

company manufactured terracotta practice bombs for the Army Air Corps. Later they produced extruded wall ashlar and swimming pool blocks.

The clay industry produced many of the elite of Woodbridge society. The "clayocracy" as they were referred to in a 1935 *Woodbridge Independent* article, included the Anness, Berry, Cutter, Melick, Potter, Ryan and Valentine families. In addition to their business endeavors, many held political and governmental offices, founded banks and schools, served the public and lived and participated in the community.

3

William H. Berry settled in Woodbridge in 1832 and in 1845 he began manufacturing fire-brick. Strategically located along Woodbridge Creek, by 1875 his plant could produce a million high-quality fire-bricks annually. Mr. Berry was a township committeeman and chairman of the board, president of the board of directors of Dime Savings Bank, public school trustee, trustee and president of the board of the Methodist Episcopal Church, Sunday school teacher and superintendent. He was also instrumental in the construction of School No. 1. His son James E. Berry continued the family business ultimately changing the name to the James E. Berry Co. James served as town tax collector, president of the



William Berry

Woodbridge Building and Loan Association, school trustee and treasurer of the Barron Library Association.

Descendant of first settlers Major Richard Cutter and Mary Pike, Hampton Cutter was a farmer until he discovered a large deposit of kaolin on his land. In 1845 he began to mine and export kaolin and later fine blue clay - both used in the manufacture of fire-brick. One of the most successful clay merchants in the community, Hampton Cutter built a palatial Italianate mansion on top of Strawberry Hill presiding over his claybanks behind. He served as a justice of the peace,



freeholder, director of the National Bank of Rahway and a trustee and president of the Board of the First Presbyterian Church of Woodbridge. Hampton's son, William H., and grandson, Hampton Cutter, followed in the family businesses and built side-by-side grand homes on Green Street. When Laura Cutter, sister of the younger Hampton died in 1958, her obituary noted that with her death, "the direct line of the Cutter family long associated with the Township's civic, industrial and social life has died out."

For many, Valentine is synonymous with Woodbridge clay. James

Valentine moved his growing family to Woodbridge in 1843 after retiring from a successful career in New York City. Eventually, James Sr. and Catherine nee Ackerman would have fourteen children - one daughter and eight sons reached maturity. James Sr. partnered with William H. Berry and Alexander Brown in clay mining and manufacturing. Many members of the large, extended clan worked in the family business but sons Mulford Day (M.D.) and James B. Valentine were foremost in building M. D. Valentine & Brother into one of the nation's preeminent fire brick companies.

Some of the Woodbridge's clay concerns -not including myriad small operators and clay bank owners

Anness & Potter Fire Clay Company. Charles Anness & Sons. Anness & Lyle Manufacturing Company. Atlantic Terra Cotta. Ayers & Co. James E. Berry. William Berry & Co. Birkett & Paterson. C.W. Boynton. S. G. Brinkham. David Brown. Charles A. Campbell. Carteret Brick Works. Hampton Cutter & Son. Didier-March. Warren Drummond. Federal Terra Cotta. Federal Seaboard Terra Cotta. Florida Grove Co. David A. Flood. Fords Porcelain Works. General Ceramics. John H. Leisen Clay Mining Company. J. Little & Sons. Henry Maurer and Sons. McHose Clay Co. Joel Melick Jr. Peter B. Melick. Mutton Hollow Fire Brick Company. NATCO (National Fire Proofing Company). Nancy China. Noe. Ostrander Fire Brick Co. Poillon Pottery. James P. Prall. Raritan Hollow and Porous Brick Company. Raritan River Clay. P.J. & J. F.Ryan. P.L. Ryan. Salamander Works. M.D. Valentine & Brother. R.N. & H. Valentine. Woodbridge Clay-Mining and Refining Company. Woodbridge Ceramic Works. Woodbridge Pottery Company.

In 1865, James R. patented a process for making "bath brick" - scouring clay that could be used to clean steel and tin. But the market for this product was limited and the company expanded into drain tile, stove linings and later fire brick. In 1866, they built a 22-acre manufacturing facility on the Woodbridge River at the end of Pennval Road.

The Valentines earned an international reputation for producing some of the finest fire-brick in the world and their bricks were exported across the country and to Europe, Cuba and South America.

By 1876, the plant was capable of producing four million bricks a year. Later they added another plant at Valentine Station in Raritan [Edison] near Fords. In 1950, the A. P. Green company took over the facility and in 1956 a devastating fire destroyed much of the plant. It was rebuilt and continued to operate until 1983 - 117 years after it first opened.

The Valentines lived where they worked. They turned Green Street, between the railroad tracks and Amboy Avenue, into a family affair and built seven beautiful homes within blocks of each other. Several still survive.

M.D. repeatedly declined nominations for congressman and State

senator, focusing on his businesses and employees. James Jr., known as Ross, married Sarah A. Anness and was a Mason, Elk and active member of the Royal Arcanum Society and Methodist Episcopal Church. Howard was a president of the New Jersey Clayworkers Assoc., worked with W. Berry and others on the construction of School No. 1., served as Board of Education President, Trustee of the Barron Library and as President of the Township Committee [Mayor] during World War I. Ross's son, Frank R., became president and general manager of the company upon his father's death in 1919. At that time the Valentines employed



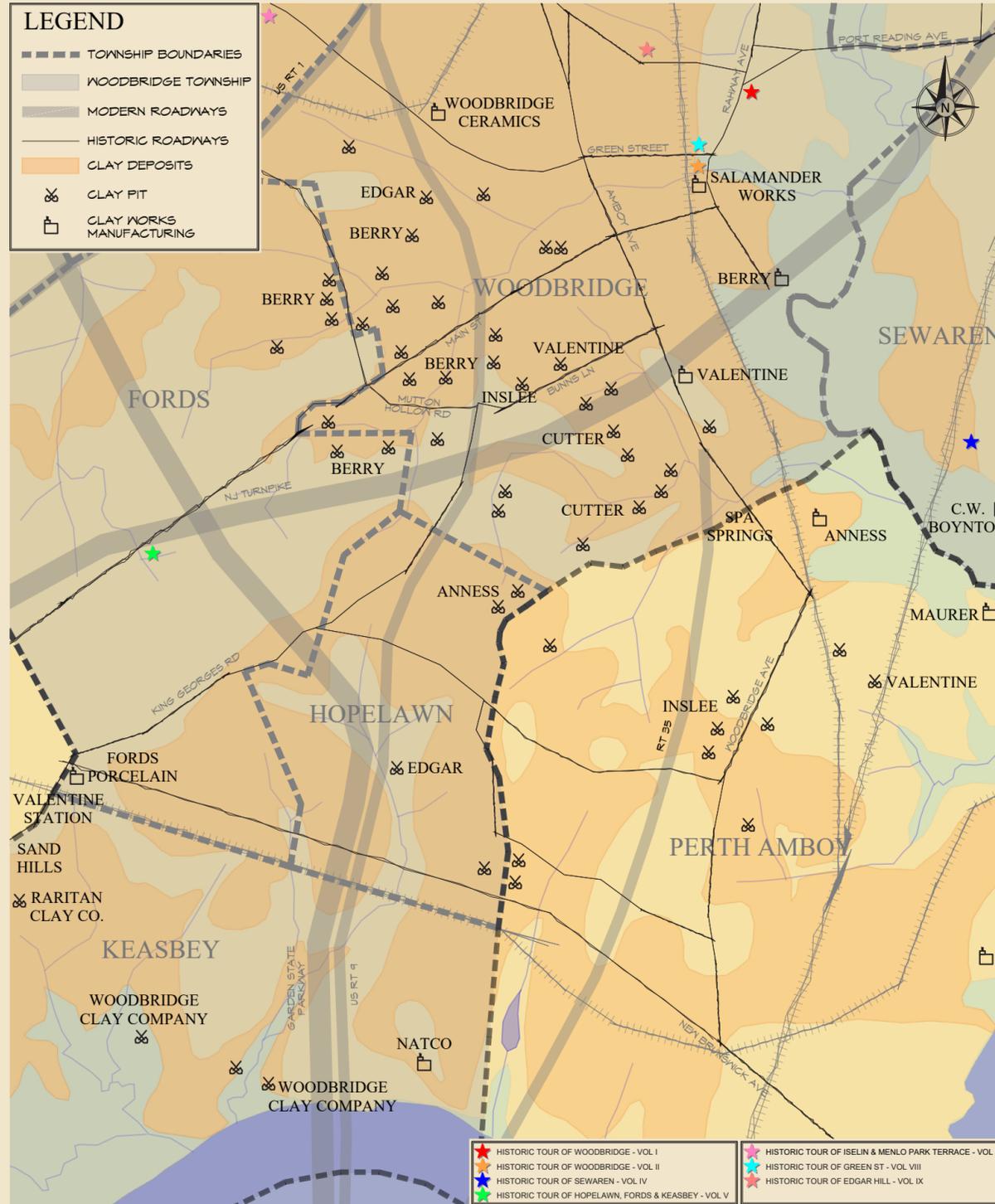
M.D. Valentine

300 men at their Woodbridge and Valentine Station plants. Frank R. was involved in many organizations. A comment in a 1920 biography applies to many of his Valentine relatives as well as to himself: "He is intensely public-spirited, a man of action, deeply interested in all that concerns the welfare of his town and highly esteemed."

The Anness, Campbell, Melick, Potter and Ryan families also built successful clay businesses and other prominent families like the Boyntons, Edgars, Floods and Inslees had interests in the clay industry as well.



CW Boynton Drill Pipe & Tile Works



Read "Historic Tour of Woodbridge" Volumes I - IX for additional information relating to the clay industry in Woodbridge.

4

The Mysterious Woodbridge Figures



Made of pine or cedar, the small carvings are linked to Woodbridge's clay history through the location of their discovery. They were reportedly found during the development of Woodbridge Center in a shack in the scrub woodland surrounding the old clay pits. Everything else is a mystery. Who made the unique, armless, anatomically correct folk-art figures? When and why? Date estimates range from late eighteenth-hundreds through the 1940s. Rumors hint at an inbred clan of squatters, an insular family, fertility cult, healing shrine and deep secrets that may never be known. However, since their discovery they have been exhibited in New York, Newark and Paris and are highly valued and appreciated by folk art collectors and scholars.

Photo Courtesy of Weird NJ Magazine



1934. A pit in Keasbey that claimed one to two lives a year for many years was finally closed after a triple tragedy. Three Woodbridge boys, brothers Howard O. and Fred W. Peterson, 9 and 4 years old, and 7-year-old Ernest Orsz died after falling through the ice covering the pit.

As the 20th century advanced local clay production and manufacturing decreased. Some mines were played out or the remaining clay was too inaccessible for further investment. Cheaper steel from China depressed U.S. steel production which, in turn, reduced the demand

Centuries of quarrying Woodbridge's precious earth left scars upon both land and people. The clay pits/mines dramatically altered the landscape of areas in the Township and, in a time of few work site protections, sometimes proved perilous for workers and the public at large. Deep pits tapped underground springs and other depressions filled with rain water. Drownings were not uncommon. In 1952, teacher Kenneth Harned drowned after a party celebrating the end of the school year. Children were particularly at risk. Sixteen-year-old Ernest Hlotki from Perth Amboy drowned during a dip in a Woodbridge clay excavation in



NATCO / Keasbey

for fire brick as did newer technologies that changed the temperature requirements in industry. The evolution and mass production of plastics freed manufacturers from a dependence and possible scarcity of natural materials - including clay. Post World War II competition came from Pennsylvania clays. Valentine converted to mass production but others couldn't keep up.

By the 1950s, the clay pits were considered an unusable wasteland, a disaster area. Woodbridge's population boomed after WWII and land became scarce in the township. 409 vacant acres of former clay mines



McHose Brothers Pit, Florida Grove

draw the attention of township planners. Visionary Woodbridgeans, Mayor Walter Zirpolo, Council President Robert Jacks and Woodbridge Redevelopment Agency Executive Director Buddy Harris proposed building a shopping center on part of the land to planning firm Victor Gruen Associates. Gruen responded with a comprehensive proposal that, in various versions, proposed a Centrosphere/City of Tomorrow that would include a YMCA or YMHA, a museum, library, post office, civic center, government buildings, botanical gardens, children's zoo, medical clinic, bicycle and bridle paths, band shell, stadium, facilities for ice and roller skating, motels, apartment



M.D. Valentine House

and office buildings, tennis courts, open air theater, playing fields, parks, lakes and lagoons. Over the next few years the plan was pored over by Township officials, Rutgers planning students, a panel from the Urban Land Institute and state and federal officials.

Eventually the proposals were scaled down to a "Conceptual Core Plan" and Gruen identified the claypits area between Routes 1 & 9, Beth Israel Cemetery and Main Street as "ideally suited for development." Woodbridge officials worked to attract stores to anchor the complex and in late 1966 Federated Department Stores who represented Abraham & Strauss, Stern Brothers and Orbach's agreed. In

1968, the old sand section at the northern end of the tract was sold to Rouse-Federated for a shipping complex. The Hess Oil Company built their 12-story national headquarters at the southern end of the claypits on Route 9. The ground-breaking for the 1,100,000 square foot Woodbridge Center was held August 1, 1968 and the then-largest mall in New Jersey opened its more than 100 stores to the public on March 4, 1971.

While other Middlesex County communities such as Perth Amboy and Sayreville benefited from clay mines and factories, a 1918 *New Jersey Industrial Directory* noted "Woodbridge is one of the most important centers



Valentine Kiln

of clay products in the country. Surrounded by immense clay deposits, the growth of the town from its first settlement up to the present time has kept pace with steadily maintained expansion of the various forms of clay product industries in which it originated." Other communities were part of the Woodbridge story as well. Now a section of Perth Amboy, Spa Springs was a Cutter family farm and a community sprung up around the clay works there. German immigrant Henry Mauer purchased the firebricks works of Joseph Forbes near the mouth of Woodbridge Creek in 1875. The area around Maurer Road and Amboy Avenue, where Henry developed what



Woodbridge Center

would today be called an industrial complex became known as Maurer. Maurer was, at one time, a stop on the railroad between Woodbridge and Perth Amboy.

The discovery of high-quality clay hiding under the surface drove the economic, social and demographic development of the Township and changed Woodbridge forever. The rails, roads and waterways needed to move the clay helped built the infrastructure of the Township. And while "handsome clipper ships riding anchor at the mouth of Woodbridge Creek" to be loaded with clay and firebricks for export no longer

grace our shoreline, it is no coincidence that the last remaining beehive kiln for firebrick in New Jersey is on the site of the old Valentine plant on Pennval Road - on the bank of the Woodbridge River. The clay industry brought wealth for a few - some of whom used their riches and power to help build and strengthen civic institutions. It created economic opportunities for many. Existing citizens and immigrants labored in the mines and factories, fought for living wages and used those opportunities as stepping stones towards a better life. Woodbridge was built on clay.

Endnotes, references and additional information can be found at www.woodbridgehistory.com.

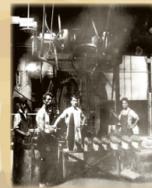
2 Laboring in the clay mines and factories was dangerous, back-breaking work. Shovels, picks and dynamite were used to remove the clay from the ground in the Sand Hills (or Dreary Sand Hills), Mutton Hollow and other claybanks. Heavy chunks were loaded by hand onto horse-drawn carts or railroad cars to move it to processing areas where washing and sorting would occur. Initially the clay was mostly mined by 19th century Irish and German immigrants.

In 1896, the introduction of a heavy income tax in Hungary prompted thousands of Hungarian families to flee poverty and priva-



Ostrandrer Brick Company's Southern Pit

In Woodbridge, the strike spread to The Raritan River Clay Company, Ostrandrer Fire Brick Company, NATCO and other similar companies. The National Guard was called into Keasbey where there was a pitched battle between deputies and strikers at the National Fireproofing Company which resulted in seven strikers being shot, two fatally. While Henry M. Keasbey, Vice President and General Manager, told reporters that he knew of "no legitimate grievance," the strikers offered to work an additional hour every day to ten hours if wages were raised to \$1.50 a day. The village of Keasbey was locked down and subjected to martial law



Federal Terra Cotta Bomb Factory
Photos Courtesy of the Middlesex County Office of Arts & History

until the strike was settled. After a tumultuous multi-day strike, labor and management reached an agreement to increase wages four months in the future. Workers at Federal Terra Cotta Company struck in 1913 and 120 laborers working the claybanks owned by L. H. McHose, Inc successfully struck for wage increases in 1917.

In the mines and factories laborers pushed themselves to acquire the skills and take on the most dangerous tasks that would earn them the highest pay. The Valentine factories innovated brick production with their introduction of tunnel kilns. Their tunnel kilns

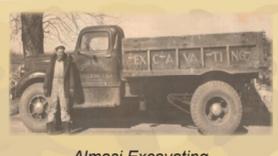
were 240 feet long and could accommodate 40 rail cars loaded with fire-bricks for drying and baking. A vast improvement over the older round kilns, tunnel kilns greatly increased efficiency and production. Tunnel kiln firemen commanded higher pay for their handling of the brick-laden rail cars.

For many of the new Americans, the opportunities provided by the clay industry proved to be the foundation for them and their families' future successes and contributions to Woodbridge. The need for a labor force brought the immigrants to Woodbridge and swelled the local population.



Keasbey

In turn, they injected fresh energy, aspirations and a deep commitment to their new community. Some advanced in the companies where they worked. Others provided services to the industry or broke away and started their own entrepreneurial ventures. For instance, John L. Almasi Sr. emigrated from Hungary in 1912. He started hauling clay by horse cart in the mines. In 1929, despite knowing little English, he started a local bus route business and sold it to the Township. The sale enabled him to launch his trucking and paving endeavors. He purchased property around the Township including near the clay pits where the Woodbridge Figures



Almasi Excavating
Photo Courtesy of the Almasi Family of Businesses

were found. Members of the family still own and operate businesses in Woodbridge including Almasi Contractors and the Almasi Companies. Lou Creekmur, whose mother was an immigrant from Poland, graduated from Woodbridge High School, went on to play football for the Detroit Tigers and is honored in the NFL Hall of Fame.

Density, purity, sand and mineral content combine to produce clays of various grades and different properties. Woodbridge's high grade fire clays, plastic bonding clays, clays high in alumina and/or silica content were prized throughout industry. "Fire is basic to all

manufacturing. Fire is the very heart of industry. Fire is power.... As long as heat is necessary to industrial production, there will be a need for ...fire bricks of Woodbridge clay." "Without them there would be no steel industry...no refining of aluminum, zinc, copper, magnesium, lead and tin...no lime, no coke, no portland cement...[or] glass...[no] gasoline..." iv So said *The Independent Leader*. For a time, locomotive boilers were lined with fire brick. Woodbridge's refractory clays were used in the construction of airport runways to withstand the heat of the blasts from jet engines. Spark-plugs were manufactured from local clays. For decades, American steel

was the backbone of the U.S. economy and the spread of steel mills and the strength of the fire-brick industry advanced together. As late as 1964, 65% of Valentine's fire-brick production went to the steel industry.

In a period before plastics, the many uses for Woodbridge clays is astonishing. Apart from critical industrial uses, Woodbridge clays were molded and manufactured into nearly every kind of product imaginable. For instance, C.W. Boynton manufactured vitrified sewer pipe and farm drain tile; Poillon Pottery and Nancy China produced decorative and household items including toby jugs and lamps; Fords Porcelain Works and



Terracotta Bombs



Asbury Park Convention Hall

Woodbridge Ceramic Works made sanitary pottery including sinks, toilets & tubs; in addition to fire-brick, M.D. Valentine & Brother produced glazed drain-pipe and sand tile; Woodbridge Pottery Company - porcelain door knobs, bottle stoppers... The list goes on...

Several companies specialized in terra cotta. Architectural terra cotta is highly adaptable and can be sculpted, molded and glazed to mimic stone and other materials. Local manufacturers made terra cotta grave markers that were used in the clay districts of NY and NJ before they fell out of favor in the 1920s and '30s.

Beautiful polychrome facades and glazed terra cotta decorations made from Woodbridge clays adorn area buildings including the Woodbridge National Bank on Main Street. Federal Terracotta was formed by Charles Greer in 1909 and merged in 1928 with two other companies to form the Federal Seaboard Terracotta Corporation. Examples of the Federal Terra Cotta Company's work include 1082 Park Avenue, the Whitehall Building, Equitable Building, McGraw Hill Building, Biltmore Hotel and Racquet Club and Asbury Park's Convention Hall. During World War I, when local building slowed and industries were redirected toward war efforts, the

www.woodbridgehistory.com
Special thanks to Dr. Gail P. Rottweiler
Photographs courtesy Kathy Jost-Keating, Martin S. Genser, Jennifer Stillwell Kolb & Woodbridge Public Library

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Brochure design by Brandon Powell

MIDDLESEX COUNTY, N.J.

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www.woodbridgehistory.com



85 to 90 million years ago, a carnivorous dinosaur of megalosaurian type slipped on a steep incline and left its footprints pressed into the clay. The footprints were discovered in 1929 and 1930 in the Hampton Cutter pits and one is preserved at the Rutgers Geological Museum in New Brunswick, NJ. To date they are the only known Cretaceous dinosaur footprints discovered east of the Mississippi.

Image courtesy of the Rutgers Geology Museum

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Special Thanks to Mayor John E. McCormac

The mission of the Woodbridge Township Historic Preservation Commission is to inform, educate, advise and unite public officials and the community at large as an advocate for the preservation of the rich history of Woodbridge Township

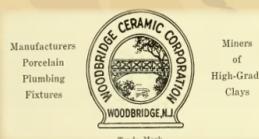
Woodbridge Township Historic Preservation Commission



Old Town Hall

precious earth.

Early inhabitants took advantage of Woodbridge's abundant natural resources. New Jersey's indigenous people, the Leni Lenape, who had villages and seasonal encampments along the Raritan River and Arthur Kill, used clay to make pots, clay tobacco pipes and for cooking. A favorite method for cooking fish caught in the local waters was to cover the fish in clay and place the encasement in the embers of a fire. When it was done, this clay package was removed from the fire and cracked open. The scales remained attached to



earth" to clean their buckskin breeches.

While a 1964 *Independent Leader*¹ article noted that there may have been a fire-brick manufacturing plant in Woodbridge as early as 1725, most Middlesex County clays were initially mined for export. In 1816 an enterprising businessman from New Brunswick, Mr. Price, purchased fire-clay mined on the property of Mr. Cotheal (the records do not indicate a first name or initial) and then delivered the clay by ship from Woodbridge to Boston.

When founded in 1825, the Salamander Works was the largest clay

products plant in the state and the first major clay facility in Woodbridge. It was founded by Rene Pardussus and Gage Inslee. Michel Lefoulon was the senior partner for many years. Initially Salamander was known for its production of stoneware with Rockingham-style glazes, including uniquely decorated pitchers and the like.

In 1867 the Salamander Works changed hands and in 1871 William Poillon was named president. He and his brother Cornelius C. Poillon expanded the company and by 1882 they were running eight kilns, employed 125 people and made "fire-brick, glazed sewer and



William Poillon

only woman clay products manufacturer in the state of New Jersey. An artist, she studied chemistry to experiment with colors and glazes. The forms and colors of ancient Egypt, Crete, Persia, China and Japan were popular at the time. C.L. made a study of them in her travels and visits to museums and exhibitions. She worked with New York sculptors on unique table, house and landscaping pottery. Her 1936 obituary noted that she was a widely-recognized pottery authority and had been able to make exact reproductions of glazes and textures of Cretan ware from 2200 BC that were shown at the Metropolitan Museum.

An ardent suffragist, Clara Poillon's work can be found in museums and private pottery collections.



Clara Louise Andrews Poillon



Poillon Pottery & CLP (Clara Louise Poillon) Makers Mark



Clay Pit of M.D. Valentine & Brother



Salamander Works



1 combine with clay minerals. Different types of clay are a result of variations in mineral composition.

During the Cretaceous Period, 70 to 135 million years ago, the Raritan Formation, an upper clay-silt and lower sand geologic formation, was laid down covering large sections of Middlesex County, especially, Woodbridge.

The Wisconsin glaciation, the last great North American icecap, spread south 75,000 to 11,000 years ago. Barely reaching Middlesex County, the glacier's terminal moraine (a ridge of glacial debris) covered much of

Woodbridge. The power of the glacier churned the land and relocated deposits of clay from the underlying Cretaceous strata.

These complicated geological processes left Woodbridge with significant deposits of many different and valuable types of clay including fire-brick clay, sager clay, stoneware clay, pipe clay, kaolin, alum-clay, refractory clay and more.

Clay would have remained in the ground unused if not for human efforts. People conceived uses for it, invested in its extraction and manufacture, and dug, hauled, processed and created using Woodbridge's

the clay with the fish meat cooked and ready to eat!

The first European settlers recognized the usefulness of Woodbridge clay. In 1670, brick maker/layer Freeholder John French was granted 15 acres of land on the condition that he provide Woodbridge residents with bricks before selling them outside the Township. Later, some lots on today's Green Street were offered to the "Molden Men." Some historians have surmised that these were craftsmen who "molded" or "moulded" bricks and the properties were inducements to settle and work in Woodbridge. Later, Revolutionary soldiers used a local clay called "fuller's

Historic Tour of WOODBRIDGE

Volume XI

Woodbridge: Built on Clay

First Edition - 2019

Compiled by the Woodbridge Township Historic Preservation Commission



Chartered 1669