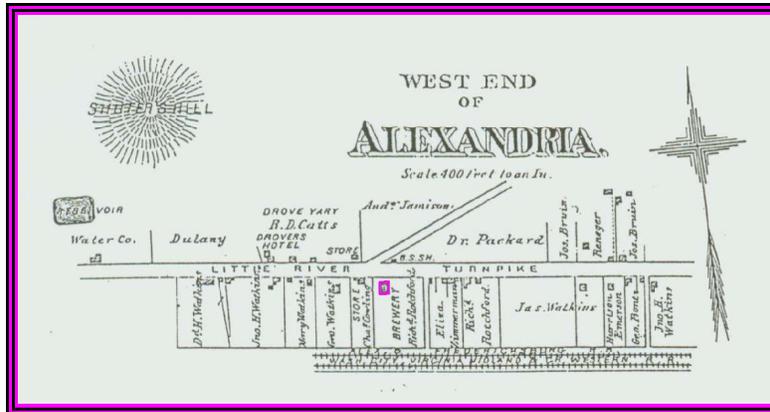


SHUTER'S HILL BREWERY (44AX35)

Report Summary by Shirley Scalley



1878 Hopkins Map of the Village of West End showing the Brewery across from Diagonal Road

INTRODUCTION

In 1893, a small brewery in the historic village of West End burned to the ground. Over the years, its exact location became unknown. Almost 100 years later, in 1979, an air shaft leading to a cellar was discovered during construction activities on the 10-acre Area II-B site of the Carlyle Property. This set the stage for a Phase I archaeological investigation, which led to further studies. A Phase II investigation conducted by Engineering Science, Inc. in October 1993 exposed a portion of a subterranean vaulted beer cellar, the remnants of a building basement, and a partially collapsed vaulted passageway connecting the two. The basement and passageway were filled with burned debris and rubble – further evidence that this was the site of the brewery.

In operation from 1859 to about 1892, the brewery is significant because it was the earliest lager brewery in Virginia and the largest Virginia brewery of the Civil War period. In addition, it is: 1) one of the few sites in the country from the pre-Civil War phase of lager brewing, 2) one of

the few existing or excavated American breweries with an intact masonry beer cellar, and 3) the only excavated brewery in Alexandria that had significant features and objects definitively identified with brewing. It is of interest also because it is an example of the small-scale manufactory that failed in the late nineteenth century because it did not keep pace with innovation in its industry.

Accordingly, a plan for a more extensive Phase III investigation of the site was formulated in consultation with Alexandria Archaeology and executed from November 1993 to January 1994.

HISTORY

The Project Area

In 1796, John West subdivided the portion of West End containing the II-B area and began leasing and selling lots. Houses were built in a number of locations within the project area during the late eighteenth and early nineteenth centuries. Much of the rest of the area south of Duke Street persisted as farmland for many years.

Butchery was an important industry in the village during the nineteenth century, and three butchers resided in houses within the project area: George L. Watkins from 1870 to 1917, John Bright from 1823 to 1890, and John Zimmerman, who died in 1854. Bright operated a butchery on the site, and Zimmerman owned a storehouse there that he may have used for meat.

A grocery operated on the site from 1870 until 1915, and there may have been several saloons and restaurants during the late nineteenth and early twentieth centuries. A soap and candle manufactory and a coach-making operation were probably located on the site as well.

Other commercial ventures that operated within the project area during the 1890s include a glass factory and two commercial greenhouses.

Housing within the project area during the nineteenth century included modest rental properties called tenements, meaning subdivided places of residence. Between 1902 and 1912, small frame rental houses were built for railroad workers on several lots.

Shuter's Hill Brewery

The lots on which the brewery stood changed hands through lease several times after John West starting releasing parcels of land in 1797. Charles Jones occupied the site from 1797 to about 1805. He made carriages and ran a tavern. The next occupant, James Sheehy, had a soap and candle manufactory in the immediate vicinity. The frame building on the site in 1858 may have been associated with these activities. Bartholomew Rotchford leased the lots in 1817 and purchased them from John West's daughters in 1824. Over the next 30 years, he acquired a great deal of West End land that was conveyed at his death in 1858 to his son Richard. Shortly thereafter, Richard Rotchford sought tenants for the idle land.

Construction of the brewery commenced in 1858 when two Germans, Alexander Strausz and John Klein, leased the old frame building on Duke Street. In a Civil War-period photograph, the

partially obscured building appears to have been a two-story, three-bay frame structure with a shed roof sheltering a front porch and some type of structure, probably a stable, at the west end. The building was just large enough to house a small-scale brewery. It was also located close to Hooff's Run, a source of water and a place to dispose of effluent.

The brewery took its name from Shuter's (or Shooter's) Hill around which King and Duke Streets now extend. It was also variously called Klein's Brewery or Englehardt's Brewery after two of its proprietors. During its 34-year history, the brewery had several proprietors. In 1860, after one year, the original Strausz and Klein partnership was dissolved, and Strausz sold his interest in the lease and equipment to Klein for \$2,000. John Klein retained the proprietorship until his death in 1865. Francis Denmead, a Baltimore maltster and Klein's major creditor, acquired the brewery in 1865. Robert Portner, a local brewer, rented it over the winter of 1865-66 in order to increase his output of beer. However, Denmead retained Henry Englehardt as brewmaster from 1865 until Englehardt purchased the brewery in 1872. Englehardt owned and operated the brewery until 1891 or 1892.

During this time, ownership of the land and buildings changed a number of times. During the Civil War, Richard Rotchford was accused of being "engaged in armed rebellion against the Government of the United States," and the U.S. Marshal seized the property. Thomas Dwyer of Alexandria bought it at auction, but then returned it to Rotchford in 1865 for \$300. Rotchford sold the property to Klein for \$1,000 ten days later. Francis Denmead bought the property at auction following Klein's death in 1865. In 1872, Denmead conveyed it to Englehardt and his wife for \$5,000, payable in 15 annual installments of \$333 each plus interest. Englehardt never made any of these payments. When Denmead died in 1891, his son called in all outstanding debts, which forced Englehardt to sell the property. In 1892, the two parties agreed to sell to Englehardt's brother-in-

law, Christopher Dickson, for \$1,200 in partial satisfaction of the debt. On the morning of August 18, 1893, fire was discovered in the west end of the brewery. In about an hour, the building burned to the ground.

The Brewing Industry in Alexandria

Area plantations probably produced some beer for their own use as early as the 1730s. Between 1771 and 1821, three commercial breweries were established in the city and then closed. It was difficult for small-scale breweries to be successful. They had to compete not only with British imports from London, Burton-on-Trent, and Glasgow, but also with a multitude of other fermented and distilled beverages. Brewery proprietorships were often short lived. John Oates established a brewery on the Howard estate in 1817 and closed it the following year. For most of the 1820s, there was no beer produced in Alexandria. From 1831 to 1854, James and William Henry Irwin operated an ale brewery that was said to be the largest brewery in the South. At the time the plant was destroyed by fire in 1854, it was producing 3,000 barrels annually. A few years later, Henry S. Martin opened a small ale brewery. And in 1858, John Klein and Alexander Strausz established Shuter's Hill Brewery.

The Civil War was a time of rapid expansion in the local brewing industry. Union troops created an unprecedented demand for alcoholic beverages of all types, despite the prohibition on the sale of liquor and beer within the city limits. The two existing breweries increased production and capacity, and a third brewery, Portner & Company, was established in 1862. Between September 1862 and October 1865, these three breweries produced and sold nearly 9,000 barrels of lager beer and ale. Shuter's Hill produced nearly half of that total, making it the most productive brewery in Virginia.

By the early 1870s, two smaller restaurant/brewery operations established after the war were no longer operating, the Portner & Company partnership had been dissolved, and Robert Portner had established a large, modern brewery and cellars on North St. Asaph Street. Shuter's Hill Brewery came under the sole proprietorship of Henry Englehardt in 1872.

The Shuter's Hill and Portner breweries illustrate the difference between the old and the new in the brewing industry: small scale versus large; conservatism and tradition versus innovation; high unit cost of production versus economies of scale and vertical integration; and local versus regional marketing. While the Robert Portner Brewing Company would be, prior to Prohibition, one of the greatest Southern breweries, the Shuter's Hill Brewery would limp along for two decades, thanks largely to the leniency of its creditors. Annual production of the former eventually exceeded 75,000 barrels; the latter's never reached 500.

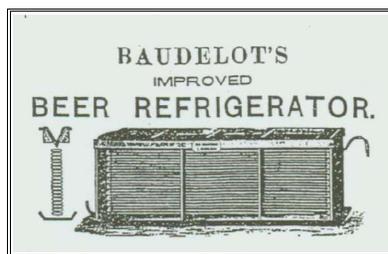
By 1892, the Shuter's Hill Brewery shut down. In 1916, when Virginia became one of the 23 states to adopt Prohibition, the Robert Portner Brewing Company ceased operations.

The Brewing Process

Pre-Civil War Method. John Klein and Alexander Strausz introduced the brewing of lager beer to Alexandria and the state of Virginia (within its post-Civil War boundaries), which is one reason why their brewery is of historical interest.

Lager beer consists of three main ingredients: barley malt, hops, and water. Most nineteenth century breweries purchased malt from independent maltsters. The

Shuter's Hill brewers probably purchased from Francis Denmead's City Malt House in Baltimore, because they were continually in debt to Denmead.



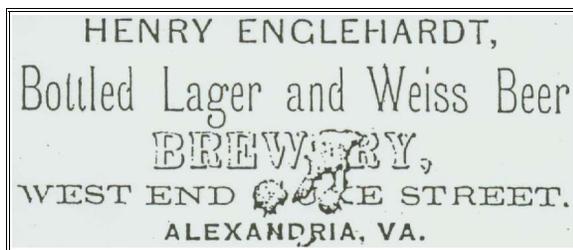
1850s Wort Cooler

The stages of beer making are 1) making wort by agitating malt and water in a large tub, called a mash tun, 2) boiling hops with the wort, 3) straining the wort through a hopjack, and then (4) cooling the wort to a temperature proper for the introduction of yeast and the beginning of fermentation.

English-style beers, such as ale and porter, can ferment at the ambient atmospheric temperatures found in most parts of England and the United States. Lager beer, however, uses a different kind of yeast and requires a cool environment in which to ferment successfully.

Lager brewers were generally restricted to operating in the colder months, and they used underground cellars and liberal amounts of ice to achieve and maintain the requisite temperatures. Beer cellars were made from modified natural caves, were excavated and constructed of masonry, or were cut out of solid rock. Strausz and Klein began construction of such an underground cellar immediately on leasing the Duke Street property. The provision and maintenance of these cellars was difficult. The ice required constant packing and repacking, which was backbreaking and labor-intensive work. The cellars were wet, cold, and moldy, and workers frequently complained of respiratory illness.

At the end of the fermentation process, the beer was racked off into barrels or bottles for storage, sale, or transport.



Henry Englehardt also produced Weiss beer. Weiss, or “white,” refers to its milky, somewhat golden color. Weiss beer is made with wheat meal instead of or in addition to barley meal. It is

top fermented at relatively warm temperatures and then stored at cooler temperatures.

Technological Innovation. The Civil War was the impetus for rapid technological change in many industries. Innovations in the brewing industry included: 1) the isolation of pure yeast, which enabled close control of fermentation and eliminated the cause of sour beer, (2) the introduction of steam power, (3) the development of artificial refrigeration, and (4) improvement in the manufacture of glass bottles and the invention of new closures. Englehardt never kept pace with these changes.

Henry Englehardt

Born in Bavaria about 1833, Englehardt immigrated to Baltimore at age seven. In 1852, he moved to Alexandria and worked with Jacob West in the manufacture of “pop and mineral waters.” His association with the brewery probably extended from its opening in 1858 to its closing in 1891 or 1892.

In 1864, shortly before his death, Klein had enlarged the cellar to meet demand created by the Civil War. Brewing year round, he sold 2,000 barrels that year, his biggest year ever. Nonetheless, he was more than \$4,000 in debt to Denmead when he died. When Denmead acquired the brewery in 1865, he apparently decided to try to put it on a profitable basis and hired Englehardt as brewmaster/manager.

Englehardt was not content to limit his activities to brewing, and in 1868, he and Gottlieb Kaercher opened a beer garden on King Street at the foot of Shuter's Hill. The beer garden did not last, but Englehardt remained in the restaurant/saloon business. The 1870 and 1871 Alexandria business directories list him as having a restaurant or saloon on Duke Street in West End, probably in or near the brewery. From 1873 to 1895, there is no further mention of his saloon in local directories. However, he had licenses for both brewing and saloon keeping in the 1880s, and in 1891, he was twice arrested for selling beer on Sunday.

Englehardt and his wife purchased the brewery in 1872. By 1876, he was brewing weiss beer in addition to lager. Weiss beer was easier to make, but it required bottling. While Englehardt undoubtedly kegged most of his lager for sale or tapping in his saloon, he also bottled both his lager and weiss beers. It is not clear whether he had a mechanical bottling device and illegally reused bottles from other breweries, or whether he contracted out his bottling operations, thus raising his production costs.

Englehardt's production never exceeded 500 barrels annually, about one-tenth of the average yearly production of American breweries at the time. Federal tax policy discouraged small brewers from breaking the 500-barrel "barrier." In contrast, the Portner brewery produced 10,366 barrels in 1878 and 12,192 in 1879. While Englehardt clung to traditional methods and settled on satisfying a limited local market, largely through his saloon, Portner constantly improved and enlarged his operation and took aggressive steps to broaden his market.

Englehardt may have used the second floor, attic, and, at times, the first floor of the brewery as his residence. In 1880, he purchased a house. However, his financial problems were becoming chronic, and in 1882, he had to put his home in trust to secure a loan, probably for the business. Eventually he had to sell the house to satisfy the debt and most likely moved back into the brewery. Meanwhile, he never made any payments to Denmead on the brewery. When, in 1891, he was twice arrested for violations of Alexandria liquor laws prohibiting the sale of alcoholic beverages on Sunday and requiring a city license, even though Englehardt did business in Fairfax County, he was fined \$500 on the first occasion and \$400 on the second.

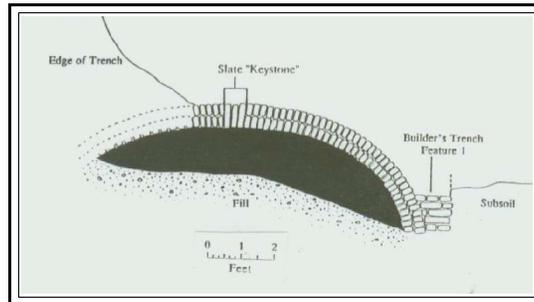
These fines, the losses arising from the curtailment of his business, and/or the failure of his suppliers to extend further credit may have caused the closing of the brewery in 1891 or 1892. In 1892, Denmead's son forced the sale of the brewery to recover some of the debt. Englehardt's brother-in-law, Christopher Dickson, purchased the property. After the brewery was destroyed by fire in 1893, Dickson built another structure on the site, and Englehardt operated a saloon on the property until his death, after a brief but severe illness, on August 23, 1898.

ARCHAEOLOGY

Features

The major features exposed during testing were a brick-vaulted beer cellar (*Structure 1*), a brewery basement (*Feature 6*), and a second brick vault (*Structure 2*), which was a sloping passageway between the beer cellar and the brewery basement.

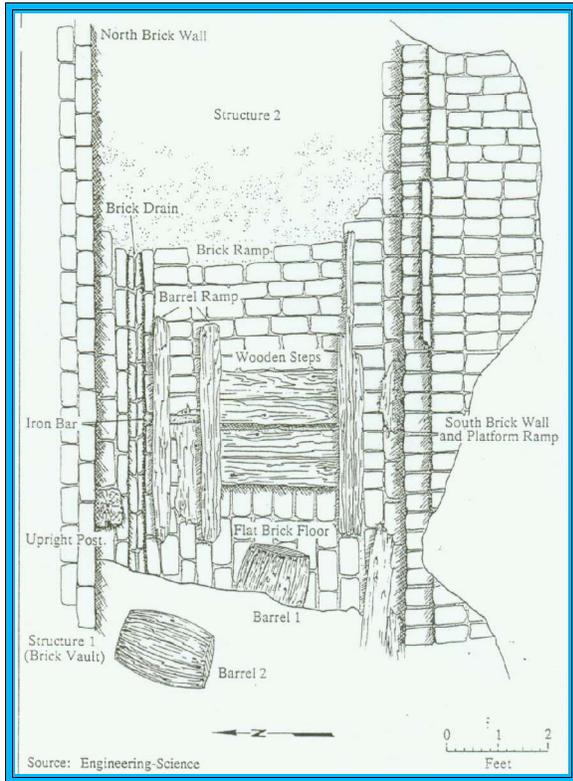
Structure 1. The beer cellar was a subterranean vault measuring 50 feet north-south and 12 feet east-west. The peak of the vault was approximately 12 feet above the floor. The cellar was large enough to store 500 barrels. Although the barrels and kegs in the cellar were either in pieces or in the process of falling apart, some were intact enough to give some idea of their dimensions. Three kegs were approximately 15 inches long with end pieces 9.5 inches in diameter. The staves of two large barrels were at least 4 feet long; and the end pieces were approximately 3.5 feet in diameter. There was also a single vat or tub 2 feet in diameter.



Entrance to the Beer Cellar

The use of ice in the cellar resulted in the runoff of water that in turn caused a buildup of mold

and stale air. To ameliorate this problem, the cellar was provided with a broad ventilation shaft, and although the floor of the cellar was not exposed during excavation due to excessive debris and water, shallow gutters probably ran along the sides of the floor to carry away the runoff.



The Vaulted Passageway

Structure 2. The vaulted passageway sloped down from the east to the open south end of the beer cellar. Its construction was similar to that of the cellar except that the arch was shallower and was not buttressed. The upper part of the passageway was originally a brick floor 10 feet long, but the bricks had been removed and only dirt remained. The middle part, also 10 feet long, was a ramp with wooden steps, two parallel wooden beams alongside that served as a barrel ramp, and a parallel gutter to drain water. The stairs and barrel ramp provided a way to get ice into the cellar, to retrieve barrels of beer for use or sale, and to remove casks for cleaning. At the

base of the ramp was a small chamber, the entry to the beer cellar. Access to the passageway was probably through a large trapdoor set into the floor of the basement.

Feature 6. The surviving remnant of the basement of the above ground brewery building was a rectangular excavation approximately 1.5 feet deep and 35 feet east-west by 30 feet north-south. The basement appears to have had brick walls, although much of this brick had been removed. It was divided into three sections, but it is not clear what they represent.

Artifacts

Excluding a single prehistoric flake, a total of 6,792 artifacts were recovered from the systematically sampled context at the site.

Food and Beverage. Artifacts in this group accounted for 63% of the total assemblage. Bottle fragments accounted for 92% of the group assemblage. Of these, 71% were glass bottle sherds, and 29% were stoneware bottle sherds. Seven bottle stopper parts were also recovered. A few whole bottles were recovered, including one cologne bottle. Only 7% of the assemblage were not related to the storage of liquids.

Of the bottle assemblage, only two were identifiable as “H. Englehardt” bottles. (One other Englehardt bottle sherd exists in the Alexandria Archaeology collection.) The rest were from other breweries.

Two wooden quarter kegs were exposed at the base of the ramp. The iron bands had corroded, but the wood was excellently preserved. The end pieces were marked “W.B.C./WASH. D.C.” The initials refer to the Washington Brewery Company. The kegs were likely saloon related.

Other saloon-related items include a copper alloy barrel tap, beer mug and drinking vessel fragments, ceramics related to food preparation, storage, and consumption, and faunal remains -- bones and oyster shells. Brewery-related items include ferrous barrel strap fragments and whole or partial barrels and kegs.

Architectural Materials. Construction materials recovered include brick, wood, and fragments of synthetic tile and of floor tile made of a rubber compound. Other materials found include drainpipe, sandstone, marble fragments, nails, tacks, hooks, hinges, spikes, bolts, staples, a screw, a lock, and two agateware doorknobs.

Miscellaneous. Personal items recovered include pipe stems, shoe parts, buttons, a buckle, and a comb. The remaining few artifacts recovered include lighting/heating items, such as coal and lamp chimney glass, miscellaneous items, such as flowerpot fragments, and some unidentifiable objects.

CONCLUSION

The archaeological and historical research into the Shuter's Hill Brewery has provided valuable information about the operations of a small-scale brewery doing business during the last half of the nineteenth century, a time when the brewing industry, like many others, was becoming dominated by highly capitalized and increasingly mechanized companies. Unable to compete with

brewers such as Robert Portner, the Shuter's Hill Brewery was always a marginal operation and was eventually forced to cease production altogether as it moved deeper into debt.

The surviving structures around the former brewery, including a house and greenhouses, had been razed by the end of 1951 to make way for the construction of a series of steel and concrete-block government and commercial warehouses. As these buildings were being demolished in 1979, a bulldozer struck the ventilation shaft of Strausz and Klein's beer cellar, and the brewery was discovered. The beer cellar still survives.

After having been excavated and studied, the vault was filled with flowable concrete and buried under 21A stone and dirt. It lies under the southwest corner of Duke and Dulaney Streets, across from Diagonal Road.

This summary is based upon a 1996 report by Mark Walker, M.Phil., Timothy Dennee, M.A. (Consultant), and Brian Crane, Ph. D.