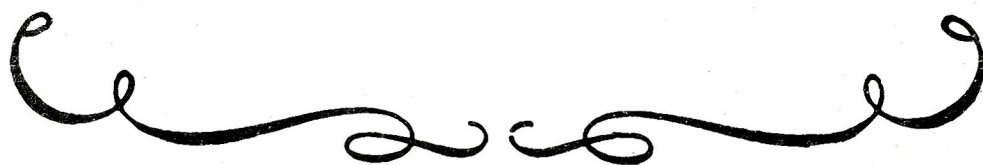




IN THE VICINITY
OF LIMEPORT



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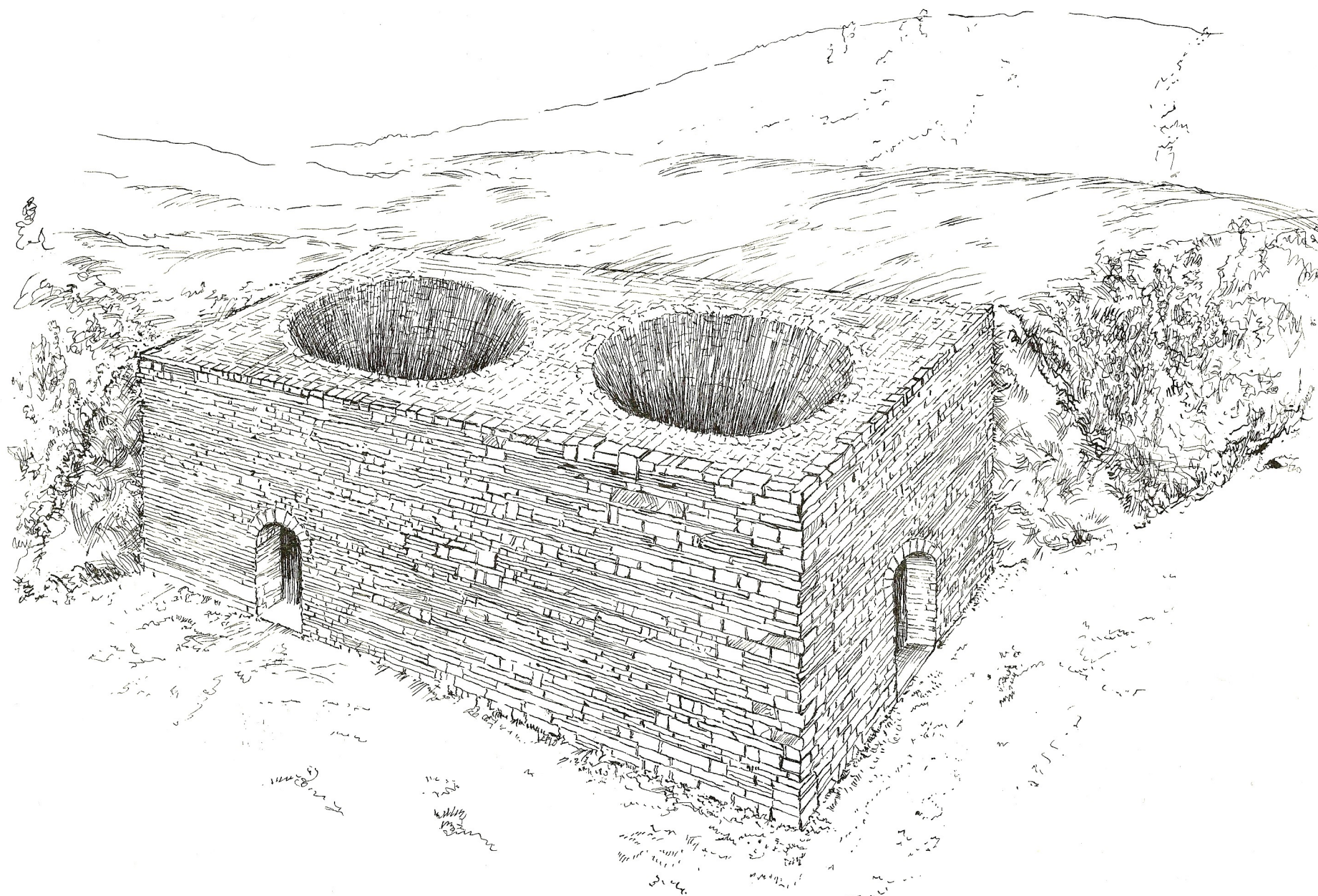
When a place has a name, you think of it instinctively as a cluster of houses. Limeport, which many still living in Solebury have known all their lives, was never a cluster of houses. It consisted of a dock on the berm bank of the canal, the bank opposite the towpath.

At this dock, Lehigh Coal & Navigation Company canal boats would stop to unload their cargo of anthracite, the fuel which fired the limekilns nearby and the many others which marked the neighborhood's exposed seam of limestone. The seam came to the surface here and stretched westerly for several miles, as indeed it still does.

After the coal was put ashore the canal boats would be re-loaded with burned limestone, and they would continue on - some proceeding as far as Philadelphia.

Burned limestone was an important factor in the building trade of the 19th century. It was supplanted by cement and hydrated lime when it became possible to produce these two more efficiently.

In the early 1920's the broken and rotted remains of this Limeport dock were still visible. Two limestone quarries and six kilns, now hard to see - especially when trees are in foliage - are near this dock.



They utilized the dock, as did other limekilns in the neighborhood.

Limekilns were structures of solid masonry. The dry walls, having no mortar between the stones, depended on their own massive solidity and the skill of the mason to make them enduring.

At Limeport the kilns were of two types, with two sides or four sides. A two-sided kiln was built against a rise of ground so that the back of the kiln was formed by the hillside. The other sides were masonry. Limestone, which by its nature splits into slabs with flat surfaces, was used.

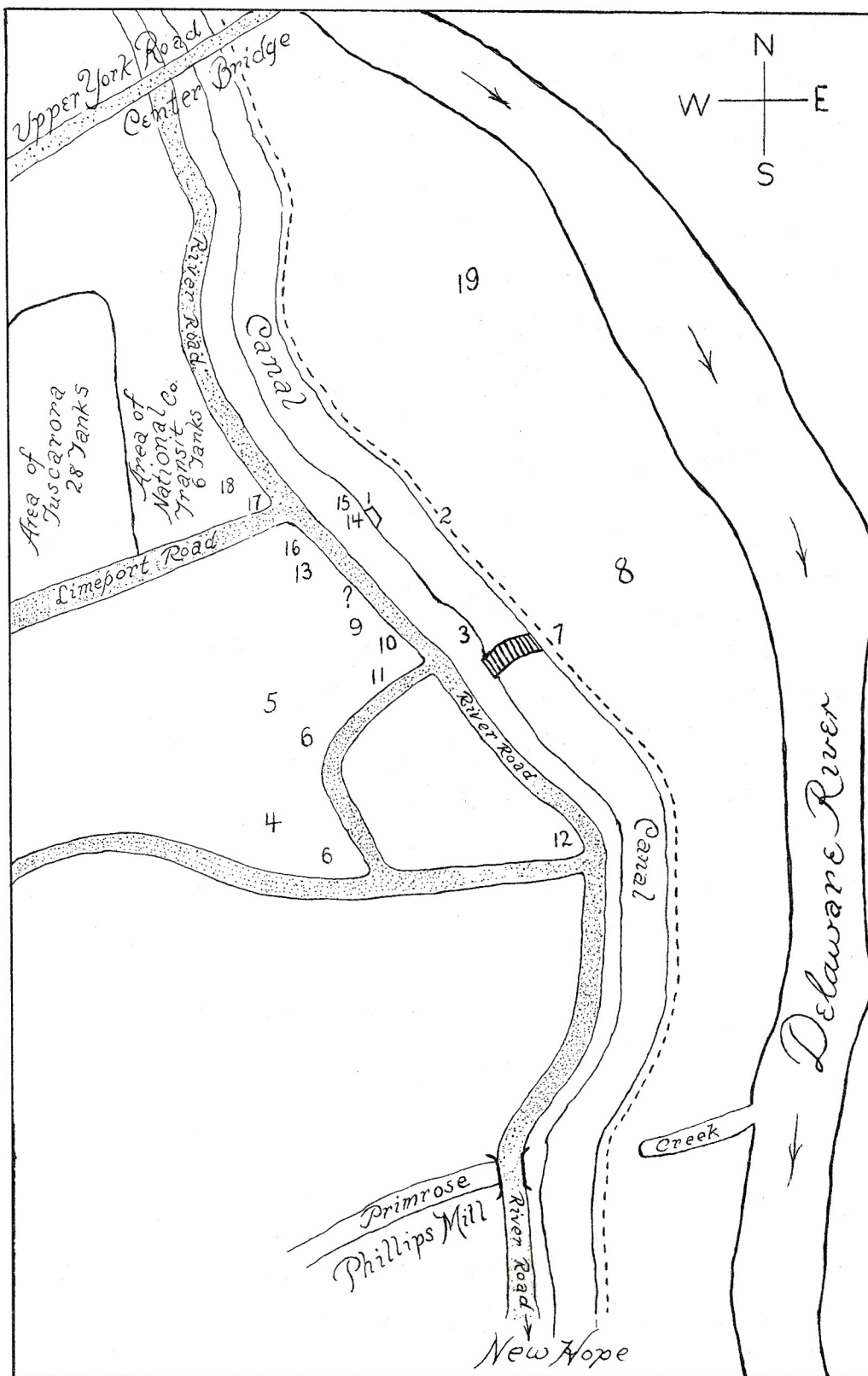
Beginning at the rise of ground was built a wall 70 feet more or less; thence at a right angle a distance of 35 feet more or less the wall continued back to sloping ground. Within this enclosure was more solid masonry surrounding two pits. These pits were lined with sandstone because sandstone is non-fusible. At a distance of 17 feet from the beginning of the 70 foot wall was an opening or door reaching into one pit. In the 35 foot wall was another such opening into the other pit. Each opening was topped by a stone arch to carry the weight of the masonry above it. These walls rose to a height of about 20 feet. At the back the ground was leveled to a distance which was variable depending on the site. The door opening into the pit was about 4 feet wide.

The sandstone-lined pits measured about 16 feet in diameter at the top to 4 feet in diameter at the bottom. This was not an inverted

truncated cone. The side walls sloped gently from the 16 foot diameter at the top to a 12 foot diameter three-quarters of the way down, then sloped sharply to the bottom, which was open. Across the open bottom was a grill made of heavy iron bars, at least one inch in thickness, spaced closely enough together so that the firewood might be arranged on them. Below the grill was an open space to permit draught and the removal of ashes and debris.

The leveled ground at the back of the kiln's top was for the purpose of loading the kiln ready for burning. The area was large enough to permit a horse drawn dump cart to back and empty its load.

When a kiln was to be used, light kindling, followed by heavier and heavier wood necessary to ignite a foot-thick layer of coal topping, was laid on the iron bars. Next came a layer of limestone about three feet thick; then more coal, and so on to the top of the kiln, which was open. When the kiln was loaded ready for firing, the door had been closed by the arrangement of the stones inside. This had been done with the skill of a mason. When the fire was lighted, it required twelve hours or more for the mass to become fully ignited, after which the inner contents was a glowing, solid mass which continued to burn for 36 to 48 hours. Then began a cooling process for another 36 to 48 hours. The result was a kiln about two-thirds full of white lump lime. The amount of imperfectly burned stone indicated the skill and experience of the foreman. He must not have put into the kiln any stone that contained imperfections. Imperfections



- 1, DOCK
- 2, TOW PATH
- 3, "ADJACENT LIMEKILNS"
- 4, } QUARRIES
- 5, }
- 6, TWO KILNS EACH
- 7, CANAL BRIDGE
- 8, LAND ONCE FERTILE FOR TRUCK FARMING
- 9, BARN
- 10, REMAINS OF BLACK-SMITH SHOP
- 11, LIME BURNER'S HOUSE
- 12, WALLWORK'S HOUSE
- 13, TUSCARORA PUMP-ING STATION
- 14 & 15, TWO HOUSES DESTROYED FOR CON-
CRETE WHARVES
- 16, HOUSE DESTROYED
- 17, NATIONAL TRANSIT
TELEGRAPH OFFICE
- 18, NATIONAL TRANSIT'S
POWER PLANT
- ? LEAK ?
- 19, NEW WELL

would mean stone that was not true limestone. The two quarries at Limeport had a stratum of shale which had to be separated from the limestone so that it could be put to other use. Furthermore, the foreman could not use stones too large or too small. He had to load the alternate layers of stone and fuel skillfully so as to insure quick and complete firing of the entire mass. Nearby trees were cut down to supply the wood needed for starting the fire. The finished "burned" lime, the white lump line, was loaded on horse drawn carts and taken to Limeport, where it was dumped into a canal boat for shipment to market.

Limekilns were built in units of two so that while one was cooling and being emptied the other could be loaded and prepared for burning.

Most of the kilns in the neighborhood had two masonry sides similar to the one just described.

Some had three such sides. A kiln with four sides was most unusual. There were such, however, and two kilns with four sides stood on the canal bank very close to the Limeport bridge now crossing the canal. An unidentifiable pile of stones is all that remains of those two kilns, although this pile was easily definable in the 1930's. Just how they were loaded, no man now living can describe with assurance. It is plausible that all the wood, coal, and stone necessary to fire them was shoveled in from a cart drawn alongside. They were emptied very easily,

no doubt, directly into a canal boat.

In order to operate limekilns, it was necessary to work the quarries. As this was before the day of compressed air hammers, holes had to be drilled into the rock in preparation for blasting. This was done by three men, one holding and turning the drill where the hole was to be, the other two rhythmically swinging sledge hammers. Dynamite was put into the hole and the blast ignited by a fuse. To prepare for a blast took a long time and a lot of labor. The large pieces resulting from the blast were broken with mud blasts; then those resulting pieces were broken with sledge hammers. A mud blast is a piece of dynamite with fuse attached, laid on top of a rock, and covered with mud on top, because the action of the dynamite is downward. The mud was used to insure contact at the instant of explosion.

These operations around the kilns and quarry produced debris which had to be loaded into a dump cart and hauled out of the way. The area, stripped of trees to provide firewood for the kilns, and the piles of debris, became a barren and unsightly clearing around and near the operation. Time and the growth of trees have so altered the landscape around the Limeport quarries that it is hard for us to realize that as little as sixty years ago it was such a wasteland.

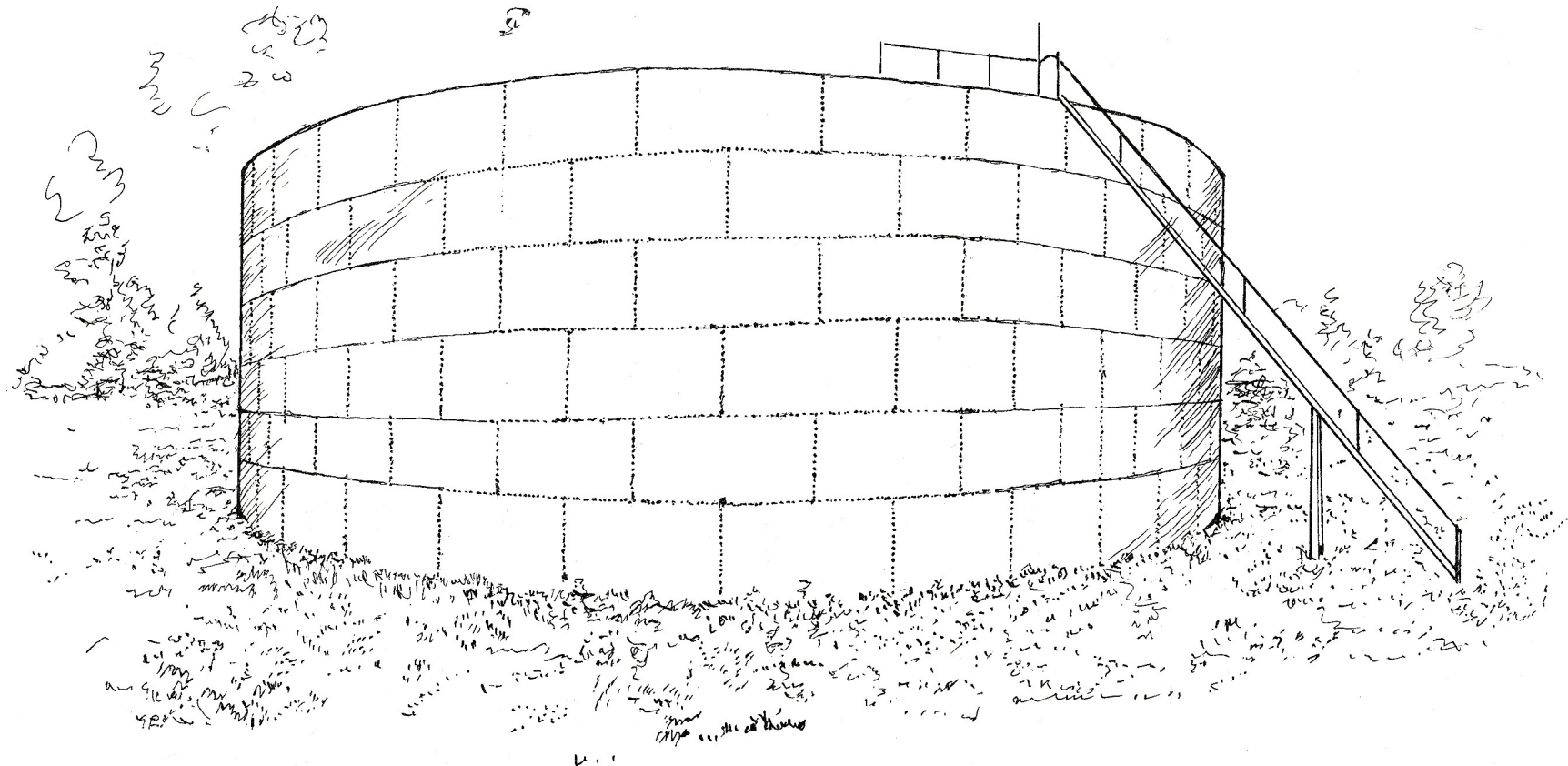
Near the dock (Limeport) was a bridge across the canal. This gave access to a hundred or more acres well adapted to trucking. It was reputed to have been particularly well suited to growing watermelons

and cantaloupes. A road made from waste from the kilns ran from the bridge to the river bank, but this now (1965) is all but lost in overgrowth. The flood of 1903 washed out the soil from this acreage so that it since has practically no agricultural value.

Across River Road from the port where lime was loaded in- to canal boats is a barn, now sheltering school busses, but which once housed the mules and horses used to pull the carts. Also, there was a blacksmith's shop, now gone but for a pile of stones. A lime-burner's house also close at hand is a sad wreck of broken and tumbling walls. Another such house nearby was reclaimed and (1965) is occupied by the Wallworks. Such dwellings, solidly built, were to be found near all lime-kilns. Some were partially destroyed for their lumber; others were renovated into charming homes, monuments to a long gone industry.

The burning of lime, as practised here, came to an end about the turn of the century. It had played an important part in the economy of the area for a hundred years. Lime is important still, but more modern methods for obtaining it are used. We usually see it now as hydrated lime.

When cement came into widespread use, it supplanted lime for many purposes in the building trades. Cement played a significant part in the changes within Solebury Township, even though we have no cement quarries.



About the early 1900's William L. Ely, or "Little Will Ely" as he was known throughout the neighborhood, owned a farm that included a limestone quarry and two inactive kilns. Little Will had hopes and aspirations concerning his quarry. It was his dream that stone suitable for grinding into cement could be found there. This belief died hard; he clung to working the quarry, persistently sending samples to be analyzed.

Little Will had, besides, a more practical use for his quarry. He made and sold ground limestone for agricultural use. To obtain rock for crushing, he drilled no holes for blasting, but inserted small charges of dynamite into such cracks as nature offered. He also did some mud-blasting on the pieces too large to move.

His stone crusher, which consisted of two heavy steel jaws, was run by a belt from a Fordson tractor. The crushed stone was picked up at the crusher, then was carried by a bucket chain that ran over sprocket wheels, and was dropped into a hopper placed above two heavy mill stones. These he had salvaged from an old grist mill which stood along Primrose Creek. This mill has completely disappeared. Primrose Creek is the name of the spring-fed brook that runs through this quarry land. It supplied power for Phillip's Mill when it was in operation and empties into the river under the canal at Phillip's Mill.

Little Will's millstones were operated by a big one-cylinder gasoline engine. After the crushed stone had passed between these millstones,

the ground product slipped by gravity down a chute into one of two bags on a scale. When one bag reached the proper weight, the ground stone was diverted to the other bag, while the full bag was wired shut and replaced by an empty bag.

This stone was not so finely ground as that produced by better and more costly equipment, but it contained enough fine dust for immediate soil reaction. However, the more coarsely ground limestone dissolved more slowly and kept the soil sweet over a longer period.

This theory was Little Will's sales approach. Discussions as to the merits of this theory were often on the agenda of the Solebury Farmers' Club meetings.

The quarry was a one-man operation for Little Will. The business was not large, not lucrative. He had to abandon his dream of cement. Then his ground stone business was sold to a group who put money into it for better equipment and a more efficient plant. This group produced and sold ground limestone for a few years, and, in their turn, failed to make it pay. They then sold out to a third group, who, after redesigning and reequipping the plant, launched into the sale of road stone. This third group failed in the war years, and sold to the present owners.

Nearby Limeport was another endeavor which left its imprint upon our landscape and upon us.

About 1905 or 1906 the Standard Oil Company of New Jersey began the establishment of a pumping station. This was done through a subsidiary company called the Tuscarora Oil Company. Its purpose was to transport oil by an underground pipe line from the oil fields in western Pennsylvania to a refinery at Bayway, New Jersey.

Another subsidiary of the Standard Oil, the National Transit Company, also had a station located here. The National Transit had six storage tanks located on land adjoining the Tuscarora Oil Company's holdings at Limeport. The Tuscarora Company had twenty-eight tanks studded at intervals on land to the west of its power plant, which was built close to the River Road. This plant furnished pumping power for both subsidiaries. The National Transit Company's source of supply was in a different section of the Pennsylvania oilfields, and its delivery point was near Philadelphia.

The Tuscarora tanks held 100,000 barrels, primarily designed to hold petroleum. They were circular and made of heavy steel plates and were roofed by the same material, very slightly domed. Each was set within a basin, scooped out of the ground and enclosed by a fire bank. Each fire bank was of sufficient height and was at a sufficient distance from the tank it enclosed to insure that the entire contents of the tank would be contained in case of leakage, fire, or other accident, thus protecting the surrounding land.

The National Transit Company's six tanks each held 80,000 barrels. They also were made of steel plates and were of the same appearance as the larger Tuscarora tanks. Likewise, each was encircled by a fire bank. Three of these tanks remain in plain sight along River Road (Route #32).

The basins referred to were made by scoops, each pulled by a team of horses. The dirt was removed to the circumference of the basin and there shaped up to form a fire bank. When the bottom was properly level and the fire bank high enough, clay was hauled in to make the floor less porous. This involved men with shovels as well as the teams. Farmers from the neighborhood furnished the teams and the men to drive them. Some of the other laborers were recruited from the locality.

The tanks occupied farm land purchased by the Tuscarora and the National Transit Companies. This land, being stony and hilly, was productively marginal. Many farm buildings were leveled, none however that were really significant as landmarks, nor could they reasonably be regarded as a loss to posterity. However, two houses which had been lime-burners' or farm workers' homes were destroyed because they were on River Road in the way of the concrete unloading dock and coal storage space subsequently used by the power station. Another, across River Road and near the present Limeport Road (Ely Road), also fell. These were well built, stone cottages; one was reputed to have contained a well-constructed

fireplace similar to others common in this neighborhood. No doubt beautiful trees on the tract were also sacrificed.

The buildings which housed the pumps and the power plant to operate them still remain. Also just across Limeport Road (Ely Road) is a small, now dilapidated, frame building, once used by the National Transit Company as a telegraph office.

Canal boats loaded with anthracite coal docked at the concrete wharf referred to before. The coal was piled there to be used in firing the boilers of the plant across the road. Smoke and soot from these boilers never annoyed the neighbors, as anthracite coal was used. During the early years, steam was used to operate the station.

The Lehigh Coal and Navigation Company, which owned the canal, was still in operation. They felt keenly the competition of the railroads. This was about 1908. At this time it was probably that an observer at a given point on the canal could see either a loaded boat coming down or an empty boat coming back from Bristol, or both, at any time during the working day. The canal was in operation from some time in March until early November. It was then drained to prevent ice damage to its banks. Repair crews worked where needed along the banks and at the locks while it was empty. Empty is a relative term in this sense. There was always a foot or eighteen inches of water remaining.

When the canal stopped operating in the early 1930's, the power station of the Tuscarora Oil Company changed to oil as fuel for its

boilers. Later it dispensed with its boilers and used electricity, when rural electrification had developed. At this time, the National Transit Company built a power plant of its own back of the telegraph office building. Herein they housed their pumps.

During the years of their use, some of the tanks were struck by lightning. At least three such fires occurred at widely spaced intervals. These fires were spectacular, but so far as the neighborhood was concerned were harmless. The local fire companies came and stood by ready for trouble, but none developed. Oil was drawn out of the burning tank into a nearby one as long as possible.

About 1938 a leak occurred in the main pipe line which crossed under River Road, the canal, and the river. This was at a place near the power station. The leak has left its imprint on the neighborhood and must be included in our heritage from these companies.

As we said, petroleum was pumped from the oil fields to Bayway, New Jersey. Sometimes, in reverse, gasoline was pumped from Bayway through the station at Limeport to points west. Since the leak went undiscovered for an unknown length of time, the subsoil was saturated sometimes with petroleum, sometimes with gasoline. It was gasoline that eventually came to the surface near the leak. It covered the canal and so drew attention to the leak. The water supply of all the homes on the flat land from the point of leakage to the little group of houses around Phillip's Mill was contaminated. The Tuscarora Oil Company, in whose line the leak

occurred, promptly recognized its responsibility and made every effort to correct the damage. First they installed filters in each home. When those were unsatisfactory, they tried digging each home's well much deeper. This also failed to eliminate the taste and smell of oil. Finally the company dug a new well located in the flat land about a quarter of a mile above the point of leakage. From this, they piped water to each of the homes. It runs by gravity. This arrangement solved the problem.

A legally drawn contract was signed between the company and the home owners to maintain this water supply. In 1953, although the company transferred its oil pumping operation to another area, it was left with this contract. Finally, the company, after much discussion and legal maneuvering, gave a sum of money sufficient to insure the repair and maintenance of the well and supply lines to the home owners, who then formed their own committee and, with this money at their disposal, began administering their water supply. This concluded the contract with the oil company.

The Tuscarora Oil Company still remains as the owner of an idle piece of ground.

The National Transit Company sold its holding here. The purchaser bought it for the purpose of using the three tanks still standing for storing fuel oil intended for distribution in the neighborhood, but he was prevented from putting this plan into operation by the local zoning regulations. Hence, this land, with its three tanks, still stands idle. The National Transit Company is gone.