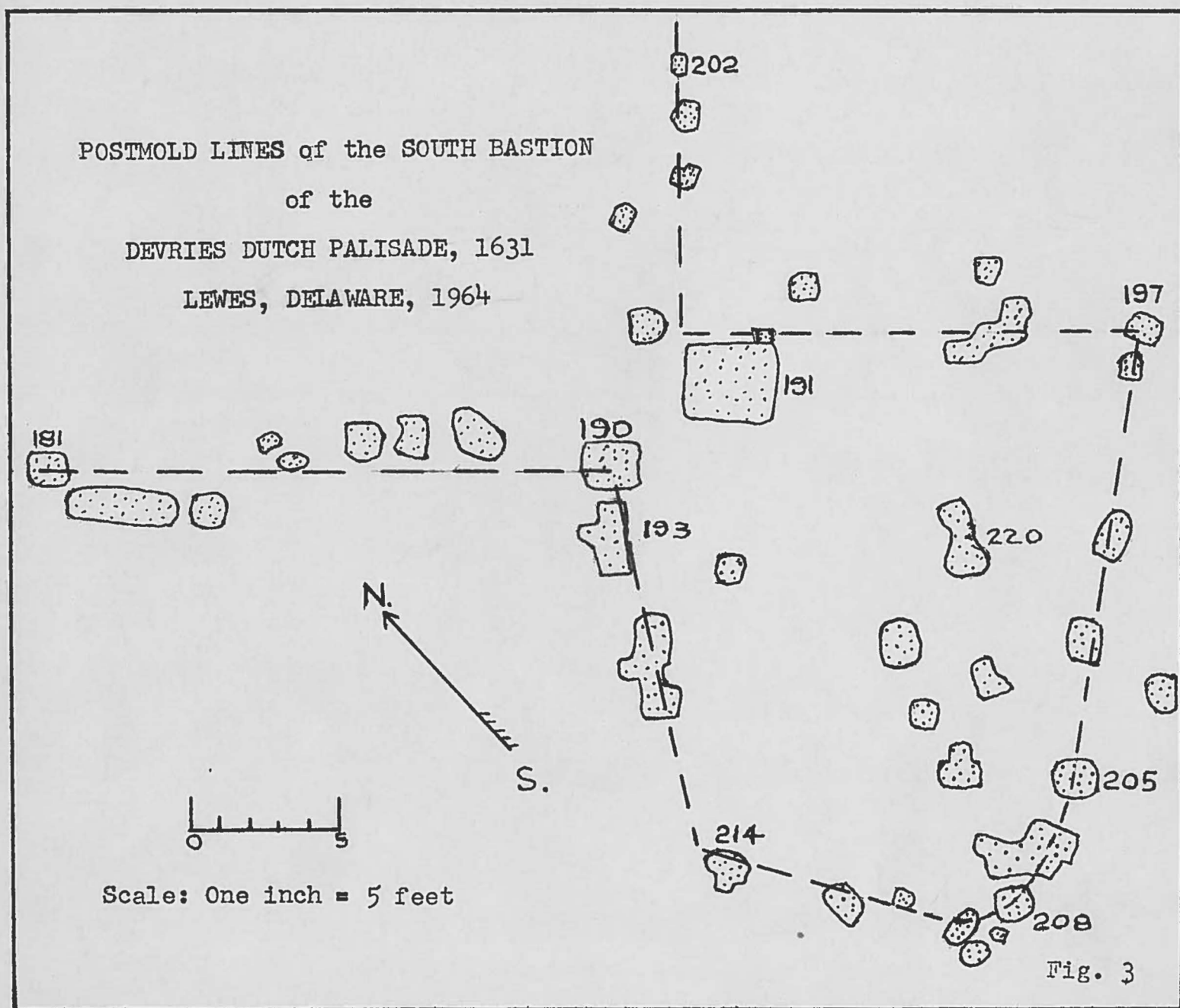


# THE ARCHEOLOG

PUBLICATION OF THE SUSSEX SOCIETY OF ARCHEOLOGY AND HISTORY

DELAWARE



## A C K N O W L E D G M E N T

Since the publication of Vol. XV, No. 1 of the ARCHEOLOG containing the Report on the Townsend Site, we have received a substantial contribution toward the expense of that publication as a "Grant-in-aid" from the State of Delaware, through the efforts of the Delaware Archeological Board.

The Sussex Society of Archeology and History wishes to express its appreciation and thanks to the State and to the Board.

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## THE HUNTING CREEK MIDDEN ( 18-Car.-8)

Illustrated with Drawings

By Perry S. Flegel

To whom should be given the credit for opening, and filling, the refuse pit on Hunting Creek? Was it the Choptank Indians who at one time frequented the area? Was it done by some early settlers living on the banks of the creek? Were some West Indian traders responsible for its opening and contents or was it a combination of two or more of these peoples? It could have been done by any of the people mentioned above, since artifacts and refuse material indigenous to each of these people have been recovered from this pit.

As far as can be determined, there has been no other refuse pit of any significance located or excavated along Hunting Creek. In some areas along the creek there are to be found large numbers of shells upon the surface, and several other places have produced indications of small deposits of shell below the surface. All of these have been located upon the northern bank of the creek. The one described here was the largest and most prolific in its production of artifact material. The small deposits contained only oyster shell.

Hunting Creek is about ten miles long and is fed by numerous runs, ditches and branches. It reaches about seven miles in an easternly direction. Its watershed is triangular in shape, being about one and one half miles wide near its mouth and about eight miles wide in the area of its source. It also forms a part of the boundary between Caroline and Dorchester counties in Maryland.

At the present time it is navigable only by small craft up to what is known today as the old Linchester Mill. This mill, which incidently is reputed to have ground corn and/or meal for General Washington's forces, to be used at Valley Forge, is still standing and is visable from Maryland highway 331 just south of Preston, Maryland. In the earlier days large sailing vessels used the creek, which will be evidenced by the artifacts that will be described later on. These artifacts were taken from the midden herein mentioned.

The shores of Hunting Creek were inhabited by the Choptank Indians. Quite a number of artifacts have been found along the banks of the creek, as well as in the adjacent fields both on the Caroline and Dorchester county sides.

Pottery sherds have been conspicuously lacking among the artifacts found in this area. Those that have been found are small and none have been located which allowed the writer to piece together enough pottery to establish the size or shape of any vessel. No pottery has been recovered on which there has been incising. All sherds have been smooth and shell tempered.

The above mentioned pit was located about one-sixteenth of a mile from the mouth of the creek, on the northern bank and about 120 feet from the present shore line. (Fig. 1.)

The pit was oval in shape, and its long axis, which was about ten feet in length, reached out in an easternly direction and was almost parallel with the edge of the creek at that point. Its minor axis was about four feet long.



The western end of the pit extended to a depth of four feet. The top soil or unproductive layer of the pit seemed to be about twelve to fourteen inches deep.

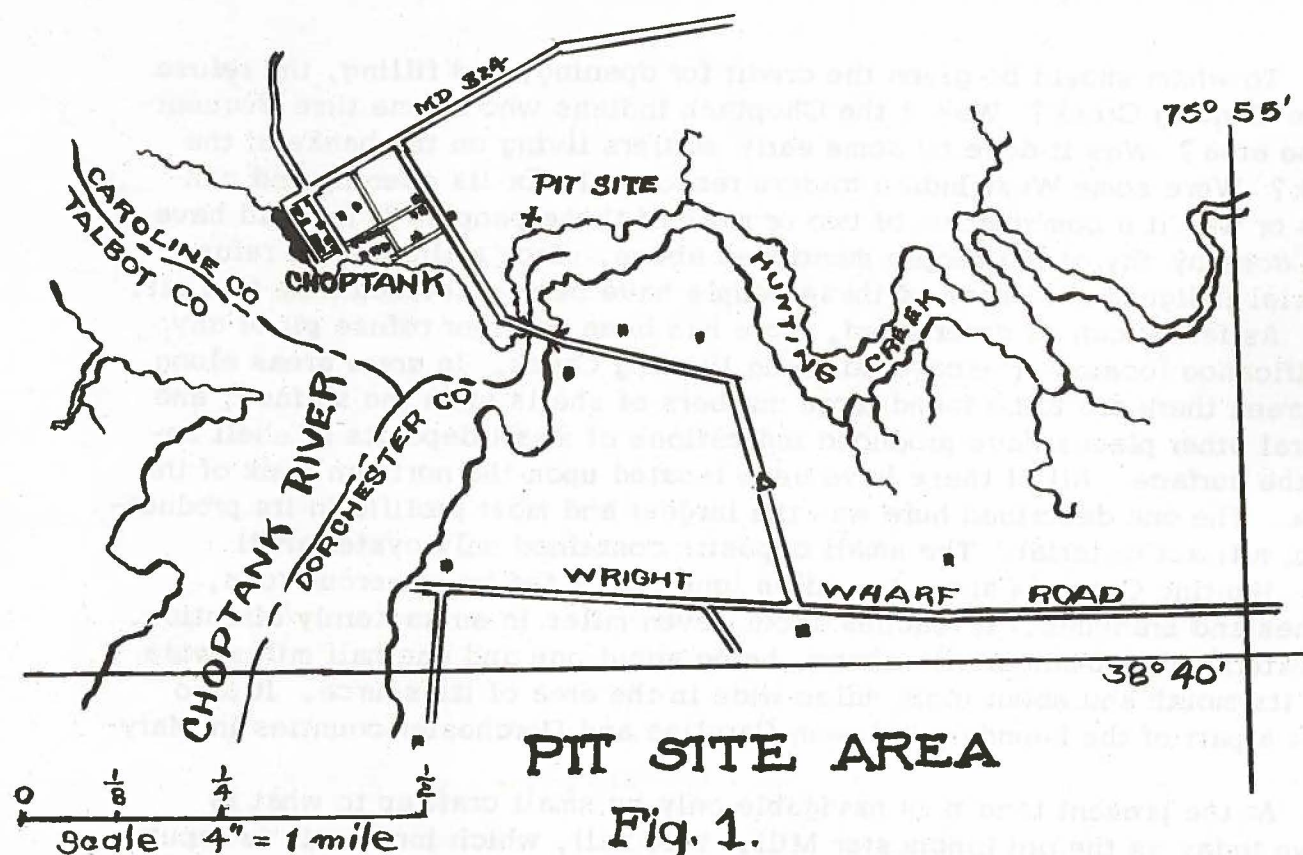


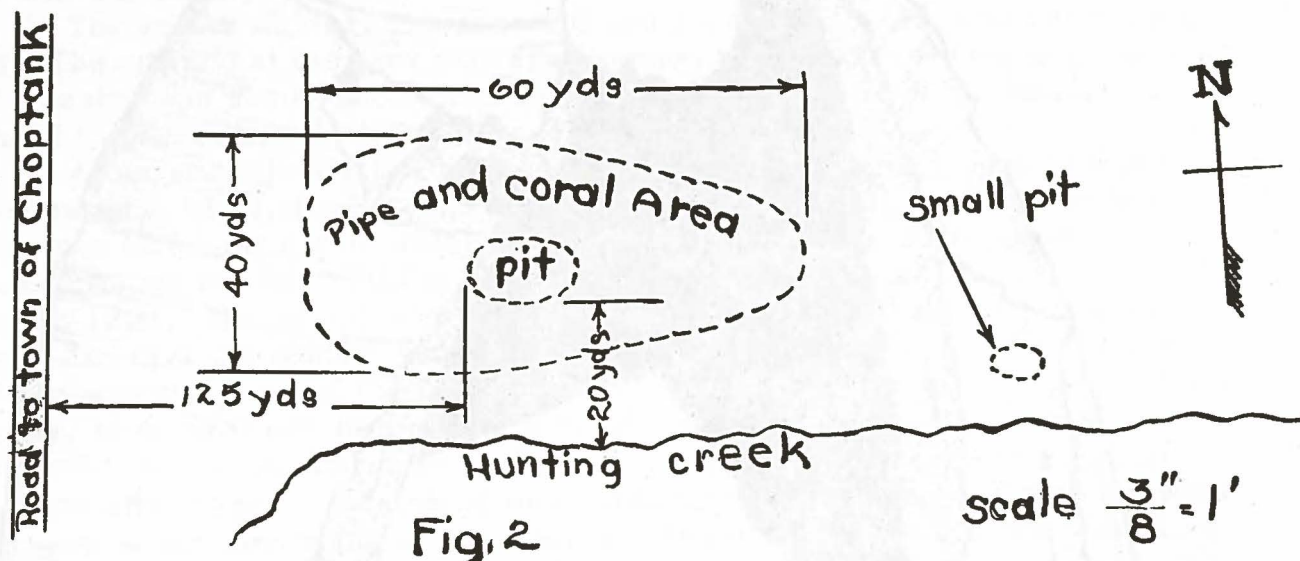
Fig. 1.

Scattered in an obvoid shaped area sixty feet long and about forty feet at its greatest width were found many trade pipes and trade pipe stems. The elongated spread of this material may be attributed to excessive east-west plowing. Also scattered upon the surface, in the same area as the pipe fragments, were many pieces of brain coral (*Meandrina cerebriformis*). It might be assumed that the wide area in which the coral and trade pipe fragments were found was due in part to the sticky texture of the soil in the vicinity of the pit.

It is interesting to note that most of the thin stem fragments of pipe were found along the southern perimeter of the area upon the surface wherein most of the pipe fragments were found.

The pit was located about one hundred twenty-five yards east of the Choptank road on the north side of the creek and about twenty yards from the bank of the creek. (Figure 2.) The surface of the ground where the pit is located is about fifteen feet above the high tide level and about ten feet from the top of a gradual incline which starts at the shore line. The soil of the

area is a heavy clay type which is rather uncommon for this area. The USDA soil map classifies this as a Sassafras loamy sand, but its general conformation tends to be much more like a clayey loam.



This midden is of particular interest because it contained a great number of trade pipes and trade pipe fragments, much material of white man's origin, and also various exotic artifacts.

In addition to brain coral being on the surface of the area it was also found in the pit. There was no definite area in the pit that could be identified as having a concentration of coral. It was promiscuously scattered throughout the pit. Pieces ranged in size from that of a marble to some as large as a baseball. Two types of brain coral were present: Human brain coral (Orbicella annularis) and animal brain coral (Diplora cerebriformis). The closest place that these species of coral are to be found growing is in the Bahamas. Since it has been established that, in the days of sailing ships, coral was used as ballast, it might be assumed that sailing ships visited this small creek from as far away as the West Indies. This assumption is also substantiated to a certain degree by the description of the following artifact, found in the pit, which also originated in the West Indies.

The vast majority of pottery sherds found in the pit came from a vessel made from a red porous clay. The concentric streaks found on the inside of the vessel indicate definitely that it was made on a potter's wheel. It had a round bottom, was bottle-like in shape and apparently unpainted except near the neck and around the bottom. Near the approach to the constriction which formed the neck and near where the bottom begins its roundness upwards are broad and indented grooves. These still contain traces of a white paint. This could indicate several things: (1) The vessel had been striped in these grooves



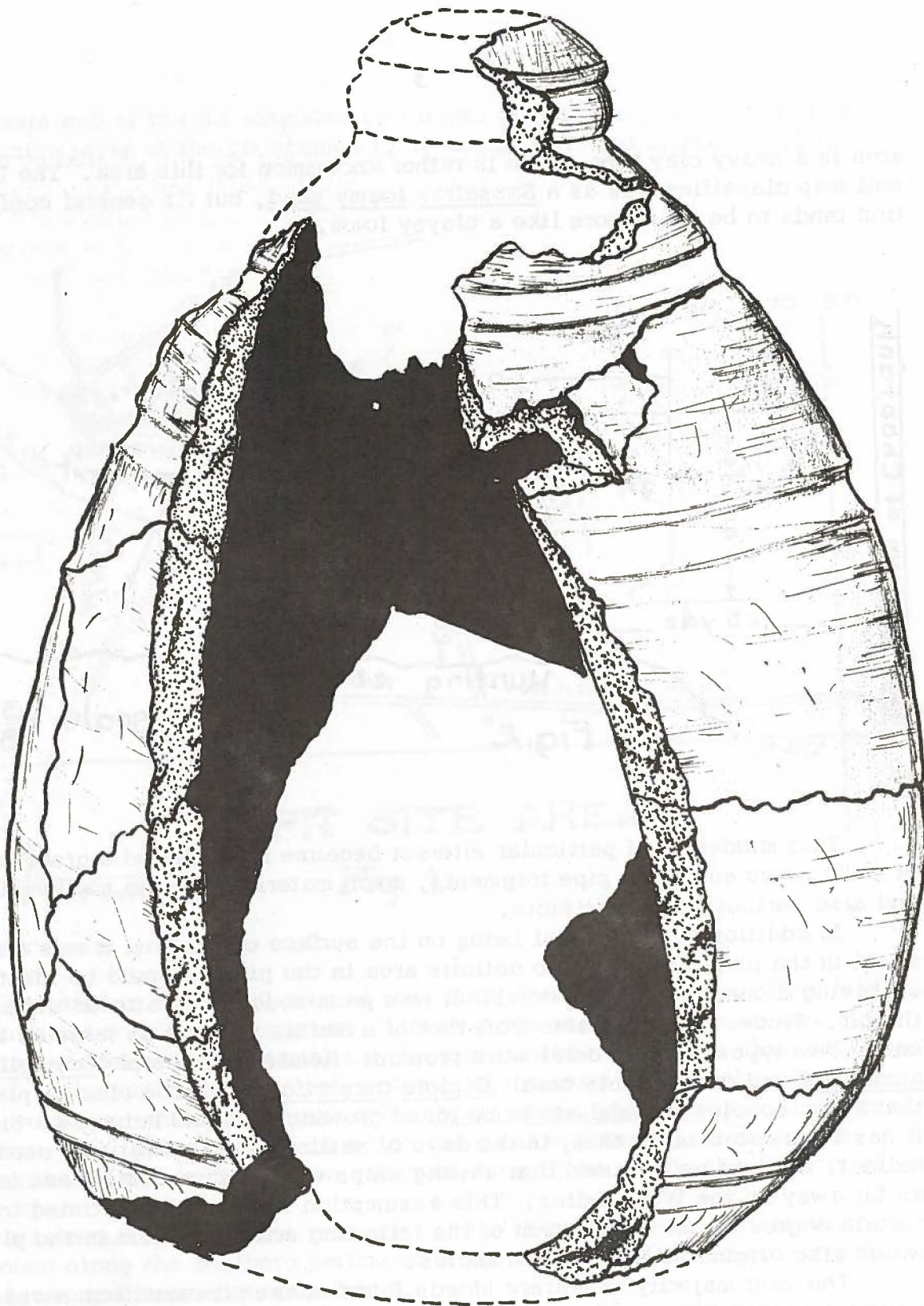


Plate I



as a means of identification or decoration, (2) the vessel was painted over completely and through long or extensive use all the paint had worn off except that which was protected by being in a groove below the worn surface of the vessel. Probably no paint other than that in the bands or grooves was used. Lack of paint on the porous vessel would allow for evaporation and the cooling of drinking water.

The vessel was 11.75 inches tall and its extreme width was seven inches. The opening at the neck was approximately one and one-quarter inches. The vessel was seven-sixteenths of an inch thick just below the neck and reduced to one-quarter inch at the base. (Plate I.)

About sixty per cent of the vessel has been found and enough to enable restoration. Most sherds pieced together were exceptionally regular in their cleavage lines and not as irregular as the breaks found in local pottery. This substantiates the fact that the clay was wedged very well and was also quite evenly fired. The vessel was found in the pit about two-thirds of the way down and near the eastern end. This was about three feet below the surface of the ground. Some of the fragments still not placed in the partially restored vessel show what may be signs of a painted design on the outer surface. These fragments are from a section of the bottom of the vessel and it cannot be said with authority whether it was really a design or merely part of the worn off paint which may have been applied only to the bottom area of the vessel.

Some sources have indicated that a vessel of this type was in common use on sailing ships for the storage of drinking water above deck. A constricted neck, such as this container had, enabled it to be tied to the side of the ship's rail. Its round bottom allowed it to roll with the ship in heavy weather, thereby preventing its breakage. These containers were especially found on ships from the West Indies.

Table I shows a break down of the various pieces of trade pipe stems, bowls and pipe fragments that have been found in the pit and on the surface of the area during the last ten years. Forty per cent of the pieces were found in the pit and the remaining 60 per cent of the pieces were found on the surface of the ground. The surface material was recovered by periodic checks over the area before plowing in the spring, after the first few cultivations after planting and after disking in the fall and at least two "walk-overs" during the winter months in each of these years. Despite this rather thorough searching of the surface area, pipe stems continue to be found, and the number of pieces picked up yearly does not seem to diminish to any great extent. This is evidenced by the fact that as recently as the fall of 1963 fifty pipe fragments were found. These added to the number picked up during the year brought the yearly total to nearly 100 fragments recovered. This yearly addition to the pipe fragments found also changes the per cent of the number of pieces found on the surface as compared with those found in the pit.



Table I.

Pipe stems	Bowl end stems & bowl bases	Bowls with stems	Stem pieces	Stem ends only	Stems with decor	Bowl pieces	Total pieces
413	145	34	85	63	39	225	1004

Additional material has been found by other individuals. Father Carley, a former priest in Secretary, Maryland has a collection of about 90 pieces, eight or nine of which are pipe bowls or bowl-end stems. Several other local individuals have complete pipe bowls with stems three to five inches long.

Of the bowl-end stems, complete bowls with some stem attached, there has been counted a minimum of 185 pipes that have been recovered from this area. Twenty-one of these pipes were found in the pit scattered from near the top to the very bottom in no definite pattern. The remainder were picked up upon the surface of the ground in an area about sixty yards long and forty yards wide (Figure 2). The greatest concentration of pipe bowls was found in the vicinity of the pit.

Most of the bowls were plain and of the thirty-four complete or nearly complete bowls only seven were inscribed with initials. Four had the initials "L. E." on the outside of the bowl on that part which faced the smoker. Two had initials "W. E." inscribed as first mentioned (Plate II, Fig. 1). Two of the "L. E." impressions were well imprinted and the other two were only faintly visible. One additional bowl had only the letter "E" stamped upon it. The other half was so broken off as to make it impossible to determine whether it was preceded by an "L" or "W" or some other letter.

One bowl other than those mentioned above was inscribed with a sort of emblem in the area where the others had letters. The emblem was oval in shape measuring three-eighths inch through its short vertical axis and seven-sixteenths through its long horizontal axis. The letters "W" and "E" were separated by a simple design (Plate II, Fig. 2).

Only three pipes had projections under the bowls. One of these with the smallest projection had two bands of decoration near the area of the stem where it joins the bowl (Plate II, Fig. 3a). A second pipe had a small protrusion under the bowl somewhat larger than the one mentioned above being about three-sixteenths inch in diameter and about one-eighth inch long (Plate II, Fig. 3b). The remaining one had a fair sized platform measuring seven-sixteenths inch wide and nine-sixteenths inch long. It was somewhat triangular in shape and supported the pipe very well in an upright position (Plate II, Figs. 4a and 4b).

Five pieces of bowl were ribbed parallel to the length of the pipe bowl. These appeared to have come from three different pipes. Fourteen pieces of bowl gave the appearance of being fire-burnt. A number of the pipe stems and bowl fragments were of a bluish color which could have indicated that they had been in a very hot fire. Two complete bowls were darkened to a slate color both inside and outside. One of these bowls was marked with the letters



"L. E.". About twenty pieces of pipe bowl were fire-burnt only on the inside which indicated, in all probability, that their usefulness was in excess of most pipes and that they gave their owners many a smoke.

Many of the stem ends showed evidence of apparent teeth marks and signs of having been chewed upon. Others looked as though they had never been used.

One pipe stem was "blued" from heat only on one side. It must have been tossed upon some very hot coals and not disturbed until the fire went out, after which it probably never again was subjected to such intense heat. The hole in the stem of this pipe was quite large and measured slightly over three-sixteenths of an inch in diameter. It also was very much off center. The length of this stem measured one and seven-sixteenths inches long.

About one half of the pipe bowls showed indications of having been used quite extensively, while the rest appeared clean and free of usage. This was determined by discoloration of the bowl and wear from usage.

Two pieces of stem were recovered that were made from sandstone! One piece of stem one and three-eighths inches long and seventeen thirty-seconds inch in diameter was made from a gray sandstone. It had no markings and the hole through it was very much off center. This hole measured three-sixteenths inch in diameter and was very round and true. Some mica was observed in the sandstone. The smaller second piece was made of reddish sandstone and measured seven-eighths inch long with an off-centered hole. The diameter of the hole was five-thirtyseconds inch and the pipe stem diameter was three-eighths inch. This section of stem was ribbed lightly parallel to its length.

Of the thirty-seven decorated pieces of pipe stem, twelve were found to have the initials "L. E." imprinted in a band about one and seven-eighths inch from the bowl end of the stem. The initials were in three different sizes. The largest were three-sixteenths inch tall and the smallest were one-eighth inch tall and the rest were of a size intermediate between the first two mentioned (Plate II, Fig. A).

One pipe was inscribed with what appeared to be the letters XHX in a position similar to the one mentioned above. It had no other decorations.

Another pipe stem had the initials "I. S." imprinted on it. This stem also had a band of two lines above and below the letters, which gave the appearance of being in frames. Encircling the stem, at the letters, was a band of diamond marks each of which contained a small circle (Plate II, Fig. B).

Still another stem had the initials "L. E. L." in the band of diamond marks which was bordered by a band of square incisions all of which seemed to overlap at one place, indicating that the entire design was probably "rolled" on and did not meet once it returned to the point of origin. This may have accounted for the additional letter "L" on the stem (Plate II, Fig. D). The remaining decorated stems had varying bands of diamond marks with no initials (Plate II, Fig. C).





Fig. 1.



Fig. 2.



Fig. 3b

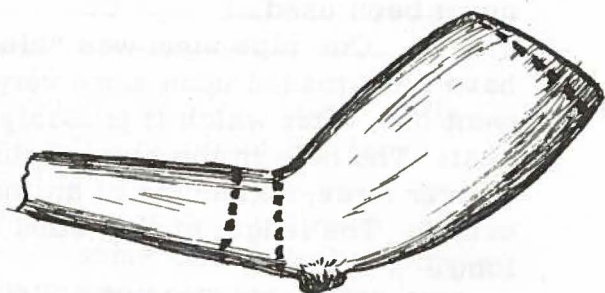


Fig. 3a.

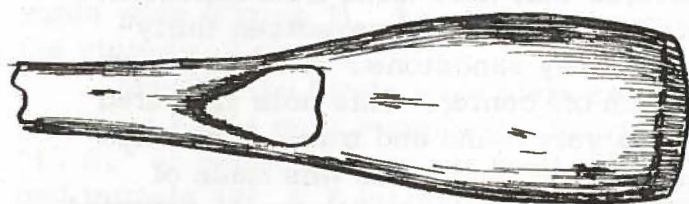


Fig. 4a. Bottom view

All above drawings full size

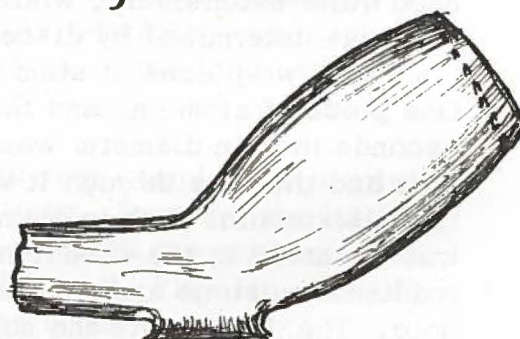


Fig. 4b Side view



Fig. A



Fig. B

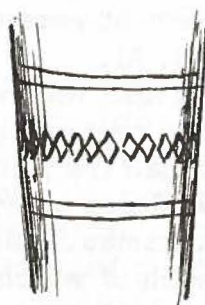


Fig. C

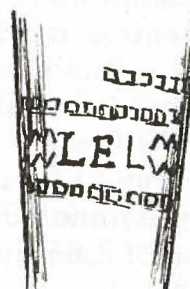


Fig. D

Drawings enlarged X2



Of the 225 bowl fragments three had letters "L. E." stamped on them. The initials were on that part of the bowl that faced the smoker. One fragment was found with raised circular protrusions which gave the bowl a hob-nail effect. There were several types of incising around the rims of the bowls. One was a series of short parallel lines three sixty-fourths inch long and about one-eighth inch from the rim. Another was a pair of parallel lines about one-thirty-second inch apart, and a third had a single line about one thirty-second inch wide and of varying distances from the top. The line was from three-sixteenths inch from the top of the bowl to lines running off the rim. These impressions were put on with a wheel or die since many of them did not encircle the bowl and return to the point of origin. Others overlapped the original point of origin. This condition was also prominent on many stem decorations also.

Many of the middens excavated in this area have contained the remains of the marine drumfish (Pogonias chromis). This pit was no exception. The only remains identified to date have been the thickened and rounded teeth and the rounded and thickened bony plates. The thickened and rounded bones are usually of the dorsal or pelvic fin. These odd shaped bones are also to be found in the spade fish (Chaetodipterus faber). This writer is not aware of this fish being found in the Chesapeake Bay waters or its tributaries.

The teeth of the drumfish differ from those found in fish whose frontal teeth are pointed or chisel shaped for seizing; the drumfish's spherical surfaced teeth are adapted for crushing. The teeth are implanted in sockets of a bony plate or they may at times be ankylosed to it. They are formed of some variety of dentine and the older ones are capped with enamel. All stages of growth of teeth were observed on the plates and this was to be expected since their succession is perpetual and worn out or injured teeth are replaced during all stages of the fish's life. This bone-like structure is to be found in both the upper and lower jaws. Two complete plates were found and parts of a number of others were located. Only the lower plate of one is shown in Figure 3. There were many more "teeth" on the plate than are shown in the drawing, but as the drying process took place many of them fell out of their sockets. A number also dropped out at excavation, and it might be assumed that all or nearly all of the teeth were in the plates when the object was tossed into the pit.

A number of rhomboid or ganoid scales were also found in the pit. Many pits excavated along the creeks and rivers of the Chesapeake Bay produce these scales. These are thick, close-set rhomboidal plates formed of bone, covered externally by a layer of enamel or ganion and joined together by pegs and sockets. (Fig. 4). They are found on the exoskeleton of the bony pike (Lysidostens platystomus) commonly called the Gar-fish or Gar-pike. It is of interest to note that these fish today are a small numerically insignificant group, but formed the whole Teleostonian fauna in the Paleozoic and a greater part of the Mesozoic epoch.



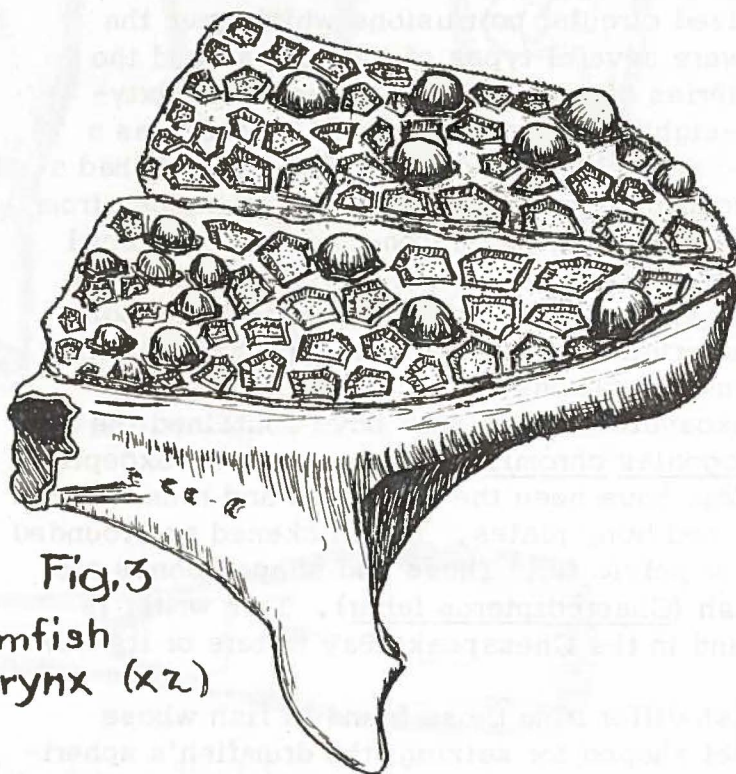


Fig.3  
Drumfish  
Pharynx (x2)



Fig.4  
Two ganoid scales  
from the gar-pike  
(x2)

Other bones identified from this pit include numerous catfish spines, claws from the blue crab, bones from deer including many jaw teeth. Boar tusks, one five inches long and measuring two inches in diameter, plus three smaller ones, turtle plastrons, upper and lower pharyngeal bones of the marine drumfish plus a quantity of unidentifiable bird bones concluded the skeletal remains of the pit.

Two slate arrow heads and two brown jasper points were recovered. These were located about three feet below the surface. Many chips of quartzite, flint, jasper and slate were also found. The flint pieces were of a size used in the flintlock rifle and larger.

Indian pottery included but twenty-four pieces of red and gray sherds: Some pieces thick, some thin, two rim sherds and a piece from the bottom of a pot. It has been determined that parts from at least five pottery vessels made up the twenty-four sherds.

Artifacts from early settlers included five pieces of a blueware. Three pieces came from one vessel and two from another. The three pieces from one vessel were all rim sherds. These five pieces were actually white china but with wide blue markings on them. One piece had markings on both the outside and the inside. The others all had markings on the inside only.



The rim pieces were strongly recurving and it is doubtful if there is enough of any of these non-matching sherds to identify them. One small piece of brown glazed pottery with yellow markings and two rim pieces of the same material were also found.

Two iron knife blades with tangs for inserting into a handle were also found. The large blade was seven-eighths inch thick at the tang and broken off three and one-half inches from it. The other smaller one was seven-sixteenths inch at the widest part of the blade, also with a tang, and the blade broken off one and three-quarters inches from it. Both knife blades were badly rusted. There was also a flat piece of steel rounded at one end with a hole three-eighths inch in diameter and one and three-quarters inches from the rounded end. The over-all length of this piece was two and a quarter inches and its width was one and one-quarter inches. The end that was not rounded was cut or broken straight across.

One piece of round iron slightly curved, three-sixteenths inch thick and one and five-eighths inches long, was taken from the pit. This could have been a piece of broken chain link.

One small piece of flat lead one-eighth inch thick, one quarter inch wide and one and three-quarters inches long, was also found.

Numerous nails and spikes were taken from the pit. Included were 6d and 7d nails plus two 20d nails. These last ones were very thick. All were square nails with large heads. All were hand made.

About two bushels of oyster shells were in the pit. Also a scattering of clam and mollusk shells. The presence of a number of land snail shells would seem to indicate that the pit had been open during the summer months for a considerable time.

#### ADDENDUM

Since the above was written, further information has been supplied relative to the glazed pottery found in the midden. Through the kindness of Mr. C. Malcolm Watkins, curator, Division of Cultural History, of the Smithsonian Institution, the following features were noted.

Four of the pieces have been identified as maiolica sherds and date from very early in the colonial period.

"The maiolica technique was spread north from Italy and Spain to Antwerp. From there Flemish artisans moved more or less simultaneously into England and the Dutch Netherlands. Jasper Andries and Jacob Janson may have been the first, in England, to introduce the art of making tin-enamel earthenware (maiolica) in about 1568. The rim sherds of your finds are typical examples of the broadly-brushed Italian motifs found on bowls, chargers and albarelli. It is difficult always to distinguish between Dutch and English maiolica of this period, the English colors tend to be lighter than the Dutch. I think, therefore, that the pieces are English maiolica, probably made in London, not much later than the 1630's."



Of the other blue sherd, Mr. Watkins stated: "One sherd was too small to identify closely. The tin enamel was applied on the outside as well as on the inside and its shape indicates that it was a large plate with a rim. This might place it later than the above mentioned pieces. It is still maiolica, but is probably late enough to have been called "delftware" in its own day. The rather solid blue appearing on it hints at its being like the chinese-style decoration popular between about 1675 and 1690."

Another sherd was from a gray Westerwald saltglazed drinking jug. It had an elaborate embossed and incised design in blue and brown colors. Mr. Watson states: "This ware was very popular in England and the colonies and was shipped down the Rhine from centers like Grenzhausen to Rotterdam then transshipped to England and again to America.

The use of puce as well as blue cobalt on this piece indicates that it is more likely to be 17th century than 18th. I would think that this might date from 1650 to 1700."

Still another piece is lead-glazed red earthenware and too small to be identified as to origin or date.

Mr. Watkins' final conclusion is interesting in that he states: "you probably have found a site that dates from the second half and possibly fourth quarter of the 17th century and perhaps reaching back in occupancy to earlier in the century."



## THE SOUTH BASTION OF THE DEVRIES PALISADE OF 1631

( 7S-D 11)

Lewes, Delaware, 1964

by

Chesleigh A. Bonine

Introduction

"Archeology is so often identified with distant lands and ancient civilizations, or with the prehistoric past of our own country that many persons are surprised to find it applied to the remains of our own colonial and national heritage. Yet the results which have been, and are being, achieved throughout our country in the relatively new field of historic site archeology add immeasurable depth and human interest to the study of our history.

The remnants of structures, although incomplete and fragmentary, and the actual objects of the times, although broken and disfigured, provide important physical links to the past. In a scholarly and scientific sense they teach us much that no observer of the times bothered to write down. For the average citizen and visitor to a historic site, they give new meaning and life to the past." (Quoted from Conrad L. Wirth, Director of National Park Service).

Although the probable site of the DeVries' Palisade of 1631 was marked by a granite monument in 1909, yet as recently as 1961, C. A. Weslager, one of Delaware's leading historians, stated "The exact site of the settlement is uncertain except that it was on the bank of the stream later known as Lewes Creek".<sup>1</sup>

The discovery of the south bastion of the palisade by C. A. Bonine, Warren Callaway, Paul Porter and Marion Tull, all members of the Sussex Society of Archeology and History, on May 9th and 10th, 1964, has "pinpointed" the exact site and removed doubt about the location of this important historical remnant of early colonial times in Delaware.

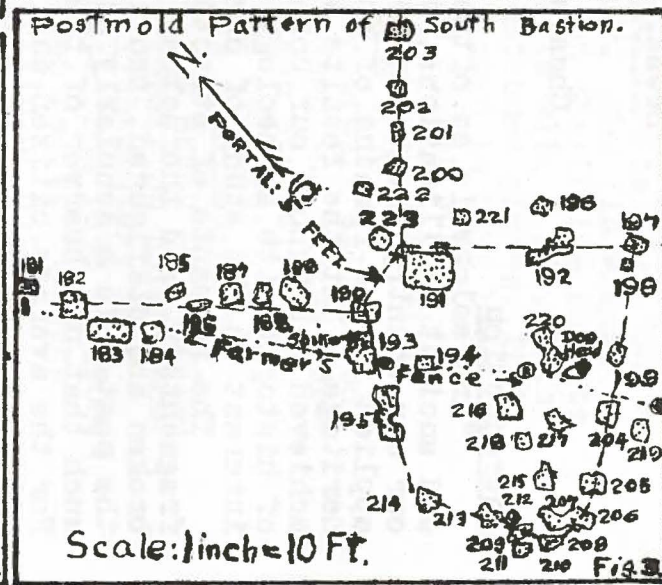
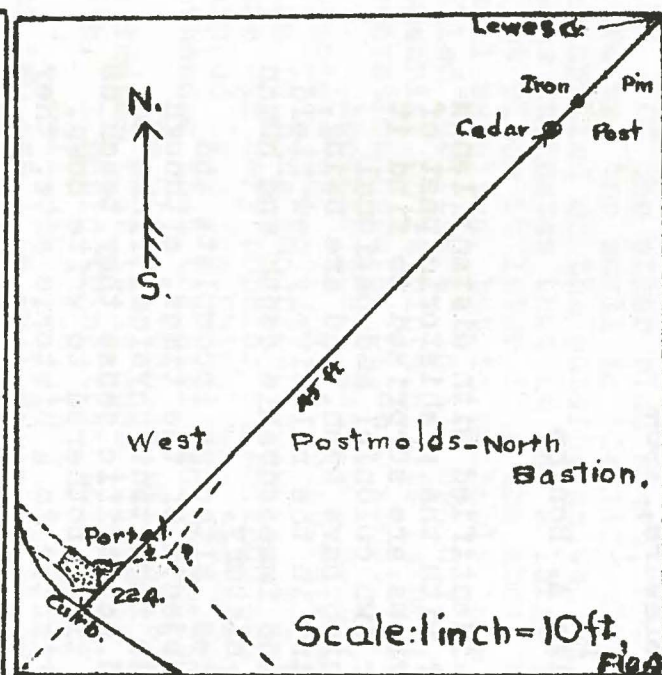
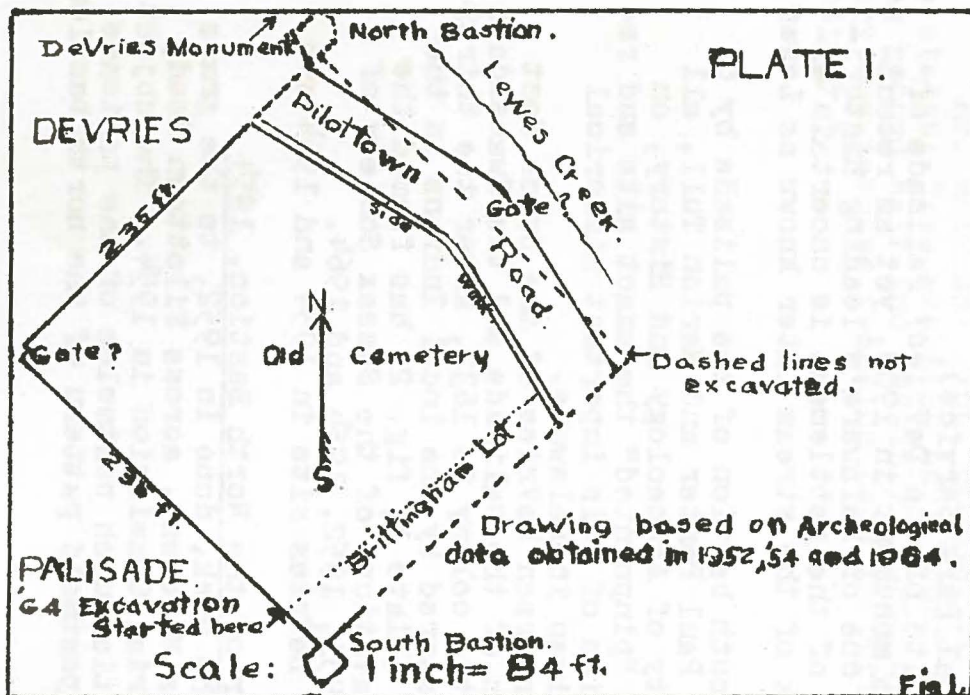
Fortunately, David Pietersen DeVries of the Dutch West India Company<sup>2</sup> made a sketch of the palisade and the Swanendael settlement, while visiting the colony in 1632, after the thirty-three settlers had been massacred by the local Indians in the fall of 1631. This sketch<sup>4</sup> (Plate I, fig. 2) has formed the historical basis of the excavations of the Sussex Society of Archeology and History in 1951, 1952, 1954 and 1964.

The excavations at the DeVries site in 1954 and 1964 are presented herewith.

Discovery of the West Corner of the North Bastion, 1954

Permission to extend the work, done in 1952, to the grass plot adjacent to the DeVries Monument, across Pilottown Road, was given by the Lewes Memorial Commission in 1954. The object was to find the characteristic Dutch postmolds of the palisade and, possibly, some of the postmold pattern of the north bastion of the palisade.







The words "postmold" and "posthole" are used by archeologists more or less interchangeably. Strictly speaking, posthole is the cavity dug in which to put a post or timber and postmold is the filling of that cavity by the wooden post, plus a back fill of mixed subsoil and topsoil to fill the hole. The Dutch postmolds (Plate II) herein described consist of mixed topsoil, subsoil and decayed wood which makes them stand out as dark areas on the lighter-colored subsoil surface. They are generally square or rectangular in outline in contrast to those of a farmer's fence which are round or oval and smaller in area. The square or rectangular Dutch postmolds reflect the type of digging tool used, either a square-edged shovel or hoe similar to such tools found at Jamestown, Va.

Most of the north bastion and the northeast boundary of the palisade have been obliterated by the construction of the Monument and Pilottown Road.

On October 21, 1954, three members of the Society, Messrs. Bonine, Calloway and Marine, dug a trench from the curb north-eastward fifty-two feet to near the edge of Lewes Creek. (Plate I, fig. 4) At a point two feet in from the curb, at a depth of fifteen inches, three rectangular postmolds of the Dutch type, No. 224, were found exposed on the surface of the yellow subsoil. These three were practically joined together; the long axis pointed in a northwest direction running into the curving curb of the Monument area. No postmolds were found in the continuation of the trench towards the creek bank except a round farmers' fence postmold containing a red cedar post, forty-five feet northeast from the curb.

Since these Dutch postmolds were on the projected line of the northeast postmolds of the 1952 excavation, yet here made a distinct right angled turn to the northwest, it is concluded that this point marks the west end of the portal of the north bastion of the palisade.

#### Discovery of the South Bastion, May 9-10, 1964

Ten years passed before permission was obtained and search for the south bastion was resumed. In October, 1963, the Lewes Historical Society had decided to apply to the National Park Service for certification as a National Historic Site or Area, and asked the Sussex Society of Archeology and History to continue its investigation of the DeVries palisade in an effort to locate the south bastion.

Excavation was started where the digging along the southeast line had stopped in 1952 at the boundary line of St. Peter's Cemetery and the Bassett Brittingham lot lying to the southeast. (Plate I, fig. 1) A large scraper attached to a tractor was used to remove the dark top soil which varied in thickness from fourteen to twenty inches, with an average of eighteen inches. Some digging by hand was necessary at the beginning point, however. Dark postmolds, (Plate I, fig. 3 and Cover) Nos. 181 to 190, were quickly discovered on the surface of the lighter colored sub-soil. Then a large dark rectangular area, No. 191, was uncovered. This had a small oval dark area cutting slightly into the rectangle on the north corner. The small oval area was quite obviously a





PLATE II. View of the arc-like turn of the south bastion from postmolds Nos. 190 and 193, (in the foreground), through Nos. 214, 213, 212, 208-205, Nos. 195 and 214 are hidden by the mound of topsoil in the right foreground. Interior postmolds Nos. 220, 216, 217, 218 and 215 are plainly visible; also the southeast part of the farmer's fence line is marked by two projecting red cedar posts. It was necessary to take the photograph from a heaped-up mound of topsoil so that some distortion is evident. For an accurate plotting of the postmolds see Plate I, fig. 3.



later intrusion dug into the rectangle. It was dug out and produced a bottle with pins in it! There was, also, a square postmold measuring about nine inches, in contact with the rectangle near the northeast corner. Later digging showed that this postmold was on the north postmold line of the bastion, which includes Nos. 191, 221, 196, 192 and 197. Rectangle 191 has been tentatively considered to be a latrine, underneath an overhead platform where sentries were posted and probably a cannon mounted. This rectangle was not dug out because it was desirable to preserve the entire postmold pattern of the bastion intact for possible future restoration.

The other postmold lines of the bastion were uncovered and plotted on cross section paper, using a scale of five feet equals one inch. The order of discovery of the various postmolds is indicated by serial numbers. It was necessary to scrape the topsoil away from the area of postmolds, as they were discovered, so as not to mutilate them by tractor markings. This necessitated continually moving the tractor and scraper and accounts for the lack of continuity in the numbering of the postmolds.

When the northeast postmold line of the palisade was uncovered from Nos. 223 to 203 it became evident that the intrusion mentioned above had destroyed a postmold which, with No. 190, marked the portal or entrance to the fortified area. This portal measured about five feet, and a ladder was evidently placed here in order to reach the platform of the bastion. The northeast line of the palisade from the bastion portal to the corner north of Pilottown Road was not investigated beyond postmold 203 because an old photograph of the area involved showed a large farm house and several other buildings, now removed, had been built here. This previously occupied area undoubtedly had resulted in many intrusions interrupting or destroying the postmolds.

A heavy concentration of large postmolds along the south arc-like line of the bastion, Nos. 205-213, and also the large interior postmolds Nos. 194, 220, 215-218 and exterior postmolds Nos. 219, 221, 196 and 223, indicate supporting timbers for the bastion platform.

A farmer's fence line of a later time was found with more recently installed red cedar posts. It extended from near postmold No. 181 cutting diagonally across the excavated area to near postmold No. 219. Two of these oval farmer's postmolds were found together near the Dutch rectangular postmold No. 181. In No. 181 a very badly decayed cedar post, part of the original palisade, was found while the cedar posts in the two farmer's postmolds were not so badly decomposed, and one was evidently used to replace the other post.

Many small fragments of charcoal were found in the yellowish sub-soil along the postmold lines of the south bastion, indicating that the timbers here had been severely burned by the Indians at the time of the 1631 massacre.

Practically no artifacts were found except what appears to be the handle of a metal spoon, badly decomposed, found about



at the contact of the top-soil and sub-soil near postmolds 212 and 213; also, a hand-made wrought iron spike, about five inches long, found on the sub-soil surface but slightly embedded in the composite postmold No. 193. These may be of Dutch origin.

The dark postmold areas, shown on Plate I, fig. 3, represent only the places where the deeper-set and larger timbers were placed; smaller and shallower-set timbers have long since disappeared in the top-soil where bacterial decay and chemical leaching by ground water has continued for three hundred and thirty-three years.

### Conclusion

The postmold pattern found in the 1964 investigation clearly indicates the south bastion of the palisade as drawn by DeVries. (Plate I, fig. 2) No longer can there be any doubt about the location of this early colonial fort.

The previous work done in 1952 and 1954 along two lines of the palisade and on the south bastion this year have furnished sufficient data so that it is now possible to reconstruct, in considerable detail, the dimensions and shape of the DeVries palisade. (Plate I, fig. 1) Using these data, there is being designed a diorama, 4 x 6 feet, for the "Zwanendael" Museum in Lewes, Delaware. This will show how the partially destroyed Dutch settlement appeared to Capt. DeVries when he landed there December 6, 1632.



## SIGNS AND OMENS

### To ALL DIGGERS:

We as amateur archeologists are normally interested in finding beautiful Indian or historical artifacts, but when we dig below the surface of the earth, we must steel ourselves to look for those things which often tell us more about the culture and/or civilization in a site than the mere tool or artifact that we may find.

These SIGNS or OMENS must be looked for and carefully recorded if our investigations are to be of any real value. These SIGNS generally consist of such things as "Association of artifacts with each other: Location of artifacts as found: Any change in soil color or character: and any other change from normal conditions, and of course special note made of any or all of the above conditions in association with human bones or other skeletal material.

These SIGNS and OMENS can only be recognized and recorded properly if your excavation is done in a systematic manner. Experience has shown in thousands of excavations that this can best be done by following a definite procedure:

- (1) Lay out your excavation in small sections about five or six feet square, and systematically number each section by location on your site map.
- (2) Excavate each section (one at a time) by levels of about 6 inches deep with trowel and brush.
- (3) Record the location and depth of every artifact or SIGN as it is found, do not wait until later to record it, for you will forget details that later will be important when the final notes are compared and analyzed. NOTE that it is especially important to record any SIGNS because exposure to air and light often make them disappear. This is especially true of different coloration of the soil, which often disappears in a few hours or even minutes after exposure. Keep your notebook handy at all times when digging.
- (4) Do not destroy any SIGN until the site supervisor has a look at it and advises you. And do not remove any artifact or bones until the whole of that level (in the section) has been completed, thus getting the relative location of associated artifacts and signs.
- (5) Occasionally it may be desirable to leave some special artifact or bone in place until one or more levels below it has been excavated, thus leaving that special item on a pedestal. Later when the balance had been recorded, the special item can be removed and the area under it excavated by levels and anything under it recorded.
- (6) Never work alone when excavating. Always have one or more co-workers on the site with you, and if possible the site supervisor with you, or available for call. It is important to have witnesses when any important or unusual item is found, and their corroboration of seeing it before it is moved. It is a good safety precaution, too.

And remember, all information, facts and artifacts, that you find in your excavation, if not recorded and published, are lost!

Henry H. Hutchinson

Nov, 1964.

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