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DELAWARE

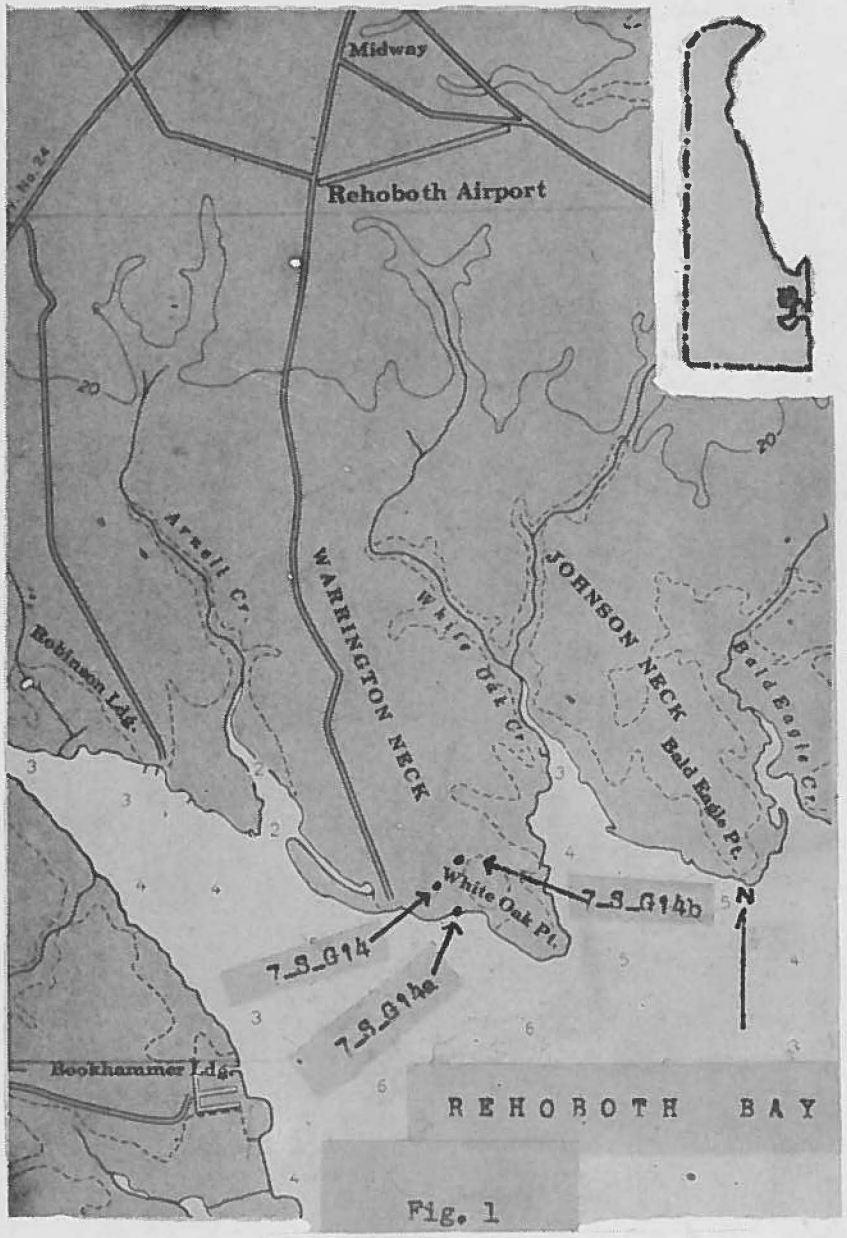

Fig. 1

REPORT ON

THE WARRINGTON SITE (7-S-G14)

by

D. Marine, M. Tull, Jr., F. Austin

J. Parsons and H. Hutchinson

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REPORT ON THE WARRINGTON SITE (7-S-G14)

by
D. Marine, M. Tull, Jr., F. Austin, J. Parsons and H. Hutchinson

This site consists of 5 large shell middens of which one is primarily a burial pit for both human and canine bodies.

The site is located on the crest of a hill overlooking the Rehoboth Bay to the south and approximately 281 feet north of the Bay Shore (see cover).

The pits are confined to an area whose north-south length is 75 feet and the east-west width 55 feet (see Fig. 2). The site has long been designated a burial ground and was preserved as such for more than 200 years. On this account the area has been covered with trees until about a year ago when the trees were cut and last May (1963) a bulldozer pushed out most of the stumps. It was this last operation that located one of the pits (No. 1) and exposed oyster and clam shells together with human and canine bones.

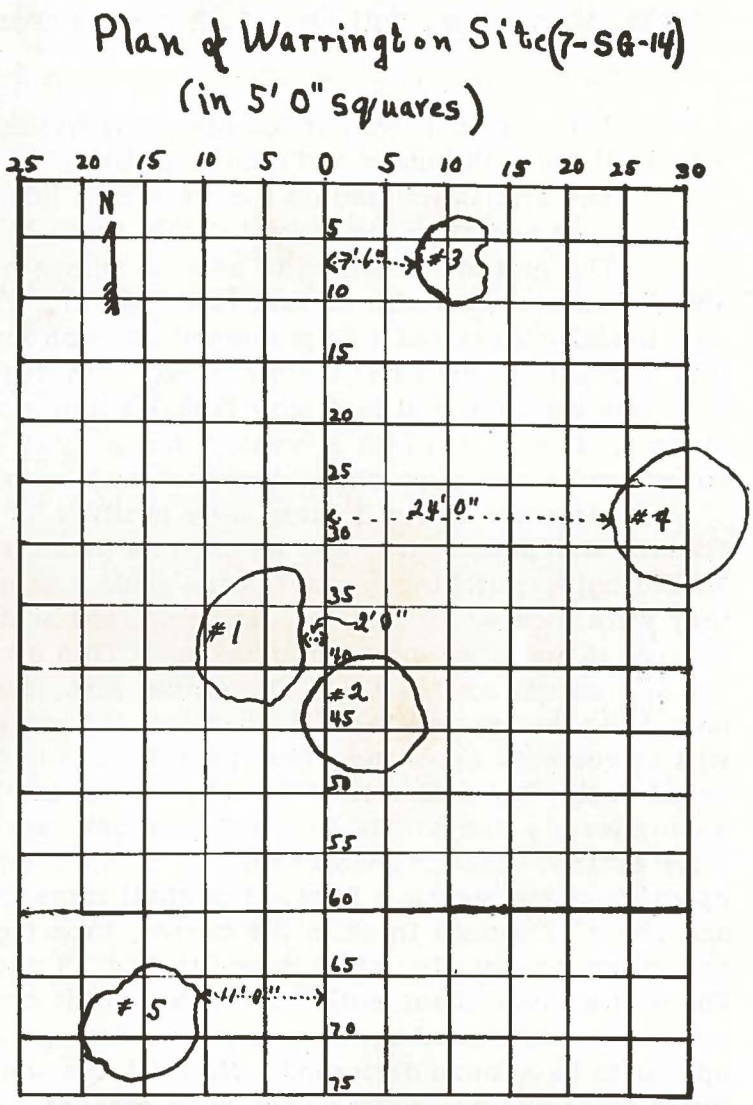
Members of our Society were notified by the owner of the farm, Mr. Francis Warrington, Jr., and he gave us permission to examine the area. Accordingly, Hutchinson and Marine made a plot and numbered the pits as they were located by probing. For this reason the numbering from 1 to 5 inclusive is not in geographic sequence. This group of 5 pits is designated in our site survey as 7-S-G14. Two other pits, widely separated in the field have been designated 7-S-G14 "a" and "b" respectively. One of these, "b", will be reported separately (see page 10). The "a" pit or shell deposit is located in the Bay side cliff 281 feet south of the 5 pits on the crest of the hill. Approximately one half of this shell deposit has been destroyed by wind and wave action. Examination of this pit or shell deposit has been confined to inspection of the exposed face. The shell mass is nearly 11 feet in diameter and about 12 inches thick in the center, tapering to 2 or 3 inches at the edges, and closely resembles shell deposits Nos. 3 and 4 on the crest of the hill. There is a layer of top soil 8-10 inches thick covering the shell. The shells are mostly weathered oyster and clam. The ground beneath the shell does not appear to have been disturbed. No artifacts were seen, although fragments of turtle plate and mammalian bone were present. A triangular arrow point was found on the beach by Parsons some 10-15 feet to the north west. Unless this partially destroyed shell deposit is later excavated, no further description of it will be made. Several instances of wind and wave action exposing and destroying Indian midden deposits have been noted along the north shore of Rehoboth Bay and the shore here has been eroded back 40-50 feet within the memory of persons now living.

A pit by pit description of our findings follows:

Pit No. 1. This pit had been exposed on May 11, 1963, by Mr. Warrington in pushing out a large wild cherry stump with his bulldozer. The writer of this report was notified that evening, and the next day accompanied Mr. Warrington and his brother to the site. We found that the tree stump stood several feet to the north west of the pit proper, but the blade of the bulldozer the previous day had exposed oyster and clam shells and parts of the skeletons of 3

dogs. Also the blade had sheared off the lower third of the left tibia together with the bones of both feet of a horizontally placed human skeleton. In probing the adjacent area we found 4 more shell deposits and Mr. Warrington consented to abandon his plan of preparing the hill top for a 1963 crop, as it would have been impossible for us to examine carefully all 5 pits within a week or 10 days.

Fig. 2



The next day Hutchinson, Parsons and Marine began an examination of the remainder of this pit. We exposed the rest of the human skeleton badly injured by the bulldozer. The skeleton rested in an extended or horizontal position on a pavement of a single layer of oyster and clam shells with their external (convex) surfaces up. The skeleton was in a north-south line with skull to the south. The skull appeared to be abnormally elevated above the plane of the rest of the skeleton by a low platform of hard clay placed under the occipital bone. Because the topsoil in the area had been badly disturbed by the bulldozer, it was not possible to determine the depth of this skull below the natural ground level; our best estimate was 17-18 inches. Fortunately the skull was intact but filled with clean sand. On attempting to lift it after 2 days of exposure it came apart at the sutures. No attempts at restoration have been made. As already mentioned, the skeleton rested in a horizontal position except the left fore arm, which was flexed upward and across the chest. The only intact long bone was the left humerus. This bone is very slender and 11-3/4 inches overall in length. As a matter of fact, all the long bones are unusually slender and both tibae have anterior bowing. In both the head of the left humerus and the upper extremity of the

right tibia the epiphyseal lines are visible as straight shallow transverse grooves, suggesting that the individual was young, possibly 18-20 years old. The long bones, in addition to being slender, do not show the usual prominence and roughing of the tendon attachments seen in adults with fully developed musculatures. All the permanent teeth visible seem quite long because they are not worn down, nor do they have any signs of caries (Plate I, No. 1).

Further examination clearly shows that this extended burial was a partial intrusion from the eastern side of the pit into the area of earlier human and dog burials. Thus when the pavement of shells was removed portions of the skeleton of a dog burial were exposed. Also to the left of and deeper and partially under the shell pavement there were portions of a human upper and lower jaws with the teeth (Plate I, No. 2 a and b) worn down almost to the base of the enamel; portions of a human femur; skull fragments with traces of the upper jaw with some teeth; the nearly complete skeleton of a dog posterior to the thoracic vertebrae. In addition to the above evidence of an earlier second adult burial there were also found still farther to the left 27 human teeth (Plate I, No. 3) - all except 1 incisor and 4 molars of an adult set in a small area with granular debris of bone but no recognizable fragments of the maxillary bones. These teeth were smaller than those of a young adult and showed none of the usual wear seen in older adults. We therefore assumed that they belonged to a juvenile individual (possibly 11-13 years old). All told there were 3 human and at least 5 canine burials in this pit. Of the 3 human burials the latest was that of a young adult, possibly 18-20 years old; of the 2 earlier burials placed deeper and to the left of the latest burial, one was that of an older adult and the other that of a juvenile. The sex of none of the burials was determined because of the breakage and incompletness of the skeletons. The area paved with shells was approximately 8'6" x 5', and the entire pit, slightly oval, measured 8'6" x 9'8". The depth could only be guessed at because of the surface changes due to the bulldozer, but the oldest and also deepest part we estimated to be 2'2" below the original soil surface.

Three non-matching fragments of thin, dark gray, shell tempered pottery were found. All three fragments were smooth on the inside and fabric impressed on the outside. One of the fragments was located on the left side of the cervical vertebrae close to the skull and the other 2 were widely separated. One triangular arrow point was found on top of a pile of dirt and shell that had been pushed from the pit area by the bulldozer (Plate II, No. 1). No charcoal was found. The shells (about 3/5 oyster and 2/5 clam (quahog), averaged quite large.

Pit No. 2 was opened from the southeastern edge of pit No. 1. It is a large pit, nearly round, and measures 10 feet in diameter. After removing the 8 inches of topsoil, rich in organic matter, we encountered a hard compact dried out (no useful rain for 3 weeks) layer of silt 6"-8" thick covering the entire pit. This silty layer contained a few imbedded shells on its under surface which proved to be the top most part of the main shell mass. In contrast with pit No. 1 the shells are mostly oyster of medium size and a few clam (quahog).

As the excavation progressed it was obvious that most of the artifacts were contained in the silty layer immediately overlying the shell mass. This

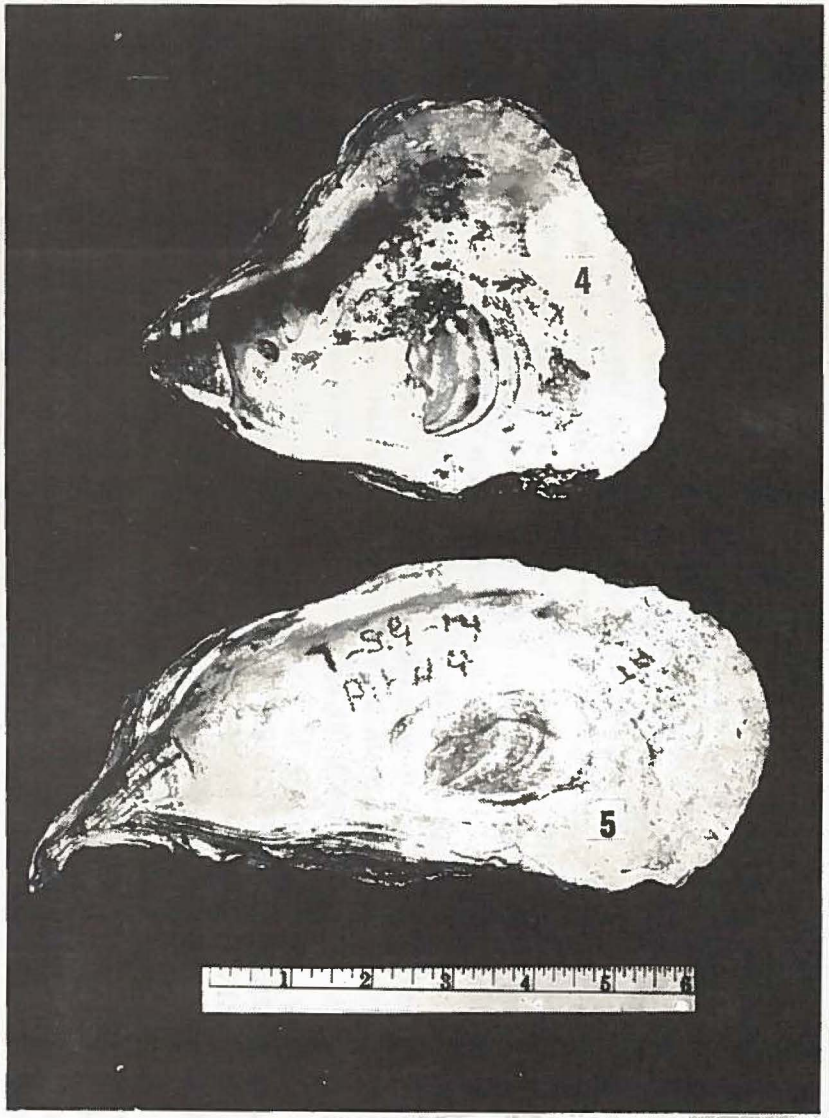


PLATE I. No. 1, parts of upper and lower dentition of the young adult (Christian type (latest) burial). No. 2, fragments of upper and lower dentition of an older person and much earlier burial. No. 3, upper (?) or lower (?) dentition of a child (possibly 11 years old) placed on wax. Teeth show no wear. No. 4, typical of the artificial flattening of the anterior edge of large numbers of shells in pit no. 4. No. 5, an intact shell from same pit.

concentration of artifacts was first observed by Tull and later confirmed by Austin, Marine and Parsons as the excavation proceeded. The simplest explanation of this observation (it was also present in pit No. 5) is that after the shells were deposited rain water carrying silt drained into the depression and camp trash was thrown in over a considerable period of time. The shells toward the bottom were free of silt, loose, well preserved and the individual shells were easily removed by hand.

The shell mass was 25 inches thick at its deepest part. The pit was bowl shaped and at its deepest part was about 40 inches below the present soil surface.

As above stated, most of the artifacts were found in the silt layer. The stone artifacts consisted of one well-made small triangular arrow point (Plate II, No. 2), 5 flakes, 5 rejects (3 jasper and 2 quartzite), 1 broken hammerstone and 7 fire cracked stones. Of bone fragments a total of 75 were recovered and include turtle, deer and bird bones. One small but intact bone awl was recovered (Plate II, No. 3). A fragment (about 2/5) of a decorated pipe bowl (Plate II, No. 4) was found. The decoration consists of an incised encircling groove more or less paralleling the rim and probably (the rim is badly chipped) 1/4 inch below it, and above this groove are groups of 3 or 4 incised nearly vertical grooves about 1/16 inch apart and repeated at intervals of about 5/16 inch. The body of the fragment is the arc of a circle about 1-1/4 inches in diameter and though highly polished shows the vertical marks of a scraper. In color it is a shiny black on the outside, a dull black on the inside and the paste used was of a homogeneous dark gray color without any tempering material. The fragment is from a genuine Indian made pipe but might have been modelled after the ordinary trade pipe.

Ninety three fragments of Pottery were found, all of which were shell tempered. At least 6 pots were represented, 5 with rim sherds. The majority of the sherds were fabric impressed (Plate II, Nos. 4, 5, 6). One basal sherd was found. One sherd of this pot had fractured along the coil line. Four of the 5 pots with rim sherds show incised decorations. One has a definite chevron pattern (Plate II, Nos. 7,8). Three have a series of 7-8 incised grooves paralleling the rim (Plate II, Nos. 9,10) over which below the 2nd groove are a series of 3 short parallel incised lines at nearly right angles to the encircling grooves and repeated at intervals of about 1 inch. The undecorated rim sherd represents the largest pot and the coarse diagonal cord impressions extend to the rim. The rim has a very slight flare and the thickness increases from the rim downward. The paste used in all the pottery found was of a gray color (this holds true for all the 5 pits). It should be re-emphasized that all the pottery sherds including the other artifacts were recovered from the 6-8 inches thick silt layer overlying the shells.

Pit No. 3. This shell deposit, the most northern of the 5, was excavated by Austin and Marine on November 17, 1963. The topsoil, of a dark gray color and rich in organic matter, averaged 12-14" thick. The shell area measures north-south 8'6" and east-west 7'6". Except for a blunt projection of undisturbed earth on the eastern side, the deposit would have been nearly round. This shell deposit closely resembles pit No. 4 and the partially destroy-

ed shell deposit on the beachcliff as regards its shape, depth, general characteristics, condition of the shell and type of refuse deposited (see discussion).

Excavation was begun from the north side and a vertical front was maintained. The maximum depth of the shell deposit from the soil surface to the undisturbed sandy bottom was 22 inches and the maximum thickness of the shell mass at its center was approximately 8 inches; it then irregularly tapered to about two inches at the edges.

The following material was recovered: Bone: 2 large fragments of the shafts of long bones (1 definitely a cannon bone) and 3 fragments of vertebrae (1 nearly a complete cervical) of deer. All these fragments were soft and weathered. Sixty-nine fragments of turtle bone, varying in size from 1/2" to 3" in diameter, were found. Some of the turtles were obviously quite large. Stone: the most striking observation was its scarcity. Only 3 fragments, 1 flake and 2 rejects, all of jasper, were recovered. Shell: 5 conchs all of which had some of the body whorl broken off and 2 were reduced to their central stems. Large clam (quahog) shells, many badly broken and soft, make up 3/5 of the shell mass. Nearly all of the clam shells show the orange discoloration on their external surface (said to indicate heat) but no charcoal or other evidence of fire was observed. One well preserved scallop shell was present. Approximately 40% of the shells were oyster. Many of these were quite large (as in Pit 4) and all the shells are softer and more weathered than in pits Nos. 1,2 and 5.

Pottery: 24 pieces were recovered, representing at least 5 pots, but none was restorable. All fragments were shell tempered and none showed incised decorations. Three large rim sherds - all with a wide flare and indicated rim diameters of 6-1/2, 8 and 10-1/2 inches - showed 4 or 5 parallel rows of cord impressions around the rim and neck for a band approximately 1-1/2 inches wide. Six of the sherds were smooth on both sides - all the rest had overall cord impressions. One bottom sherd was present. No trade articles were found. In sharp contrast with pits Nos. 2 and 5 the dark topsoil had infiltrated every space in and between the shells and extended 2-3 inches below the shell layer.

Pit No. 4, like No. 3, resembles a shell deposit (heap) more than it does an ordinary refuse pit. After removal of 8-10 inches of soft dark topsoil rich in humus, we began the excavation from the southern edge. The shell deposit is nearly round and approximately 11 feet in diameter. The shell mass averages 8-10 inches in thickness at its greatest depth and gradually decreases to the edges. Dark soil has infiltrated and compacted the shell mass. The shell layer is made up of approximately 66% large oyster (Plate I, No. 3) and 33% of large (mostly broken) clam (quahog) shells showing orange discoloration on their external surfaces. Beneath the shell, there are several inches of dark soil similar to that among the shells (Is this the original soil surface?). Both major shell species are soft and weathered. Parsons first noticed that some of the large oyster shells have their thin edge somewhat squared off instead of the normal rounded, and suggested that such shells could have been used as scrapers (Plate I, No. 4). No other shell deposit of this group had oyster shells with this man made deformity.

The material found is listed and described as follows: Bone: 5 fragments of a lower jaw, each with teeth resembling those of a large dog; 4 vertebrae also probably dog; 46 pieces of turtle plate; 9 separate teeth (molar and pre-molar); 80 fragments of long bones either of a large dog or deer, and 105 miscellaneous fragments of bone. One piece of soft eroded shaft bone that may have been part of an awl was found. All bones are badly weathered and soft.

Pottery: 57 fragments - mostly small, including 4 rim sherds were recovered. All were shell tempered. We estimated 8 or 9 pots were represented, but none was restorable. Of the rim sherds, I had parallel oblique incised grooves extending about 1 inch (the width of the sherd) from the rim. Another had 5 rows of closely set cord impressions parallel with the rim. The other 2 rim sherds showed 6 rows of cord impressions parallel with the rims, but all three rim sherds with parallel cord impressions were different. Trade pipe: 2 fragments of a white bowl (probably of the same pipe but not matching) were found. Both fragments are quite smooth internally and externally. One of the fragments has a roulette like decoration about 1/8 inch below the intact rim (Plate II, No. 11). Stone: 9 chips were recovered together with 5 pebbles from which chips had been struck. A most striking finding was 79 pebbles (mostly jasper) varying from 1-2 inches in length scattered throughout the shell deposit (none was found in pit No. 3). There were also 12 cracked stones and one piece of red brick (American) measuring 2 x 1-3/4 x 1-1/2 inches. Charcoal was found throughout the shell mass. Nails: 4 extremely corroded portions of iron nails were found among the shells. All had large more or less flattened heads (Plate II, No. 12). The largest fragment measured 2-1/8 and the shortest 1-3/8 inches. Two shafts are definitely 4-sided. All are bent and show extensive rust deposits. The broad heads suggest that they may have been hand made. Shell: As above mentioned, about 66% were large oyster (some measuring 9" in length) and 33% large clam. Two dog whelk (Nassarius trivittata?) shells were recovered. All the shells were badly weathered, just as in pit No. 3 and in the bay side cliff deposit. This may be the result of the thinness of the deposits and their very shallow locations.

Pit No. 5. This pit was torn into by the bulldozer exposing the upper layer of shells just as occurred in pit No. 1, and in both instances while pushing out tree stumps. After this upper layer of shell, which proved barren of artifacts, was removed, a dark gray silt layer about 6 inches deep was exposed. This silt layer, just as in pit No. 2, contained most of the artifacts. Hutchinson and Prof. Harrison worked on the north side, taking the silt layer down stratigraphically, while Dunn and Marine worked from the south side and kept a vertical front. The following material - almost entirely confined to the silt layer - was recovered: Bone. Most of the bones had been broken into small pieces and we classified them as follows: Deer 26 pieces, small mammals including part of a lower jaw and ulna 76 pieces, turtle 5 pieces. One molar tooth of a deer, one small mammal molar and one slightly curved canine (too small for a dog) were recovered. Pottery. A total of 107 fragments were found, mostly small and no restorable pots. At least 7 pots were represented - all thin walled and shell tempered. There were 6 rim sherds

representing 4 pots, but none of the sherds matched. One observation, also predominant in the other 4 shell deposits, was that the exterior decorations on the sherds were fabric or cord impressed. No markings on the interior surfaces were noted. Two of the rim sherds also showed fabric or cord impressions extending to the rim. The other 2 sherds had 5 and 6 very shallow incised lines, evidently made with a blunt point, parallel with the rim. One body sherd had a mending hole drilled from the outside. Seven of the 107 sherds are salmon colored - the rest are of the thin dark gray color so prominent in the other 4 pits. Stone: 4 flakes, 1 reject and 2 fire cracked stones were recovered.

The shell is predominently medium sized oyster, possibly 25% clam. No conchs or scallop shells were found. Charcoal was present and 2 carbonized fragments of hickory nuts were found. After removal of all of the shell, the pit measured 7'6" by 7'9" with a rather deep bay on each side. The depth was 27" below the level where the bulldozer scraped - making this deeper than pit No. 2, which it closely resembles as regards age (weathering) and type of shell, the layer of silt and type and location of the pottery fragments.

Surface findings: 1 sandstone hammerstone, 1 jasper pebble from which a chip had been struck, 3 small pieces of thin dark gray shell tempered pottery, 3 bone fragments, 1 thick light yellow colored triangular arrowpoint (Plate II, No. 13), one surface of which showed the original brown weathering, were found. Also a thin jasper triangular chip flat and smooth on one side and convex on the other which, due to the removal of many small flakes, was called a triangular arrow point. A third triangular arrow point was found on the beach near the wave eroded shell deposit which we have designated 7-S-G14a.

In probing the hill top for shell deposits, we found a somewhat rectangular flattened piece of argillaceous rock measuring 3-1/2" long x 2-7/8" wide and 3/4" thick at its thickest part (Plate II, No. 14) and gradually thinning toward the edges. The 3 thinner edges of the rectangular piece had been chipped to this shape perhaps to somewhat sharpen and roughen them, particularly the lower and left edges of the longer slopes. The stone is clearly sedimentary and may have been the mold of a fossil clam-like bivalve. As to its use, it could have been used as a scraper or as a chipping stone. One fragment of a white European trade pipe stem 1-1/4 inches long (Plate II, No. 11a), 1 small fragment of a brown glazed bowl and one fragment of an unglazed gray plate or shallow bowl with the basal ridge were found.

Summary. The principal data obtained from the site are given in the following table:

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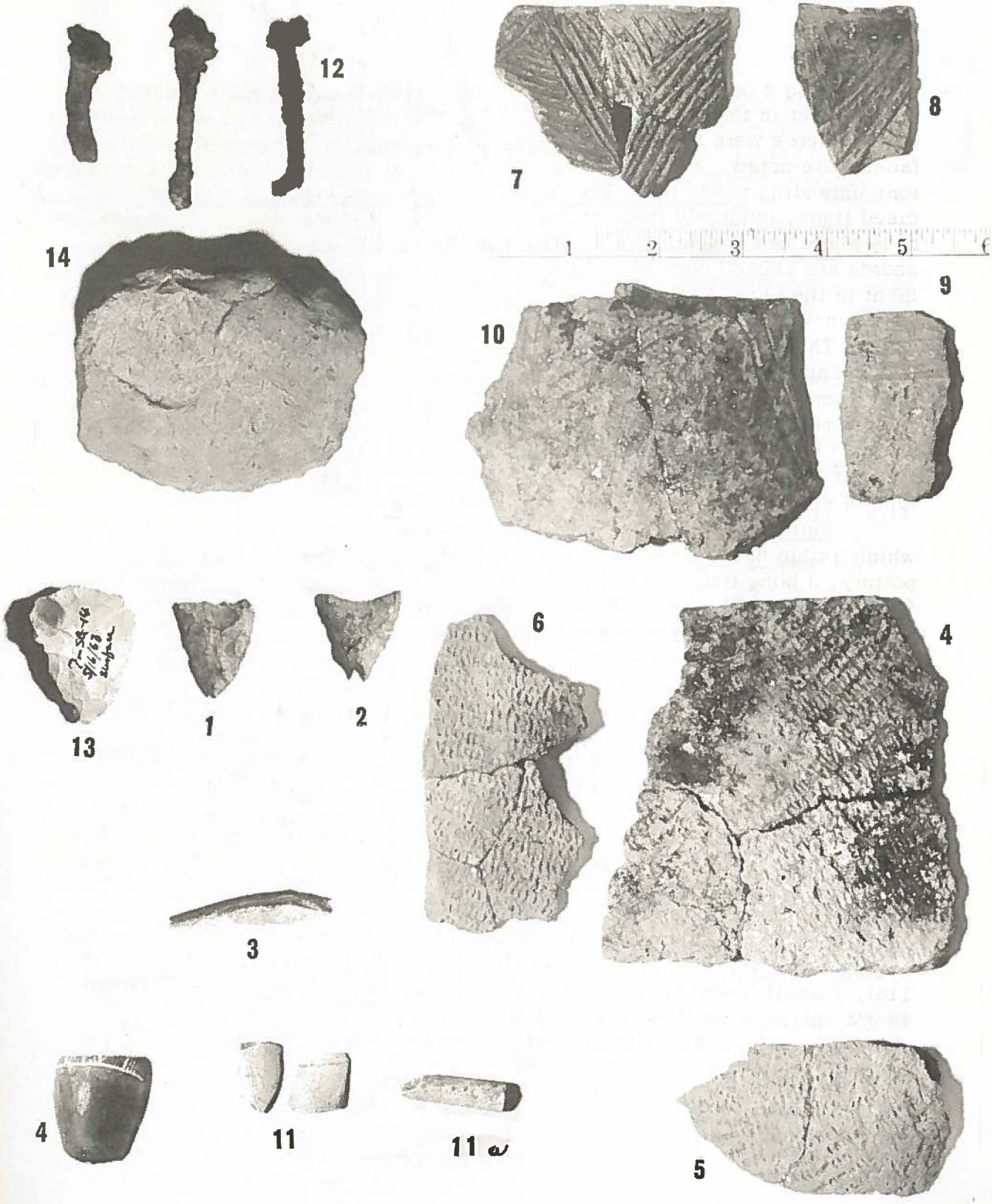


PLATE II. No. 12, three rusty nails. Nos. 14, 13, 1, 2 and 3 marred by shadows. No. 13, a fossil mold showing right, left and lower edges have been shaped by chipping. No. 3, an intact bone awl. No. 4, fragment of Indian pipe bowl. No. 11, fragments of a trade pipe bowl with roulette decoration. No. 11a, fragment of trade pipe stem. Nos. 7,8,9 and 10, rim sherds with incised decorations. Nos. 4, 5 and 6, fabric impressed - typical of most of the fragments found.

SUMMARY TABLE

Pit or Shell Deposit Number

	No. 1	No. 2	No. 3	No. 4	No. 5	No. "a"	Surface Finds
Burials							
Human	3						
Dog	5			1?			
Bone (Total Frags.)		75	74	240	107		
Dog				9			
Deer		+	5	80	26		3
Turtle		+	69	46	5	+	
Small Mammal					76		
Worked		1 awl		1 awl?			
Bird		+				+	
Teeth				9	3		
Misc. (bone)				105			
Pots Represented		6	5	8?	7		
Indian	3	93	24	57	107		3
European							2
Pipes							
Indian		1 bowl					
European				2 frag. (bowl)			1 (stem)
Stone							
Arrow Points	1?	1				1?	2
Chips		5	1	9	4		
Rejects		5	2	5	1		1
Hammer		1					1
Pebbles				79			1
Fire Cracked	1	7		12	2		
Am. Brick				1			
Special							1 scraper
Shell							
Oyster	3/5	4/5	2/5	2/3	3/4	2/3	
Clam	2/5	1/5	3/5	1/3	1/4	1/3	
Conch			5				
Scallop	1		1				
Special				2 dog whelk?			
Charcoal		+		+	+		
Nails (iron)				4			

These 6 shell deposits (5 on the crest of the hill and the partially destroyed one in the beach cliff) could be divided into 3 groups as regards their topography and contents: (1) the multi human and multi canine burial pit (No. 1); (2) the 2 deep refuse pits (Nos. 2 and 5), and (3) the large nearly circular shallow and badly weathered shell deposits (Nos. 3,4 and beach cliff). Two of the pits (Nos. 1 and 5) had been recently torn into by a bulldozer. The other four (2,3,4 and "a") had not been disturbed by man.

In Pit No. 1 there were three human and at least 5 canine burials. The most recent human burial was an extended one of a young adult laid on a single layer of large oyster and clam shells and was a partial intrusion from the east side into 2 earlier human burials. One other extended or Christian type burial laid on a single layer of shells was reported by Karl and Ingram (The Archeolog 1951, vol. III, No. 2, p. 4) from the Russell site (7-S-D7) - an Indian encampment near the West India Co. Trading Post (The Archeolog1957, No. 1, p. 1). The other two human burials (1 older adult and 1 child) were much older and very little of the skeletal material except the teeth was recovered. The 5 dog burials were confirmed by finding 5 complete lower jaws among the jumble of dog bones under and to the left of the most recent human burial.

The two quite typical deep Indian refuse pits were characterized by the layer of silt containing almost all the artifacts. In one of the pits (No. 5) there was a thin layer of shell above and a 21 inch layer below the layer of silt. In the other pit (No. 2) there were no shells deposited above the silt layer. The presence of one or more layers of silt or sand of variable thickness in refuse pits in this area is of common occurrence, and their formation is usually explained by heavy rains washing in the surrounding soil. The fact that most of the artifacts in the two pits were in the silt layers may indicate that the shell deposits were made over a short time period and the artifact accumulation in the silt layers occurred over a longer time period and that occupation of the site was intermittent.

The three large (9-11 ft. in diameter) round areas with thin shell deposits (Nos. 3,4 and "a") are seemingly older than the 2 deep refuse pits (Nos. 2 and 5). This may be due to their greater exposure to weathering and soil bacterial action. But the question arises whether any depression at all was dug to receive the shells. Our opinion is that these 3 shell deposits were surface accumulations - similar in nature to the larger shell deposits and heaps so common along the beaches and tidal streams in this region.

The local history and preservation of the area as an Indian burial ground from colonial times and our archeological evidence indicate that the site was occupied mainly about the time of settlement by Europeans. The total absence of grit tempered pottery, the great preponderance of gray clay sherds, the extended human burial, the scarcity of stone artifacts and the presence of European trade goods - all support this view.

REPORT ON THE EXCAVATION OF A BURIAL PIT (7-S-G14b)

by

Marion Tull, Jr. and David Marine

This apparently isolated burial pit is located about 373 feet down the northeastern slope of a hill on whose crest was located a burial pit, 2 large refuse pits, and 2 shell deposits. This group of 5 pits on the crest of the hill has been designated the Warrington Site (7-S-G14) (see cover) and is being reported as the first article in this issue. In addition to the 6 pits mentioned, there is a 7th located 281 feet south of the crest of the hill in the Rehoboth Bay shore cliff - about one half of which has been eroded away by wave action. Whether all 7 pits so far located should be considered as one site is questionable, but the plan at present is to designate the 5 pit area as (7-S-G14), the Rehoboth Bay shore cliff as (7-S-G14a), and the burial pit to the northeast of the crest as (7-S-G14b). (See cover.)

All of these pits are located in the same large field on the farm in Warrington's Neck owned and operated by Francis Warrington, Jr., who granted us permission to excavate there. Other burial and/or refuse pits may be present in this field but because of their possible depth below the plow-line have not been detected.

The burial pit (7-S-G14b) to be reported here as already stated is located 373 feet in a northeasterly direction from the 5 pits on the crest of the hill and 60 feet west of the edge of a swamp or marsh containing open water, which today has a blocked outlet to Rehoboth Bay. Probably this outlet was navigable for canoes at the beginning of settlement by Europeans.

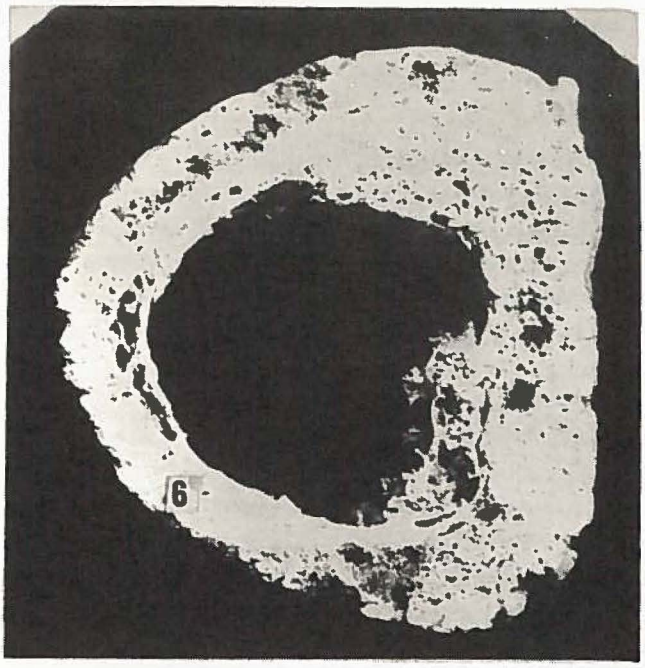
This pit was located by accident on May 16, 1963. Mr. Warrington was pushing out with a bulldozer a medium sized hackberry tree that stood about 40 feet up the slope from the present edge of the marsh when the blade dug into shells. He immediately notified J. L. Parsons and D. Marine, who were working on the pits at the crest of the hill. We investigated at once and through a hole about 3 feet in diameter removed some oyster and clam shells and exposed a human hip bone (ilium) under the shell layer. We immediately refilled the hole and marked the site.

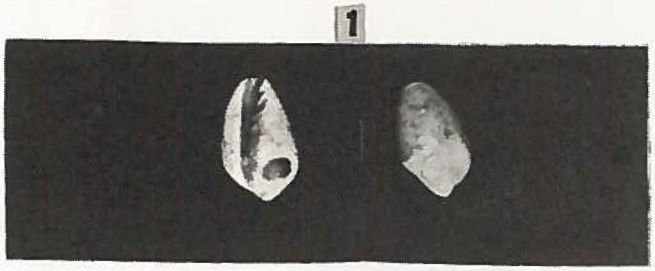
On November 23rd Tull and Marine opened the burial pit again by removing the top soil (about 10 inches deep) over an area 5 x 8 feet, and then the shell layer, which averaged 6 - 8 inches thick. The shells were intact but somewhat softened with no signs of fire damage. The fill dirt immediately above and around the skeleton was removed and examined for artifacts, with the following results:

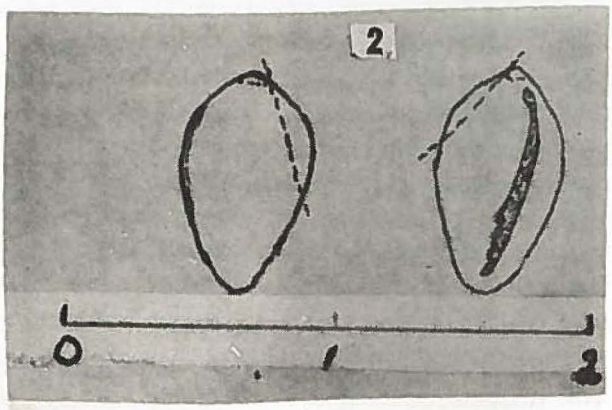
Stone artifacts none: 3 flakes, 2 rejects (jasper pebbles from which chips had been struck), 4 jasper pebbles and 4 broken or fire cracked stones.

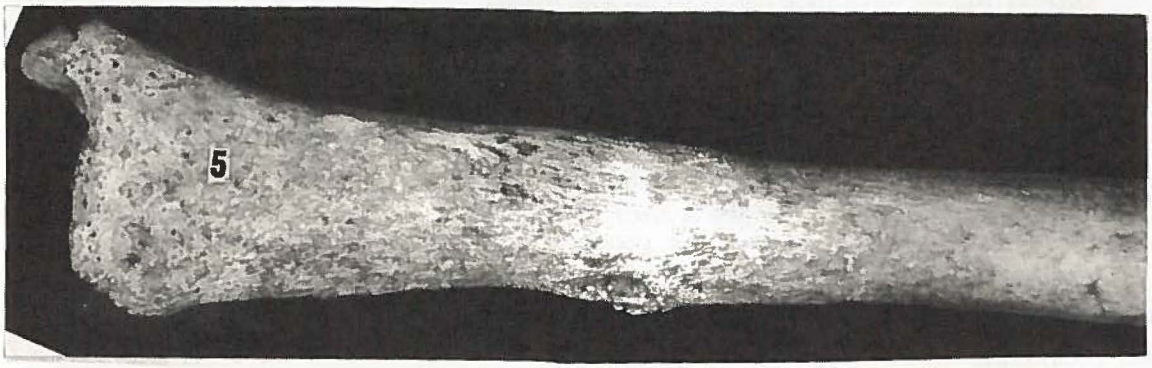
Bone: 5 pieces of turtle plate, one 3 inch fragment of a long bone (probably deer), 2 intact and one fragment of deer molar teeth.

Pottery: 7 widely scattered fragments - all shell tempered but none matching, of a dark gray color and representing 3 pots. One of these sherds measuring 1-5/6 x 1/2 x 5/16 inches and apparently an undecorated rim sherd









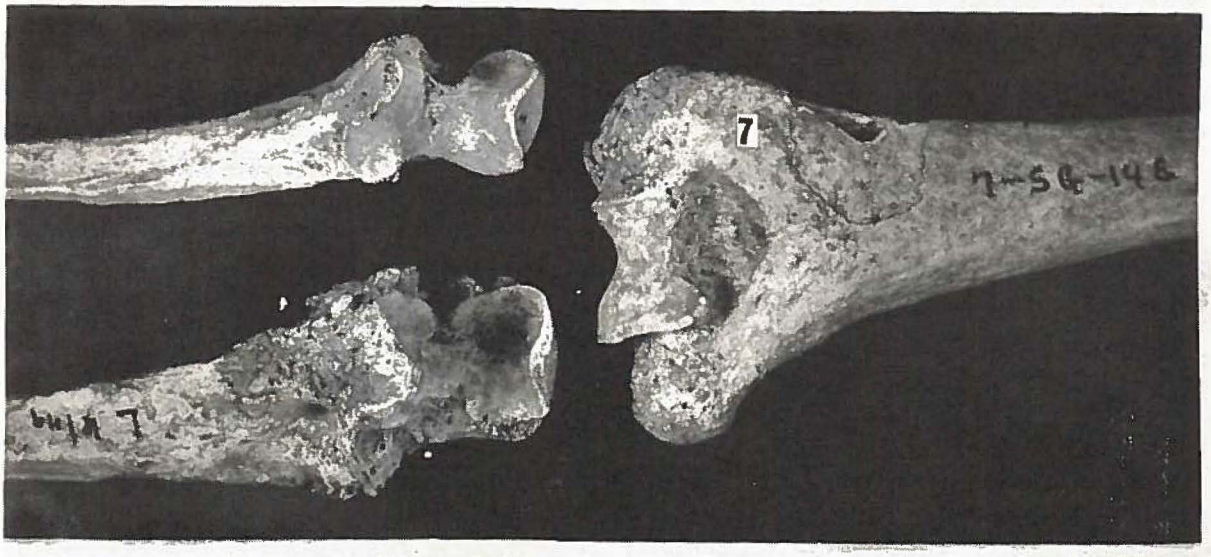


PLATE III. No. 1, Marginella apicina, front and back view showing the 4 ridges in the upper end of aperture and the rubbed hole through the large whorl. No. 2, drawing much enlarged; dotted lines indicate the rubbed holes. No. 5, left tibia with slight swelling due to new bone formation. No. 7, left humerus and ulna with a normal left Indian ulna for comparison. No. 6, cross section of No. 5, through the callus showing nearly intact marrow cavity with irregular thickening of shaft bone and many large and very irregular cavities (Haversian canals?).

has separated along the coil line from the coil below.

Charcoal in small fragments was widely scattered throughout the fill dirt but there was no evidence of fire in the pit. All the above described midden material found in the fill dirt above and around the skeleton we thought could be accounted for as incidental to the refilling operation.

The skeleton had been placed on the leveled, yellow sand floor of the pit in a horizontal or extended position with the head toward the south just as was found in pit No. 1 (see first article in this issue) at the crest of the hill, except that there was no pavement of shells under the skeleton. All the bones were in their normal position with the arm bones fully extended and closely paralleling the trunk bones. The leg bones also were fully extended and in normal alinement. The overall length of the skeleton was 5'6". The bones were soft, but the entire skeleton was recovered except the toe bones of the left foot.

On removal of the skull 72 small bead-like polished white shells (Plate III, Nos. 1 and 2) were found in a midline pile mixed with sand and about 2 inches above and in the same plane as the base of the occipital bone. These shells are quite uniform in size, measuring on the average 14/32" high x 7/32" wide x 8/32" thick, and somewhat egg shaped, with the aperture extending nearly the full length and with 4 plaits or ridges at the upper end of the aperture on the inner lip (columella). There is a hole rubbed through the body whorl and exposing the inner whorls opposite the aperture and below the low spire (Plate III, No. 2 - dotted line on drawing). In each shell the artificial hole had been made in the same location. Each shell was filled with dirt. We succeeded, with some difficulty, in pushing a 1/32" wire through the upper end of the aperture and out at the artificial opening, and vice versa. We therefore think these worked small shells could have been used as shell beads and that the rubbed hole may have been made for the purpose of stringing them. These shells were the only grave goods found, and they have been identified as Marginella apicina. If the North Carolina coast, as usually stated, is the northern limit of this species, it would imply trading or travel over a considerable distance.

The skull is intact, small and slightly dolicocephalic. There is a 2" wide band extending across the frontal bone (Plate IV, No. 3) beginning about 1/2" above the orbital rims and extending to a possible hair line that contains numerous small irregular healed pittings or depressions. They appear to be confined to the outer table and are localized to the above described band of the frontal bone. The temporal, parietal, occipital and upper half of the frontal bones, externally, are quite smooth and normal in appearance.

Teeth: All the teeth present are somewhat worn down (Plate IV, No. 4). In the upper jaw the only tooth absent is the left median incisor, but the bony socket of this tooth is shrunken and completely healed. The 2nd left molar, the 3rd right molar, the right canine and the right median incisor show varying degrees of decay and cavity formation. In the lower jaw all teeth are present except the 2nd and 3rd right molars and the 1st and 3rd left molars. All tooth sockets except that of the left 3rd molar are fully healed (Plate IV, No. 4). This tooth socket is filled with dirt and shows no gross signs of bone healing.

Vertebrae: All vertebrae including the sacrum and coceyx are intact except that the bodies of the 2nd and 3rd cervicals in particular, show extensive roughening and abnormal ridges and spicules of bone on their front surfaces, suggesting osteoarthritis.

The frequent involvement of the cervical vertebrae in rheumatoid arthritis is well documented in medical literature.

The overall lengths of the femora are the same - 17 3/4", and except for a slight lateral bowing appear normal. The overall length of the right tibia to the tip of the internal malleolus is 15-3/8" while that of the left tibia is 15-1/8". The difference in the lengths of the right and left tibiae, we believe, is due to an old healed injury to the left tibia (Plate III, Nos. 5 and 6) characterized by an annular roughened and slightly raised area about 1-1/2" in width near the junction of the middle and lower third. This callus like formation may have been the result of an incomplete fracture in early life or, of a healed syphilitic or yaws (framboesia) lesion. The right and left humeri are each 13" in length overall and appear normal. Both the right and left ulnas are quite obviously deformed, roughened and enlarged around their elbow articulations by bone formation in ridges and spicules - the left ulna shows the more marked lesions (Plate III, No. 7). The left ulna measures 10-3/8" and the right 10-3/4" overall (tip of the olecranon to the tip of the styloid process). All the carpal, metacarpal and phalangeal bones appear normal, as do the tarsal, metatarsal and phalangeal bones of the right foot (the phalanges of the left foot were not recovered).

Sex: The angles of the necks of the femora are less acute; the flare of the ilia is greater, the width (4 5/8") of the sacrum is greater, and the pelvic outlet is relatively larger than in the male. These measurements, together with the pile of shell beads above the skull, suggest that the skeleton was that of a female. The overall length of the skeleton in situ and measured from a vertical line at the upper border of the skull to the distal ends of the metatarsal bones is 5'6".

After removal of the skeleton the burial pit was trimmed back to the undisturbed yellow sand on its sides and ends, and the following measurements were made - length 7'0", width 4'0", and depth (from present ground level) 31 inches. The depth below the present ground level at which the skeleton was found is considerably greater than the average Indian burials in this area. This may be due to the deposition of erosion soil since the land was cleared and cultivated. Therefore, the possibility that there are other midden or burial pits in this field should be borne in mind and searched for at greater depths than we usually do.

Discussion and Summary: No surface evidence of this burial pit had been obtained by inspection and probing, and had it not been for the bulldozer and its interested and cooperative operator the pit would not have been found, despite the fact that worked stones and pottery fragments have been found widely scattered over this area. This is the third horizontal or Christian type of Indian burial within 6 miles of Lewes, Del., that our Society has excavated. The few pieces of worked stone, pottery sherds and bone fragments present could be better explained as incidental to the refilling of the burial pit.

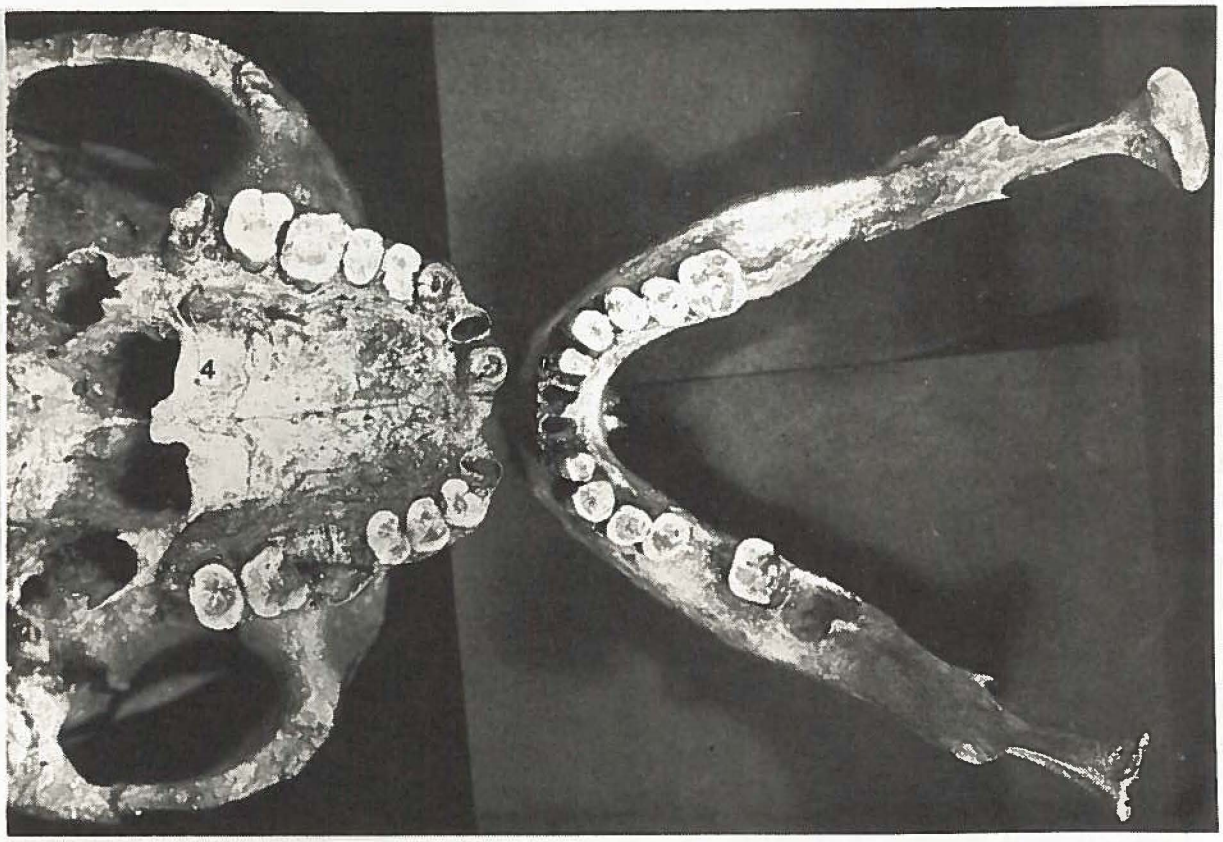


PLATE IV. No. 3, shows band of irregular pittings on lower border of frontal bone with the upper part of frontal and parietal bones normal. No. 4, upper and lower dentitions showing healed tooth sockets, active dental caries and three sockets whose teeth were in place when skull was removed from grave.

The outstanding feature was the well preserved skeleton of an adult female placed in a horizontal position on the leveled yellow sand floor with the skull toward the south. A pile of 72 small, separate, white, polished sea shells, identified as Marginella apicina, mixed with sand, each with a hole rubbed through the shell in the same location, was found about 2 inches south of the vertex of the skull and in its midline in an area less than 3 inches in diameter. If these shells had ever been strung, all visible vestiges of the string had disappeared and from their position, it seems unlikely they were being worn as a necklace at the time of burial. Nevertheless, judging from similar observations reported in the literature, there can be little doubt that they had been or could have been assembled in a necklace.

Of interest also were the pathological findings in the skeleton: (1) The band of healed pittings in the outer table of the frontal bone in the lower forehead area, while the remainder of the calvarium was smooth and normal; (2) the healed fracture or healed inflammatory lesion (gumma) and slight shortening of the left tibia; (3) the extensive formation of bone in ridges and spicules (so called osteophytis) - more marked on the internal surfaces of the bodies of the 2nd and 3rd cervical vertebrae, and the still more marked bone formation in the periarticular tissues of the elbow ends of the right and left ulnas; and (4) the extensive tooth decay (dental caries) in both upper and lower jaws. From a pathologist's viewpoint, the latter 2 of these manifestations of disease (osteoarthritis and dental caries) are of common occurrence today in other racial stocks, and with little or no advancement in our basic knowledge for their control.

The healed pittings on the frontal bone and the healed and roughened area in the lower third of the left tibia could have been due to tertiary syphilis or to yaws (framboesia).

Footnote

After this report was written, one of us (Marine) saw in the Museum of Archeology, University of North Caroline, a mixed collection of Marginella apicina and Olivella (jaspidea?) shells taken from an Indian burial in the Cape Fear area of North Carolina. Prof. J.L.Goe said these shells were also used as hair and garment decorations by the Indians.

REPORT ON THE CHICONE SITE #1 (18-Dor-11) & CHICONE SITE #2 (18-Dor-10)

by
H. H. Hutchinson, Warren H. Callaway & Charles Bryant

Chicone Site #1 was partially excavated in 1952 by members of The Sussex Society of Archeology and History, and they planned additional work there, but the owner's intensive schedule of cultivation of the whole site made that impossible. It now seems that we probably will not be able to resume field work on this site; so a report should be made of the work done, and of the material recovered. Field notes of their work have been submitted by Callaway, Bryant, and the Hutchinsons, and their finds are consolidated in this report.

The site is located on fast ground varying from two to eighteen feet above mean high tide, on a neck of land between the Nanticoke River and Chicone Creek, on the northeast bank of Chicone Creek and about one and one-half miles northeast of Vienna, Md. It is within the bounds of what we have called "The Chicone Reservation" which has been described in the ARCHEOLOG, Vol. 13, No. 2, of October 1961. This reservation was set aside for the Nanticoke Indians in 1704 by the Maryland Colony, and was abandoned in 1768. The channel of Chicone Creek is close to this fast land, but there are extensive tidal flats between the site and the Nanticoke River. The distribution of "shell pits" and surface artifacts indicated that the site originally covered about five acres, but we were able to excavate only seven shell (or refuse) pits, six of which are described in this report.

It is assumed that this is one of the Indian Villages spoken of by C. A. Weslager in his "Indians of the Eastern Shore of Maryland and Virginia," published in 1950 by The Archaeological Society of Delaware.

A base-line on which to orient out work was established beginning at a stake at the base of the middle of three hickory trees near the northeast bank of Chicone Creek, and extending due east. All excavations were located in reference to this line. See accompanying maps.

The intensive cultivation of this site has disturbed the top-soil to a depth of seven to twelve inches. Artifacts found in the excavations were not all recorded by depth or location, so no stratification can be demonstrated. The size and shape of the excavated shell (or refuse) pits are shown in Fig. The analysis of the artifacts found in each pit is given in the accompanying tabulation. A few of the artifacts found are illustrated in Plate

DESCRIPTION AND CONTENTS OF EACH SHELL PIT.

PIT #1 was roughly circular about 5' diam. Top soil 6" to 10". Shell and refuse concentration saucer shape 15" deep at center, mostly oyster shell with occasional mussel shell. Many bone fragments, the larger bones having been split to get at the marrow. One bone awl. Four triangular stone points (jasper), very few flakes or chips, one broken hammer stone, and an oval stone of unknown utility.

PIT #2 was roughly circular in shape about 3' diam. Top soil about 7".

Shell and refuse deposit saucer shape 11" deep at center. Oyster shell predominating in the shell concentration over most of the deposit with a few fragments of turtle shell. Many fragments of long bones of deer and deer teeth, and one fish bone.

PIT #3 roughly circular 2-1/2' diam. 7" to 10" top soil. Heavy concentration of oyster shell for 12" below plow line, then 2-1/2' of discolored soil to another small concentration of shell. In the discolored soil between the two shell deposits were a few scattered oyster shells, a broken hammer stone (1), several large jasper stone flakes (2), and a fragment of deer bone (3). Relatively few potsherds were found in this pit. Occasional mussel shell and turtle shell fragments were mixed with the oyster shell.

PIT #4 was the largest pit explored, measuring about 6' x 7' roughly oval in shape. 8" to 12" of top soil. A heavy concentration of predominantly oyster shell filled the first 12" below the plow line. Below this were about 6" of discolored soil with ashes and charcoal mixed through it. Below that were a lense of concentrated shell 6" to 8" deep, and then disturbed soil to a depth of 3-1/2' with nothing but two oyster shells at the bottom. A few mussel shells and fragments of turtle shell were mixed with the oyster shell concentrations. One triangular jasper projectile point, a few stone flakes, and a stone which we have called a "whetstone", a number of shell tempered potsherds, large animal bones, a few small animal bones, two fish bones, one bird bone, one worked piece of bone and one bone awl, and one 5" garfish bill, were in the shell concentrations.

PIT #6 roughly circular 24" diam. Top soil 10" to 12". Shell deposit 10" deep in center, predominantly oyster with a few mussel and turtle shell fragments. Bone fragments unusually numerous, especially small animal bones. There were also bird and fish bones and 8 pieces of worked bone. One scallop shell was included. No deer antler but several deer teeth. A few jasper and flint chips and cores. One fragment of a skillfully decorated Indian pipe bowl. Several undecorated matching sherds were fitted to make the bottom of a small bowl, probably 2" diam. 1" deep.

PIT #7 was roughly egg shape 5-1/2' x 3'. Top soil 6" to 10" deep. Saucer shape shell deposit 12" deep at approximate center. Mussel shell was scattered through the deposit. Potsherds and the few bones found were mostly concentrated in the two areas marked "x" on the drawing. All potsherds were shell tempered except three small plain grit tempered sherds, two of which fitted to form part of the near-bottom of a small vessel. A number of the potsherds were extremely fragile when found, but held together better after being dried; they were yellowish red on the surface, but fresh breaks were orange red. All these fragile sherds were fabric impressed smoothed.

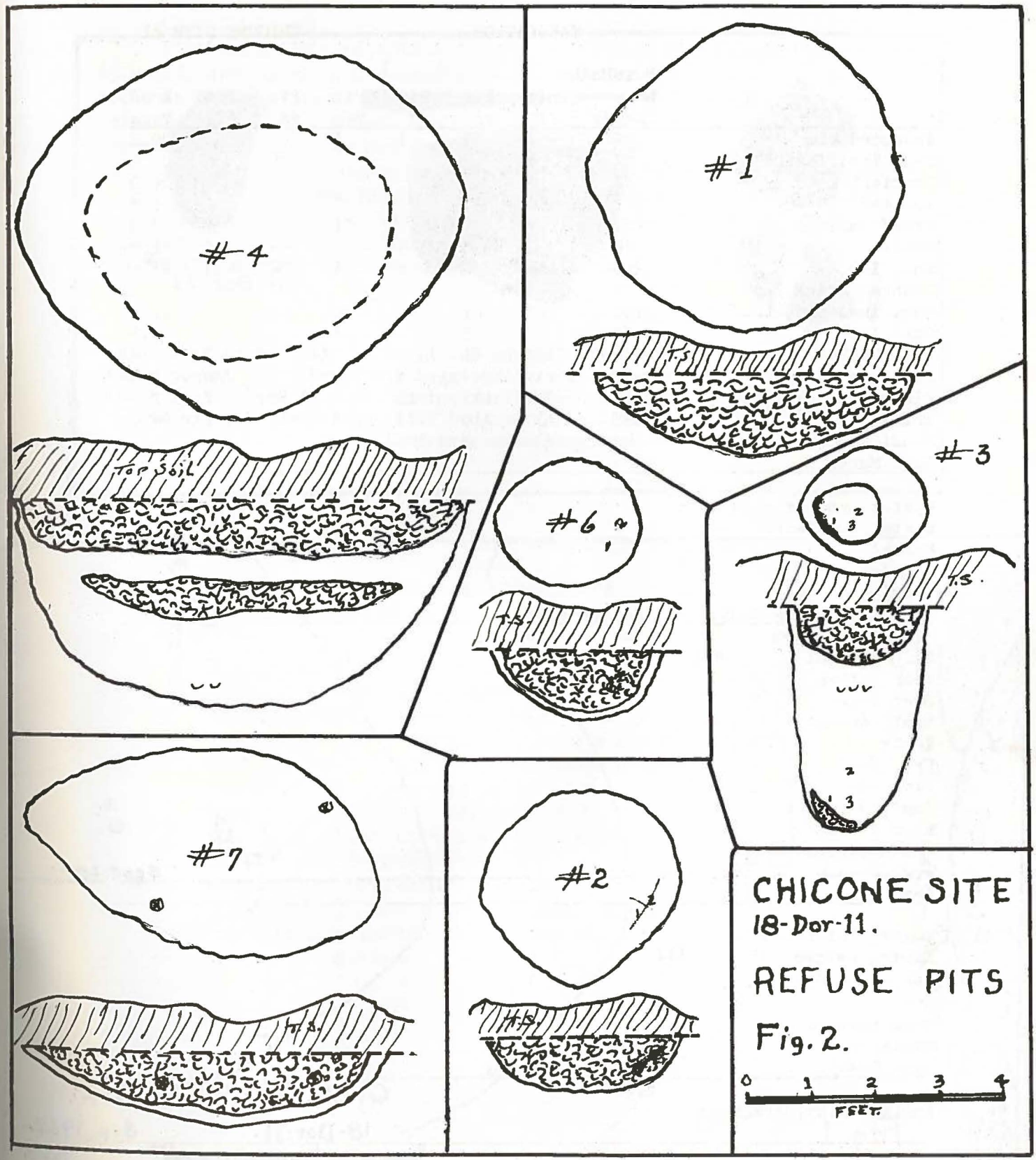
Chicone Site #2 (18-Dor-10) is located about 1/2 mile west or upstream from Chicone Site #1 and on the same bank of Chicone Creek. No excavations have been made on this site but it was noted by local surface collectors that it was prolific in fragments of "trade pipes", with only relatively few "darts", stone chips, and potsherds (shell tempered). Occasional "trade pipe" fragments have been found on the surface of Site #1 but none were found below the topsoil.

The principal data obtained from the Chicone Site No. 1 are given in the following tabulation:

TABULATION CHICONE SITE #1

	No. Sherds	Pit #1	Pit #2	Pit #3	Pit #4	Pit #6	Pit #7	% of Total
POTSHERDS								
Indented rim	6	2	2	1	1			00.6
Fab. Imp. Inside	1	1						00.01
Herringbone	1				1			00.01
Incised	11	10			1			1.8
Broad Incised	22				21		1	2.5
Corded	16		3		4	4	5	1.8
Fab. Imp.	263	115		5	75	34	34	31.
Wrapped Stick Imp.	1		1					.01
Fab. Imp. Smoothed	163	10	81	90	30	10	32	19.
Cord Imp.	7	1	3		3			.8
Cord Marked	1		1					.01
Punctate	5		3				2	.5
Plain & Unclass'd.	354	97	117	10	61	22	47	42.
Total	851	236	210	17	197	70	121	99.73
Mending holes	2		2					
Coil Marks	4				1		3	
SHELL								
Oyster Concentrated		M	M		M	M	M	
Oyster Scattered			P	M				
Mussel		P		P	P		P	
Scallop						P		
Turtle			3	1	2	12		
M - Many. P - Few Present.								
BONE (pieces)								
Large Animal		43	21	12	27	37	4	
Deer Antler		1						
Deer Teeth		36	13	1		7		
Small Animal		15		3	2	68		
Teeth						3		
Deer Toe?		2				1		
Fish Bone			1	1	2	2		
Small Jaw Bone						2		
Bird Bones					1	1		
Unidentified						2	6	
Worked Bone					1	6		
Bone Awls		1			1			
STONE								
Darts, Triangular		4			1			
Darts, Hafted		0	0	0	0	0	0	
Chips and Flakes		3		4	2	8		
Cores				1		2		
Hammerstones		1		1				
Whetstone?					1			
Oval Disk		1						
PIPES								
Indian, clay, fragment						1		

Note: All potsherds were shell tempered except three plain sherds in Pit #7, which were grit tempered.


#1
#2
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Top Soil
CHICONE SITE
18-Dor-11.
REFUSE PITS
Fig. 2.
0 1 2 3 4
FEET.

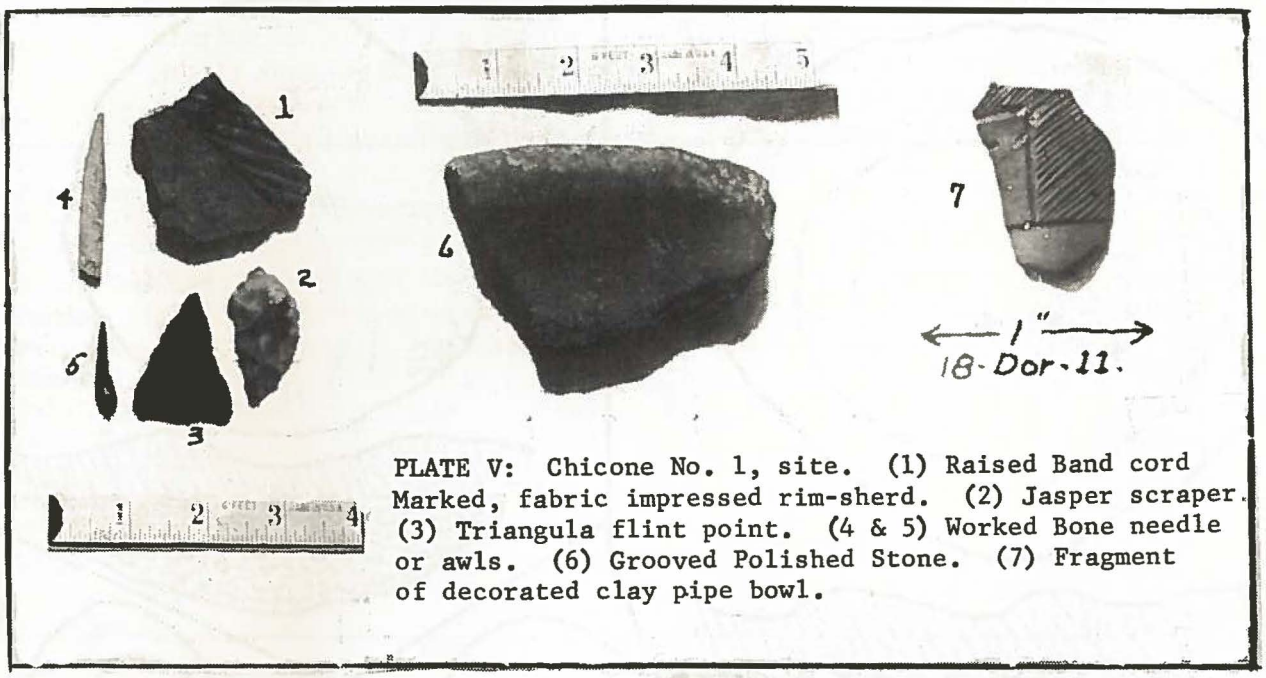

PLATE V: Chicone No. 1, site. (1) Raised Band cord Marked, fabric impressed rim-sherd. (2) Jasper scraper. (3) Triangula flint point. (4 & 5) Worked Bone needle or awls. (6) Grooved Polished Stone. (7) Fragment of decorated clay pipe bowl.

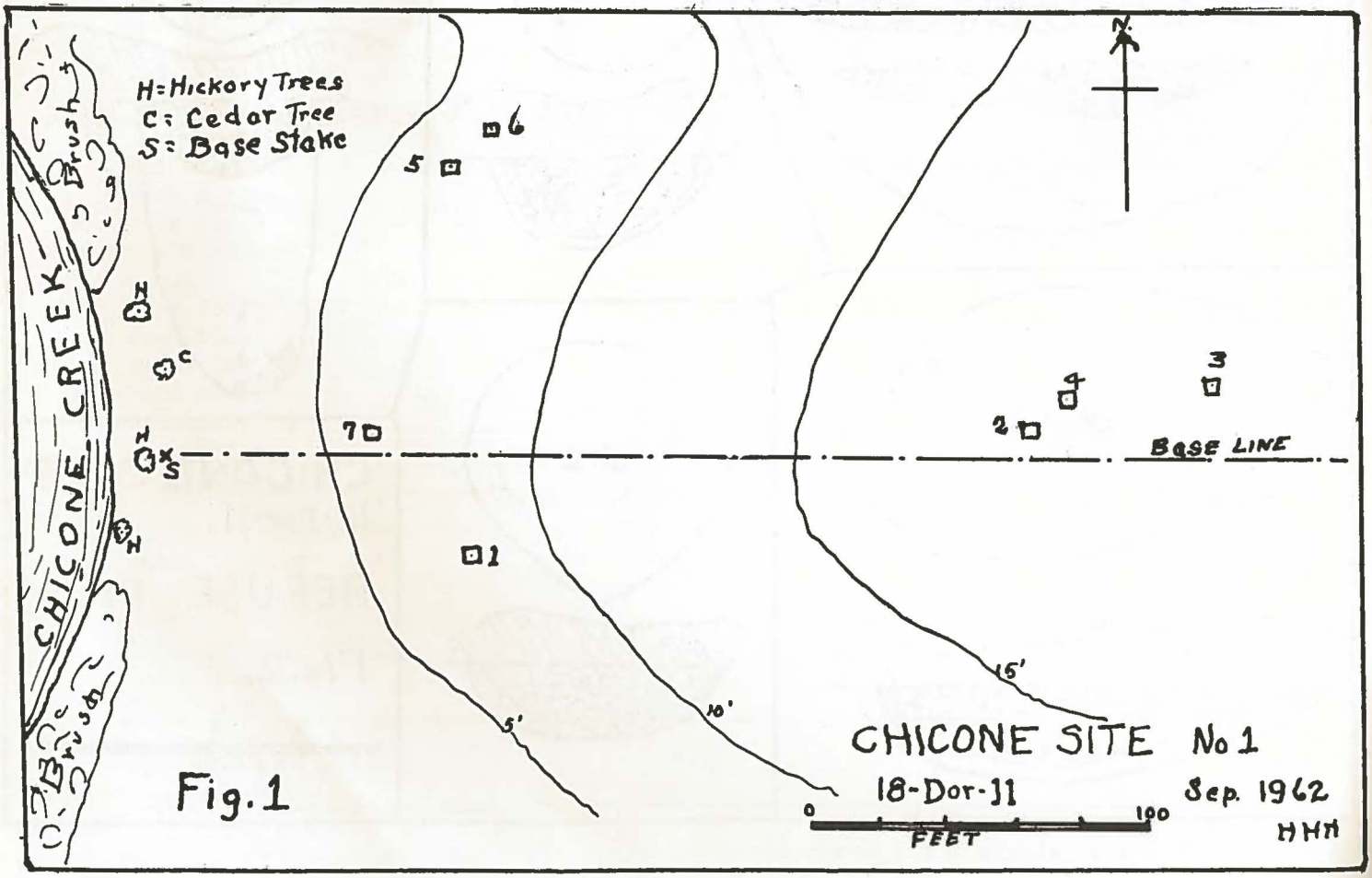

Fig. 1

CONCLUSIONS.

From the limited material available, we believe that Chicone Site #1 was in use before intimate contact with colonial settlers took place, and that Chicone Site #2 was occupied after the Indian Reservation was established in 1704. Unfortunately we have not been able to obtain an inventory of projectile points definitely known to have been found by the many surface hunters over many years on Site #1, although this site is reported to have furnished hundreds of points to local collectors. The subsurface artifacts reported herein from Site #1 are well within the types of artifacts reported from The Moore Site (18-Dor-13), and the Willin Site (18-Dor-1), and may be contemporary with them.

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THE HISTORY AND PRESENT STATE OF VIRGINIA

by

Robert Beverley, 1705

Reprinted by The University of North Carolina Press, 1947

Section 49

"Thus I have given a succinct account of the Indians; happy, I think, in their simple State of Nature and in their enjoyment of Plenty, without the Curse of Labour. They have on several accounts reason to lament the arrival of the Europeans, by whose means they seem to have lost their Felicity, as well as their Innocence. The English have taken away great part of their Country, and consequently made everything less plenty amongst them. They have introduc'd Drunkenness and Luxury amongst them, which have multiply'd their Wants, and put them upon desiring a thousand things, they never dreamed of before ... "

MASSIE'S CROSSING SITE
18-Wo-8
by Henry H. Hutchinson

An interesting collection of Indian axes, celts, picks, etc. has been made in a relatively small area on the headwaters of the Pocomoke River. The half circle area in which these were found has a radius of about one half mile from a point on the east bank of the river. The relatively large number of heavy ground and polished stone implements, and the small number of stone "points", scrapers, drills, etc., and the few pottery sherds, found, make this area of peculiar interest.

The collection is from the cultivated land on the farms of Elmer B. Massie, and was collected by him or members of his family; therefore we feel that all these artifacts are native to this land. Most of his collection of heavy tools is illustrated in the accompanying Plate VI. There are three 3/4 grooved axes, four full grooved axes, two ridged axes, one "celt" type axe, and one pick with handle (No. 11). Also one "pecked" but not polished "plummet" (No. 15).

The family has also found a few small shell tempered fabric impressed pot-sherds with the shell tempering leached out, and about 100 stone arrowheads or knives. Most of these are hafted (71%) and are of quartz, quartzite or rhyolite with some flint or jasper. One flint drill is in the collection.

We believe that the relatively large proportion of one "pecked, polished, and/or ground" stone tool to only eight chipped and flaked stone tools is significant. All of the collection is from the surface of Mr. Massie's cultivated lands within the last 50 years. No indications of "shell pits" have ever been noticed, nor have any appreciable number of weathered shells been noticed except near old "oyster shell roads".

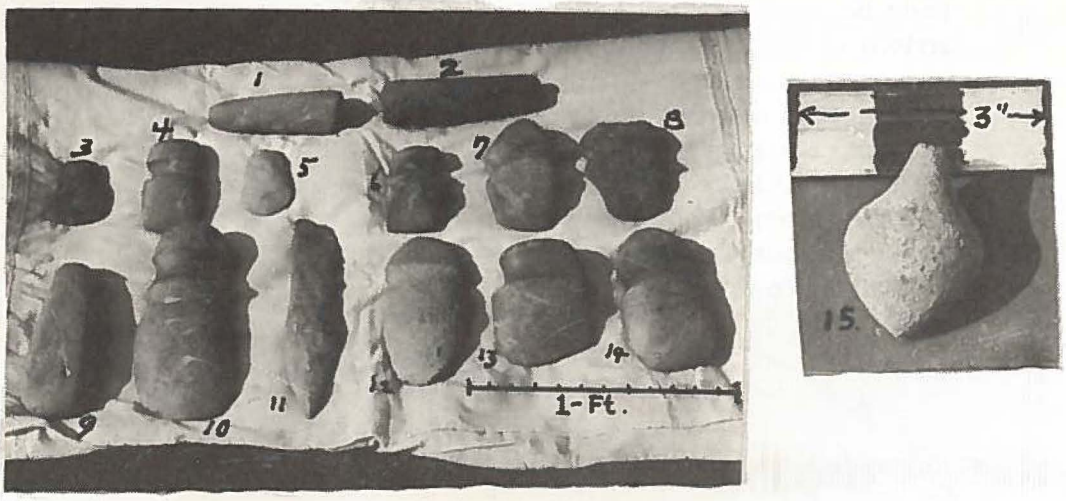

PLATE VI: Artifacts from Massie's Crossing site, Worcester Co., Md. (18-Wo-8)

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