over South Mountain to a plant near the Fahy Bridge in Bethlehem. It was used to make

zinc oxide for paint and to make metallic zinc for galvanizing iron and used in brass products such as gun cartridges.

Operations began with surface mining. As miners dug deeper, they encountered water. Cornish engineer John West was retained to decide what type of steam engine could be used to pump out the water.

An existing engine wouldn't suffice, he determined. The mine had to "go big," Connar said.

Construction of the engine house, made with local stone, began in 1868. The engine parts were made by Merrick & Sons in Philadelphia and assembled inside the structure. It was fired up for the first time in 1872.

Mine company President Benjamin Webster dedicated it by breaking a bottle of wine on one of the walking beams. He dubbed it "The President" in honor of President Ulysses S. Grant, "and as a fitting name for an engine which is chief of all engines in power," according to an account in London's Mining Journal.

Engine pumping houses are common sights in Cornwall, Connar said, the equivalent of windmills in the Netherlands.

But while there once were others in the United States, there now is only one, at the former Ueberroth Mine in Friedensville.

"One of the reasons why we are so keen to preserve it is this is the only surviving example of a Cornish-style pumping engine house in America," Connar said.

He has given presentations to local and international audiences, including historical societies, the Cornish American Heritage Society and the Trevithick Society in Cornwall, which promotes Cornwall's industrial heritage.

Connar was honored for his work by the Gorsedh Kernow, an

organization dedicated to preserving the cultural heritage of Cornwall, which recognized him as a bard.

He told me he has received a lot of help with his research on the President Pumping Engine site, including from Damian Nance, a geologist at Yale and Ohio universities; Michael Kaas, a mine historian; Jerry Lennon, a Lehigh engineering professor; and Robert Lanning, who is familiar with the property because his father was chief engineer at New Jersey Zinc Co. when it ran mines in the area in the 1950s and 60s.

The President Pumping Engine operated continuously from 1872 to 1876, when the Ueberroth Mine closed. It was put back into use intermittently afterward to lower the water levels at other nearby mines that shared the same water table.

The engine ran for the last time in 1891, then was scrapped in 1900.

“It kind of got lost in history,” Connar said.

Not any longer.

For more information on the site, or to donate to the preservation fund, go to friedensvilleminesh heritage.org/.

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