

## **Soapstone Ridge: A Trade Center for Archaic North America**

1. Constitution Lakes is near Soapstone Ridge, a 25 square-mile area that offers dozens of Late Archaic quarries and workshops that were the epicenter of a huge trade network. One item which was soapstone.
2. In southeast Atlanta in the area surrounding Constitution Lakes there are dozens and dozens of sites dedicated to the production of soapstone slabs. Since the 1970's archaeologists have identified 12 quarries in Soapstone Ridge, 12 around Conley Creek and nearly 25 buried by the Live Oak Landfill. These quarries and shops created more than just the soapstone slabs, but atlatl weights, net sinkers for fishermen, smoking pipes and ornaments. Many of these sites have been wiped out by subdivisions, the landfill and other developments.
3. The soapstone slabs created in southeast Atlanta have been found as far east as Louisiana and as far north as the Great Lakes.
4. Logging activity and farming would have removed much of the evidence. And most of the land lies underwater due to the brick excavation pits created by the South River Brick Company.

## **South River Brick Company**

1. The story behind the South River Brick Company in DeKalb starts before the Civil War when Killis Brown, the son of a blacksmith and farmer from Entrenchment Creek, and his son Allen Brown bought his piece of the pie for \$300, and it included this tract of land.
2. In 1881 the East Tennessee, Virginia & Georgia Railroad purchased a right of way through a portion of Allen Brown's estate. They built a railroad tract that still exists today – this line creates the eastern boundary of Constitution Lakes Park.
3. The railroad was crucial to the development of the land – it was the railroad and the clay that attracted development by:
4. 1892- J.R. Knapp and S.F. Cain formed the South River Brick Company (Knapp was president) and purchased nearly 51 acres from Allen Brown for the purpose of creating a brick works. It was the excavation pits from this brick works that are now Constitution Lakes.
5. The Free Labor Wage War: Chattahoochee Brick vs. South River Brick
6. Also, not all of the brick piles you see on the trail are from the South River Brick Co. as the adjacent RR used the area as a dumping ground for bricks.

## **Introduction to Historic Brickmaking**

1. The first step in making bricks was to find a suitable supply of the main ingredient, clay. Before the steam shovel was not invented until 1879, early brickmakers dug for the clay on site with hand shovels. This was done in the fall. The early brickmaker chose his clay based on its color and texture and his own personal experience. He sought clay that was located just under the topsoil to minimize the work of digging with hand spades. The clay was then exposed to the weather, so winter's freeze-thaw cycle could break down the clay and make it easier to be worked by hand. The elements made the clay soft and removed unwanted oxides
2. Packed mud into a mold usually made of wood and sometimes lined with copper. In the spring, brickmakers could work the clay by hand. The clay was either ground into a powder and screened to remove stones, or placed into a soaking pit. Here, it was mixed with water to obtain the right consistency for moulding. The clay was then kneaded by hands and feet to thoroughly mix all the elements of the clay together. This step was called tempering or pugging and was the hardest work of all. In the mid-1800's, horse-driven pug mills were invented to minimize the labor. At an opportune time, the clay was removed from the soaking pit or pug mill by a temperer, who then delivered it to the moulding table.
  - The assistant brick moulder (the "clot" moulder) would prepare a lump of clay and give it to the brick moulder. The brick moulder was the key to the operation and the head of the team. He would stand at

the moulding table for twelve to fourteen hours a day and, with the help of his assistants, could make 3500 to 5000 bricks in a single day. He would take the clot of clay, roll it in sand, and “dash” it into the sanded mould. The clay was pressed into the mould by hand and the excess would be removed with a strike, which was a flat stick that had been soaking in water. This excess clay was returned to the clot moulder to be reformed. Sand was used to prevent the clay from sticking to the mould. Single, double, four-, or six-brick moulds were used. The single brick mould had an advantage in that a child could carry it to the drying area. .

- brick molds on the ground to air dry.
3. The moulded bricks were stacked in a herring bone pattern to dry in the air and the sun. They were left to dry for two days, at which time they were turned over to ensure uniform drying and to prevent warping. During this time, tools called dressers (or clappers) were used by “edgers” to straighten the bricks and obtain a smooth surface. After four days of dry, hot weather, the bricks were hard enough to be stacked in a herringbone pattern with a finger’s width between them for further drying. This area was called a hack or a hackstead, and the bricks were covered under a roof or with straw to protect them from the rain or harsh sun. After two weeks the bricks were ready to be burned
  4. After the brick molds were dry, place them into a kiln or fire pit, which would often heat up to 2000 degrees Fahrenheit.
  5. If fired bricks were on hand, they were used to construct the outer walls of the kiln and the surface was daubed with mud to contain the heat. If no fired bricks were available, the kiln was constructed entirely of green or raw bricks, which were stacked in such a way as to act as their own kiln. These kilns were called clamps or scove kilns. Wood and coal were used for fuel. Even after drying in air, the green bricks contained 9-15% water. For this reason, the fires were kept low for 24-48 hours to finish the drying process. During this time, steam could be seen coming from the top of the kiln. This was called “water smoke”. Once the gases cleared, brickmakers had to go-ahead to increase the intensity of the fires. If it was done too soon the steam created in the bricks would cause them to explode. Intense fires were maintained in the fire holes around the clock for a week until temperatures of 1800 degrees F were reached.
  6. Cooling. The knowledge and experience of the brickmaker dictated when the fireholes would be bricked over. At this point, the heat was allowed to slowly dissipate over the course of one week. When the kiln was disassembled, the sorting process began. If only raw bricks were used, the bricks from the outermost walls were kept to be burned again in the next kiln. Some bricks which were closest to the fire received a natural wood ash glaze from the sand that fell into the fires and became vaporized and deposited on the bricks. These bricks were used in the interior courses of the walls. Bricks that became severely over-burned and cracked or warped were called clinkers and were occasionally used for garden walls or garden paths. The best bricks were chosen for use on the exterior walls of the building. Those that were only slightly underfired had a salmon color and early bricklayers knew that the porosity of these bricks would help to insulate the structure and they were placed on the innermost courses of the wall.

### Health Hazards

1. In Nepal excessive noise, repetitive motions, and prolonged standing. These were subjectively determined by the worker in a questionnaire. The prevalence of occupational safety and health vulnerability is very high among the brick factory workers. Young workers, non-native immigrant workers, workers carrying cooked bricks out from chimney and workers from small-sized workplace were found to be more vulnerable. Knowing how worker subgroups experience different types of vulnerability can help formulate better preventive interventions. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6748303/>
2. The survey, which was conducted in 20 sites (10 from each sector), found that in both sectors over 20% of the measured exposures exceeded the UK RCS 8-hour time-weighted averaged workplace exposure limit (WEL) of 0.1 mg/m<sup>3</sup>. In the stone sector over 40% of the 8 h time-weighted average RCS exposures were above the RCS WEL compared to 20% in the brick manufacturing sector. <https://academic.oup.com/annweh/article/63/2/184/5281173>

### Sources and Additional Resources

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