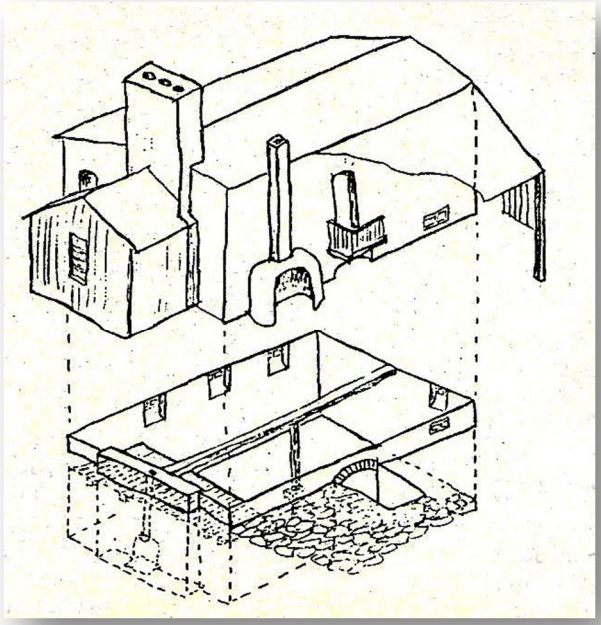
1874 to 1875 SCHULZE BREWERY

Round Top, TX



In June of 1850, brothers Carl and H.E. Schulze landed in Galveston after a 2 month voyage from their native Prussia. Shortly thereafter, they joined thousands of other German immigrants in settling central Texas. On February 27, 1871, H.E. Schulze paid the sum of $1,000.00 to Christian and Johanna Huth for lots 1 and 4 of block 8, the parcel of land upon which this building sits, and was to become the site of the Schulze Brewery.

In the mid 1870's, there were over 50 breweries operating in Texas, many of them in this region. The reasons were straightforward: the availability of water, grains and Germans. Brewing beer therefore became common. The process could be as simple and uncomplicated or as sophisticated and perfectionist as the brew master, but always included some basic steps and ingredients.

The raw materials of all beer are simple: water, grain, hops and yeast. Water came primarily from three sources in this area; collected in cisters, wells and freshwater streams usually fed by an artesian source. The grains were locally grown. In this area, barley was the predominant grain. Once mixed with water for 1-3 days in large wooden vats or "tuns", barley will germinate. It is at this stage that the maximum sugar content of the barley is developed. The germinated barley was then dried, probably in open air under a protected shed roof at Schulze's Brewery. This took 3 to 6 days. Some larger operations took 24 to 48 hours where they employed kiln driers. A compromise may have been employed here, by spreading the germinated barley on the wooden upstairs floor of this brewery and warming the room with the fireplace. Once dried, the barley would be ground, either by using a stone wheel or wooden shoes, a more civilized way to release grain sugars than stomping grapes!

The ground barley was then mixed with water and cooked. "Worting" as the process was called, took place at 165 degrees to 175 degrees F, and probably took place in a large copper vat still located in the brewery cellar. The wort was then ready to be flavored with hops, which were added either as a "tea" or introduced directly to the mixture.

The wort was then cooled in large flat wooden cooling pans about 6' x 6'. Covered with 2" of wort, each pan would yield about 1 barrel of beer. The cooling pans were probably placed outside under the back shed roof, though it is possible that they were on an elevated shelf inside the cellar. A more desirable place because of its cooler more constant temperature. After 10 hours, the cooled wort was placed in a large wooden vat I the cellar, and yeast was added. 8 to 10 days later, aided by an occasional stir with a large wooden paddle, the brew was carefully drained to ¼, ½ and full barrels, a barrel consisting of roughly 31 gallons. Aged from a few days to a few months, this Round Top brew was ready to be served.

Brewing beer at the Schulze Brewery presented some interesting problems. While a workable scenario for the brewing process has several solutions in terms of what took place where most conclusions are conjectural, since little documentation exists. While the details of the brewing process are well known, the temperature at which beer was made and the economics of its manufacture may have played an important part in the relatively short life of the Schulze Brewery from 1874 to 1875.

The brewery was a relatively small operation. For the purpose of sizing the operation, some assumptions can be made. In the immediate area, there were perhaps 200 adults. Assuming half did not drink beer, and then generally on weekends or special occasions, an average of maybe 30 quarts a day is conceivable. Most beer was kegged in smaller units, ¼ and ½ barrel volumes. Once opened, beer went flat without being consumer, so smaller units meant smaller waste, (though it needs to be noted that cattle, especially pigs love the stuff whether its flat, hot, green or whatever, and cows seem to favor the leftovers from the brewing process). 30 quarts is 7.5 gallons, about the size of ¼ barrel, so that seems a fairly decent average consumption.

While germinating the barley, drying it and the grinding process took about 10 days, the brewing process took about twice as long.

Worting	½ day
Cooling	½ day
Fermentation	8 days
Aging	10 days
	19 days

19 days consumption equals 4.75 barrels per brewing cycle, or a little over 7 barrels consumed per month. Since most beer consumed was probably ¼ barrel size, of the 7 barrels brewed each month, 20 kegs were ¼'s, 6 were ½'s and one jumbo full barrel was filled. So, about 30 kegs of various sizes were needed to keep up with demand. Finally, if the assumptions hold, the Schulze Brewery probably produced 80-90 barrels of beer in its year of operation.

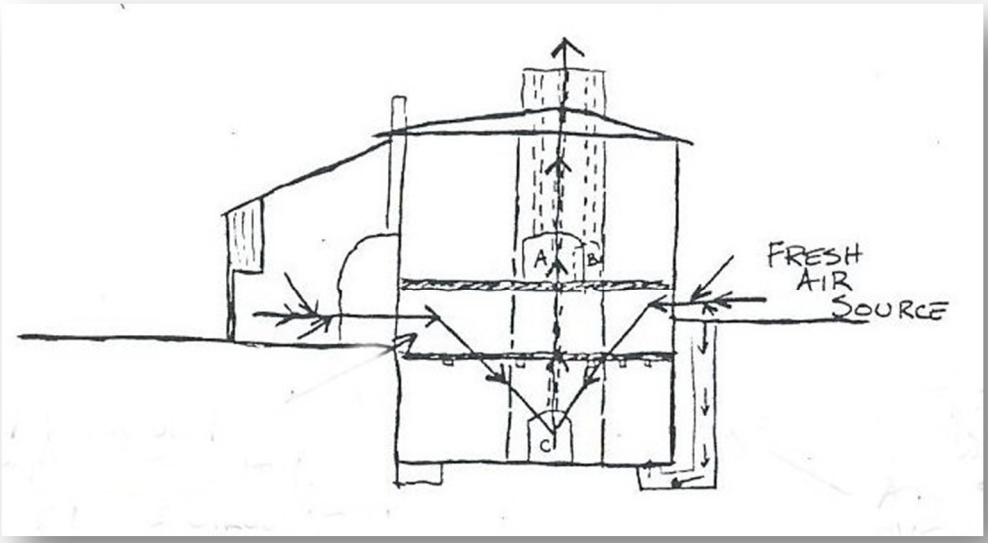
Besides low production capacity, competition also could have shortened the brewery's life. By the late 1870's, large volume producers from the mid-west were visible in Fayette County, particularly

Anheuser-Busch from St. Louis. In fact, by the turn of the century, all but a hand-full of Texas breweries were gone.

But economics probably weren't the sole reason for the Schulze Brewery to close after one year. Another may have been temperature. Other local breweries like the Kreische Brewery in La Grange, went to elaborate extents to keep certain parts of the brewery, especially the fermentation vault, cool. Yeast is a living mass, and temperatures not much higher than a good July day will kill it. Most lager beers ferment best at around to degrees to 60 degrees F, and ales at about 5 to 10 degrees higher. And there's the problem in the summer; even the cool, moist cellar of the Schulze Brewery never varies from 76 degrees F. And as the schematic below illustrates, there's not much evidence to suggest outside measures were used to cool the all-important cellar further. Too bad, because the summer heat may have limited to the cooler months, making part-time operation uneconomical.

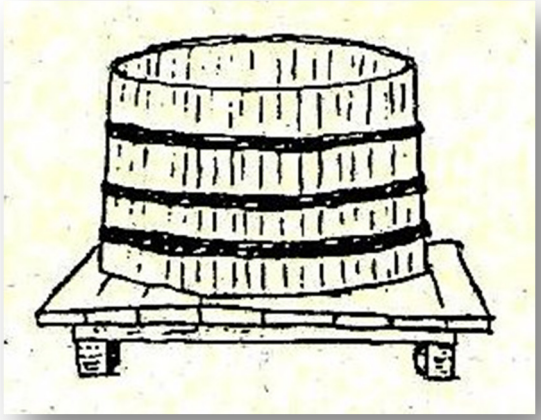
Chimneys were successfully used to actually cool certain areas by creating a draft through convection, that is, the heat of the fire causes air to be forced upward, drawing cooler air from the room. To keep the fire from heating the room to be cooled (unless you are a you know what), the fire could be above the room to be cooled. Moreover, making the drawn air pass over cool surfaces or moisture could have cooled the cellar below 76 degrees F. But, onsite evidence suggests this did not happen.

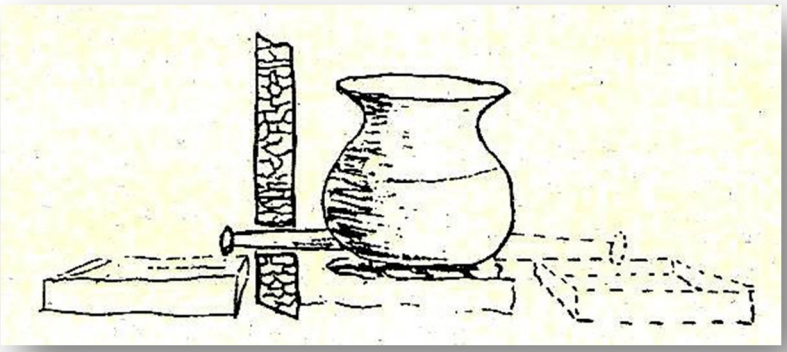
This seems like an awfully long way for cooling efficiently. The floor would get little circulation and the cool, moist rock surfaces would have little air moving over them. Also this assumes the heat sources were in fireplaces A & B since only you know what's from you know where would heat fireplace C to cool it.



The most efficient cooling would take place by using air shafts passing air over cool soil and rock, but no evidence exists to suggest this.

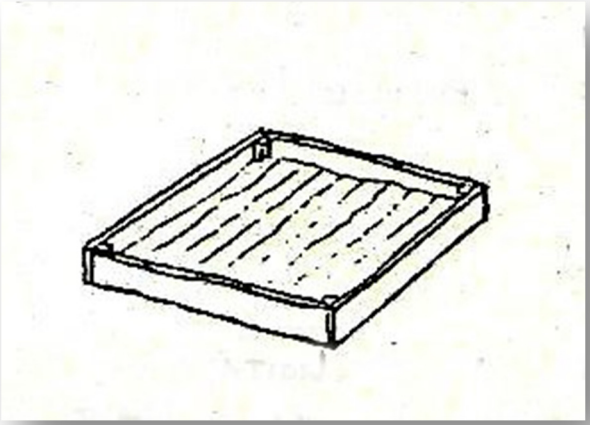
Large wooden vats were used mainly for fermentation. They could be used to heat the wort by drawing off small amounts and heating it in smaller, metal containers over charcoal. Fermentation occurred in the cool cellar.





The copper kettle, still in the cellar was most likely used to cook the wort. The cooking was done outside so as not to warm the fermenting and aging cellar. Interestingly, the long neck at the bottom of the kettle could have allowed direct drainage through the wall to the cooling pans.

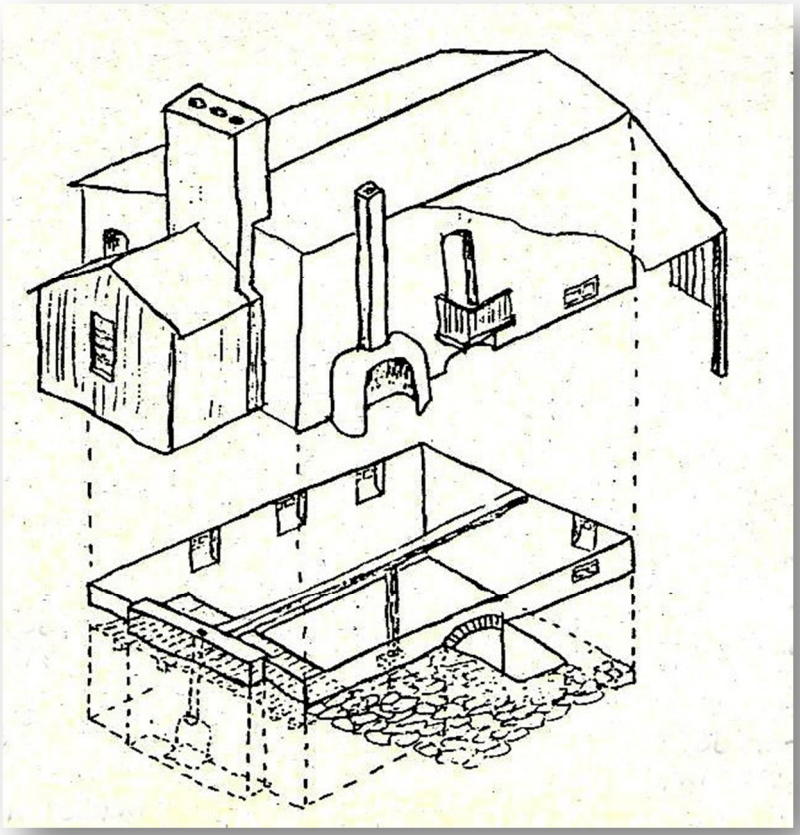
Sealed with pine pitch, these cooling pans where made of wood, and cooled the wort in preparation for fermentation. They were probably used under the shed, though there is an excellent chance they were placed on the cellar shelf.



For several functions, including barrel cleaning and repair, preparing wort, drying barley and hanging out, the area under the shed was probably paved in stone.

Early photographs show a small shed outside the brewery because of its size and isolation, it was probably a kitchen, which meant the upstairs was most likely a residence.

The cellar walls show various penetrations. Those on the chimney and the wall that it engages suggest a shelf about 8 feet above the cellar floor. The cool temperature would make the shelf an ideal location for the cooling pans or a logical spot for the fermenting vats, allowing for gravity feed to fill kegs.



C:\Users\JRM\Downloads\THE SCHULZE BREWERY.docx
SBR