Bulletin of the Archaeological Society of Delaware

Number Thirty-five, New Series

Fall 1998

Bulletin of the Archaeological Society of Delaware

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Affiliated with the Eastern State Archaeological Federation

The Archaeological Society of Delaware
P.O. Box 12483
Wilmington, Delaware 19850-2483

ISSN Number 0003-8067

Number Thirty-five, New Series **Fall 1998**

In Praise of Editors

Herbert T. Pratt

Editors are often unsung heroes in organizations which publish anything on a regular basis, especially organizations such as the ASD, whose work is done by volunteers on a shoestring budget. The success or failure of an organization can rest with its editors since often the only contact many members have with the organization is through its publications. Such editors wear many hats and, besides professional expertise, must have a wide variety of skills: literary, artistic, mechanical and personal relations.

Editors must constantly scout for interest arousing subjects and persuade authors to write about them; edit submitted articles for content, style and grammar; find peer reviewers and see that they complete their reviews in a timely fashion; soothe the hurt feelings of authors whose papers are revised or rejected; work with printers to select a publication format, paper, type faces, and layout for attractiveness and ease of reading; proofread printers' proofs; meet publication schedules; find ways to reduce costs without sacrificing quality; and finally, listen to the complaints of readers who are never totally satisfied with what is published.

Over the ASD's 68 years, fourteen people have edited its Bulletin, and nine have edited Inksherds, its newsletter. Their names and approximate dates of editorship follow.

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PRELIMINARY REPORT ON EXCAVATIONS AT 7NC-E-60, NEW CASTLE COUNTY, DELAWARE

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ABSTRACT

Archaeological excavations at 7NC-E-60 recovered abundant artifacts exclusively from within plow disturbed soils. Diagnostic lithic and ceramic artifacts span all major time periods of Delaware prehistory. Artifacts from the Late Woodland chronological period are the most common and may be associated with early Contact Period European artifacts. Postmolds outlining a prehistoric house pattern were also discovered, but the dating of the house is problematic given the disturbed nature of the site.

INTRODUCTION

7NC-E-60 is located near the confluence of an unnamed low order stream and the White Clay Creek less than 1 km west of Churchman's Marsh, a large tidal wetland in northern New Castle County, Delaware. Archaeological sites of all prehistoric time periods are present in the local area (Custer 1982; 1989:198-204; Custer and Watson 1985; Custer, Watson, and DeSantis 1985) including the Clyde Farm Site, a large multicomponent prehistoric site currently listed on the National Register of Historic Places. The specific location of 7NC-E-60 was discovered in 1983 during a program of systematic testing along the unnamed tributary of the White Clay Creek. This testing was directed at discovering additional archaeological sites that might be related to the Clyde Farm Site. At that time a 1m x 1m test unit was excavated approximately 10m from the stream's bank and yielded abundant fire-cracked rock and debitage of various raw materials. The area appeared to have been plowed, but the high artifact yield was viewed as an initial indication that sub-surface features may be present and preserved beneath the plow zone soils. The large amount of fire-cracked rock was thought to have been derived from a prehistoric hearth feature disturbed by later plowing. Excavations were undertaken beginning in 1995 because the site's owners plan construction in the area.

Archaeological studies during 1995 and early 1996 included the excavation of 36 1m x 1m squares, all of which yielded many artifacts from varied prehistoric time periods. Numerous preserved postmolds were also discovered. During late 1996 and early 1997 an additional 13 units were excavated and produced more artifacts and postmolds. This article describes the results of all excavations completed prior to May 1997.

RESULTS

Figure 1 shows the current site map of all excavation units and Figure 2 shows the current map of the site's core area with the postmolds. Table 1 provides a summary catalogue of the lithic artifact assemblage and Table 2 provides the same data for ceramics.

Site Context and Chronology

In all squares excavated to date, a dark brown loamy plow zone was present and ranged in thickness between 40 and 60cm. This horizon tended to be somewhat thicker in the western portion of the site, but not consistently. In all units the plow zone was immediately underlain by sandy and gravelly soils of the Columbia Formation. The minimum age of the Columbia Formation is 15,000 years (Jordan 1964), so no excavations were undertaken into these soils. The chronological unconformity of the modern plow zone/Columbia Formation interface precludes the possibility of intact soils and potential associated archaeological deposits being preserved beneath the plow zone horizon, at least in the units excavated to date. The only artifacts expected to be located beneath the base of the plow zone are those associated with prehistoric pit features that intrude into the Columbia Formation.

Samples of diagnostic projectile points found at the site are shown in Figures 3 and 4. All of the major time periods of Delaware prehistory are represented, but Woodland II (Late Woodland) triangular points (Figure 4) are the most common diagnostic artifact comprising 58% of the assemblage of diagnostic lithic artifacts (Table 3). Ten of the diagnostic points (26% of the total assemblage) date to the Early and Middle Archaic chronological periods (Table 3 - Kirk/Palmer Notched, Kirk Stemmed, Bifurcate, Stanly, and Pequea types). Woodland I types account for only 16% of the assemblage. The low percentage of Woodland I points is interesting because projectile points from this period are usually the most common diagnostic artifacts found in the Churchman's Marsh and White Clay Creek drainage area (see Custer 1982).

Figure 1: Site Map

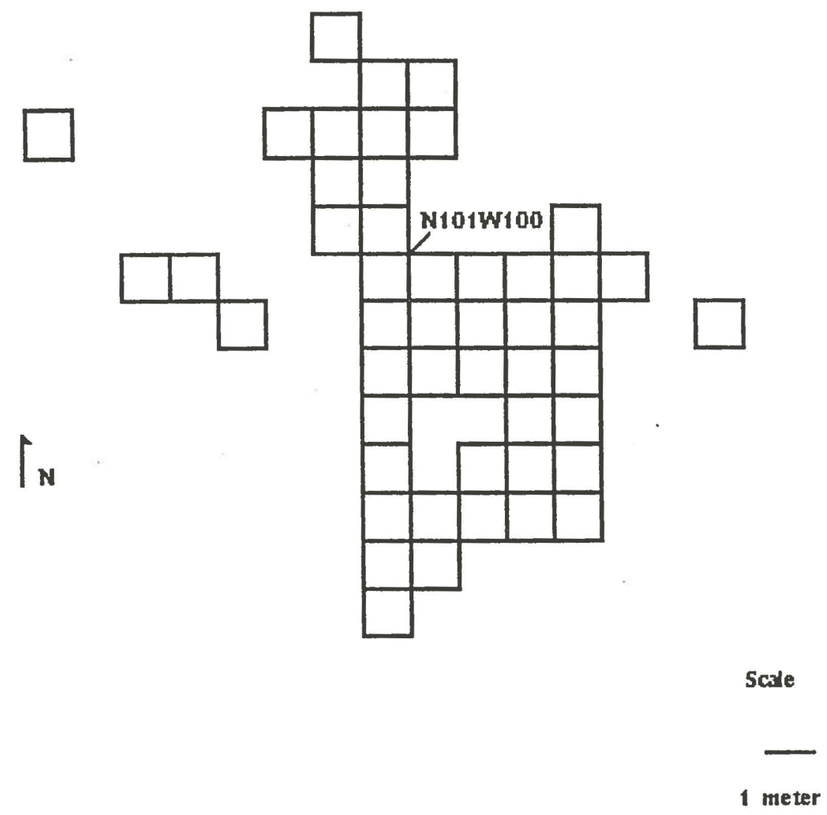
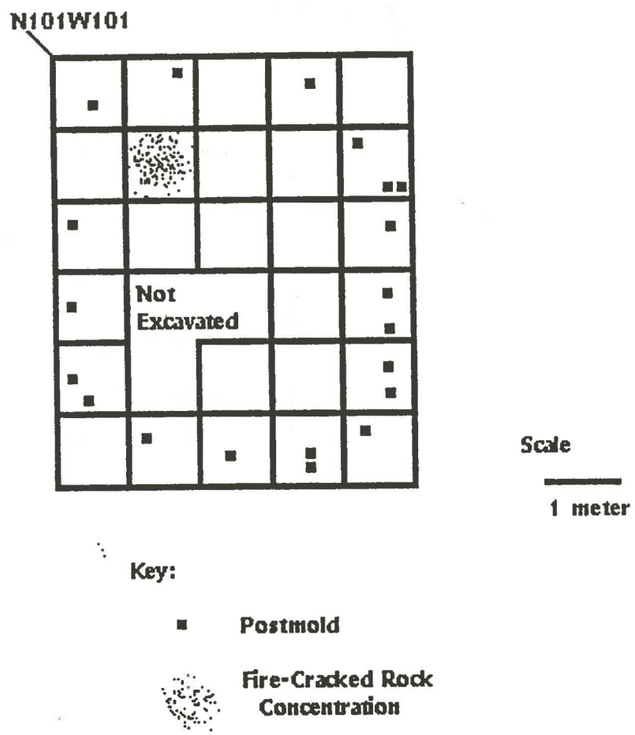


Table 4 lists the diagnostic ceramics found at the site and more than 95% are classified as varieties of Minguannan ware which date to the Woodland II time period, ca. AD 1000 - 1600 (Custer 1989:305-308). Figure 5 shows the distribution of Minguannan pottery which is found in all areas of the site. Based on the relative frequencies of Woodland II ceramics and triangular projectile points, and their broad distribution across the site, it is reasonable to infer that the most intensive occupation of 7NC-E-60 occurred during Woodland II, Minguannan Complex times.

Figure 2: Core Area Site Map



Decorated Minguannan rim sherds and pipe fragments from the site are depicted in Figure 6. Most of the rims (Table 4) show no decoration or are simple incised and corded designs within the Minguannan series (Custer 1989:305). Only a few of the designs are examples of the more complex varieties. Using the chronology proposed by Griffith and Custer (1985) for Woodland II ceramics in Delaware, the assemblage as a whole most likely dates to the later portion of the period, ca. AD 1350 - 1600.

Table 1: Summary Lithic Artifact Catalogue

Artifact Types							
	Flakes	Flake Tools & Util. Flk.	Projectile Points	Bifaces	Cores	Misc.	Total
Raw Materials							
quartzite	414 (186)	14 (8)	1	2 (1)	1 4 (14)	3 (3)	448 (212)
quartz	1717 (494)	24 (10)	5	33 (8)	27 (19)	59 (30)	1865 (561)
chert*	2148 (794)	63 (40)	14 (4)	24 (9)	18 (15)	9 (9)	2276 (871)
jasper	1979 (794)	114 (66)	18 (1)	27 (13)	7 (4)	2 (2)	2147 (880)
rhyolite	12	0	1	0	0	0	13
argillite	55	0	2	1	0	0	58
ironstone	7 (1)	0	1 (1)	0	0	0	8
other	24 (7)	1 (1)	0	0	0	0	30 (8)
Total	6361 (2276)	216 (125)	42 (26)	87 (31)	66 (52)	73 (44)	6845 (2534)

Ground Stone Tools:
25 hammerstones
1 net weight

* - includes chalcedony
( ) count of artifacts with cortex

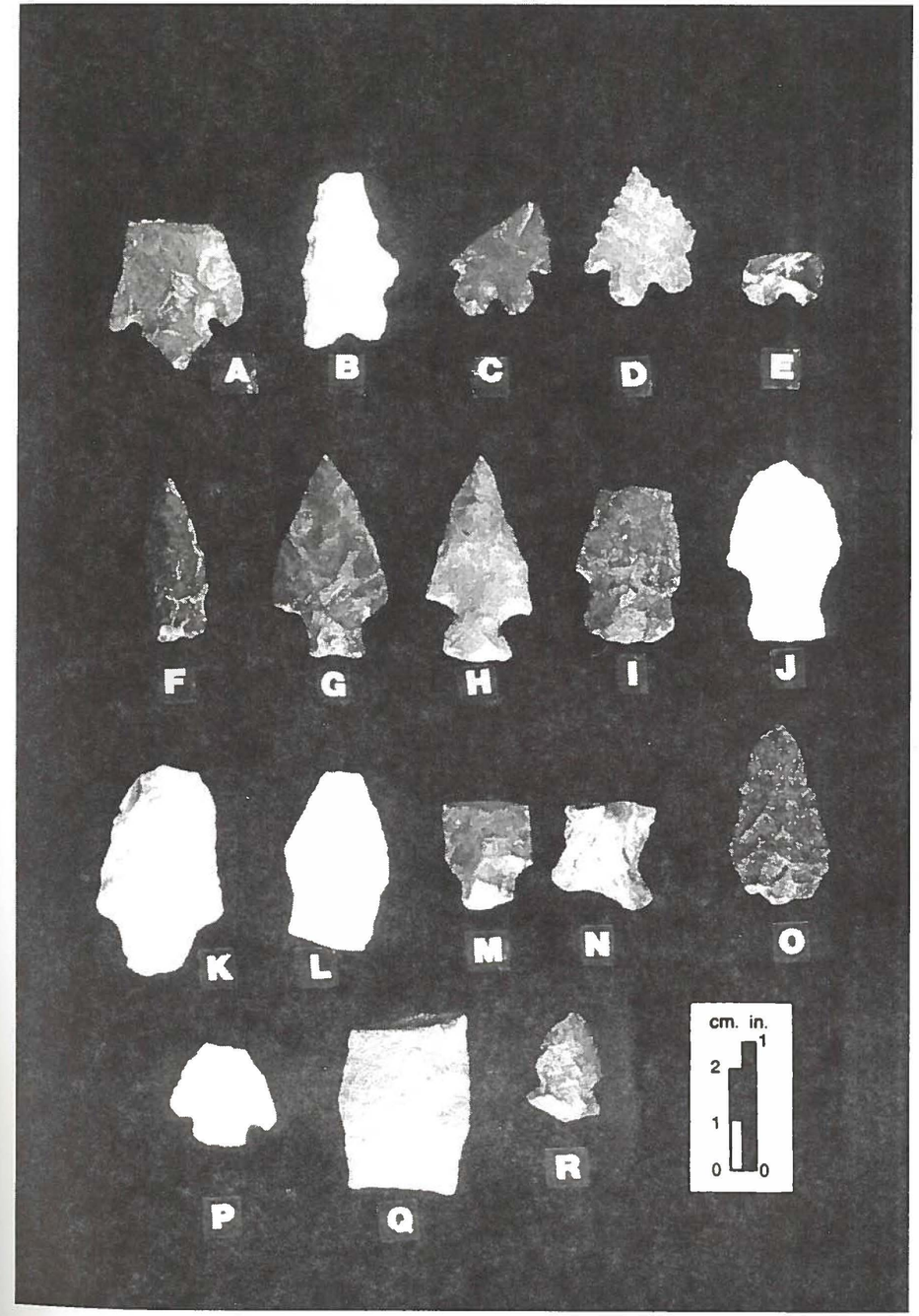
Table 2: Ceramic Artifact Summary Catalogue

Ceramic Type	Count
Marcey Creek	3
Wolfe Neck	5
Hell Island	3
Minguannan	1352

Table 3: Diagnostic Projectile Points

Diagnostic Point Type	Total
Kirk/Palmer Notched	1
Kirk Stemmed	1
Bifurcate	3
Stanly	2
Pequea	3
Piney Island	3
Fishtail	1
Teardrop	1
Fox Creek	1
Basal-Notched	1
Triangle	22
TOTAL	39

Figure 3: Paleo-Indian - Middle Archaic Projectile Points



Key to Figure 3

A jasper Kirk/Palmer - N105W101 (95-83-35)

B rhyolite Kirk/Palmer - N96W99 (95-83-107)

C jasper bifurcate - N102W102(95-83-117)

D chert bifurcate - N104W101 (95-83-47)

E chert bifurcate - N95W100 (95-83-7)

F chert Stanly - N98W97 (95-83-108)

G jasper Stanly - N100W99 (95-83-9)

H chert Pequea - N96W98 (95-83-75)

I chert Pequea - N95W100 (95-83-7)

J quartz Pequea - N99W98 (95-83-112)

K argillite Piney Island - N100W105 (95-83-115)

L quartz Piney Island - N98W99 (95-83-110)

M jasper Piney Island - N94W101 (95-83-106)

N jasper fishtail - N103W103 (95-83-46)

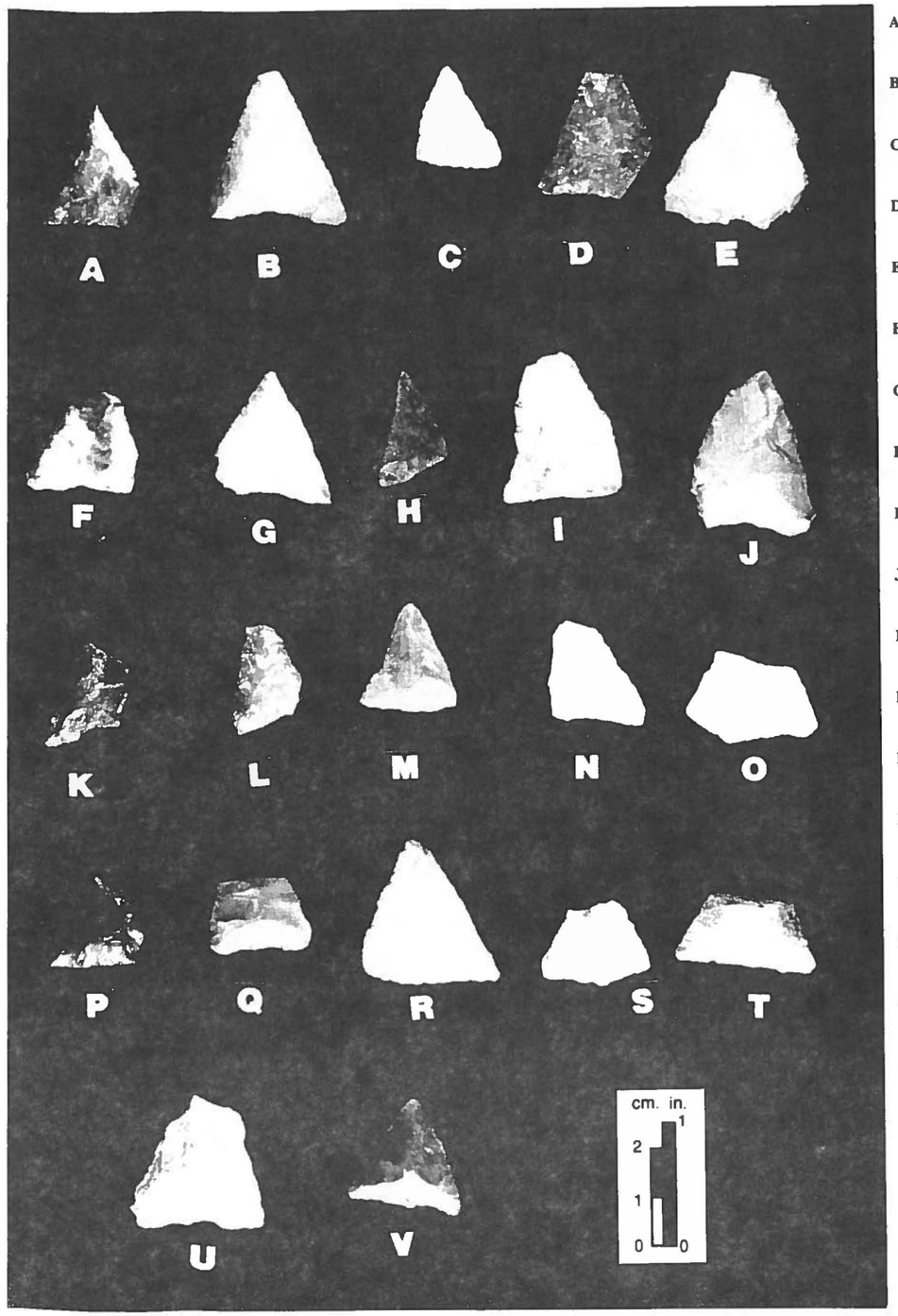
O chert teardrop - N100W100 (95-83-99)

P quartz basal notched - N105W101 (95-83-35)

Q argillite Fox Creek - N93W101 (95-83-104)

R jasper side notched - N95W98 (95-83-95)

Figure 4: Late Woodland Projectile Points



Key to Figure 4

A jasper - N100W96 (95-83-92)

B jasper - N100W97 (95-83-8)

C jasper - N100W99 (95-83-9)

D jasper - N103W103 (95-83-42)

E jasper - N103W107 (95-83-52)

F jasper - N103W107 (95-83-52)

G jasper - N104W101 (95-83-47)

H jasper - N104W101 (95-83-47)

I jasper - N97W100 (95-83-64)

J jasper - N95W98 (95-83-95)

K chert - N95W98 (95-83-95)

L chert - N95W97 (95-83-80)

M chert - N103W103 (95-83-43)

N quartz - N97W98 (95-83-73)

O quartz - N96W101 (95-83-51)

P jasper - N104W100 (95-83-118)

Q jasper - N100W105 (95-83-115)

R chert - N98W98 (95-83-109)

S chert - N98W99 (95-83-110)

T chert - N99W99 (95-83-112)

U jasper - N94W100 (95-83-105)

V chert - N94W100 (95-83-105)

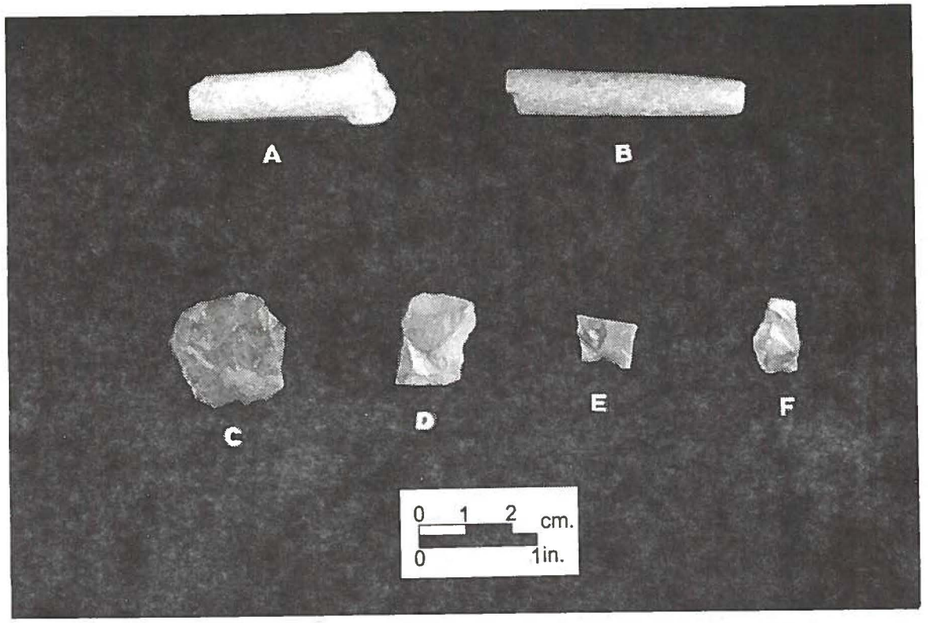
Table 4: Diagnostic Minguannan Ceramic Types

Minguannan Design Variety*	Total
Plain	7
MI3a	1
MI4a	3
MI5a	2
MI5b	1
MI6	1
MC1	2
MC3	2

*Source: Custer 1989:87

The late date suggested by the Native American ceramic assemblage is of interest given the fact that several 17th century European artifacts were also found at the site. Two white clay pipe stem fragments (Figure 7A, B) were found and one of these (Figure 7A) has an "EB" maker's mark on its heel (Figure 8). Pipes with this mark have been found at historic period Native American sites in New York (Bradley and DeAngelo 1981; McCashion 1975, 1979a; McCashion and Robinson 1977) and Pennsylvania (Kent 1984:344) in mid- to late-17th century contexts. Although conclusive provenance for the "EB" mark is not established (see discussion in McCashion 1979b and Bradley and DeAngelo 1981), the pipes were most likely manufactured in the Netherlands, probably in Gouda. The dating of the "EB" mark to the mid-17th century is well established, however.

Figure 7: European Artifacts



Key to Figure 7

A "EB" pipe fragment - N100W96 (95-83-13)

B pipe stem fragment - N102W102 (95-83-117)

C gunflint of local chert - N94W101 (95-83-106)

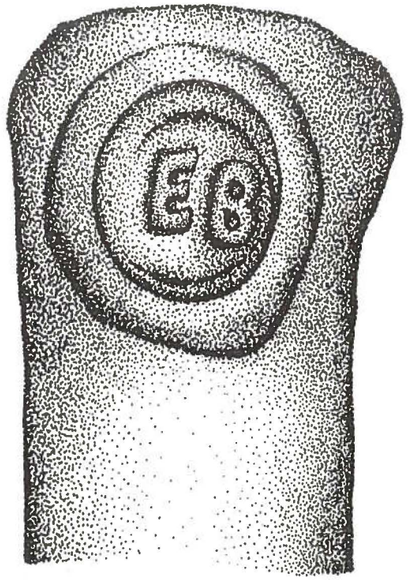
D gunflint of local jasper - N94W101 (95-83-106)

E strike-a-light of English flint - N99W96 (95-83-111)

F flake of European flint - N96W97 (95-83-49)

Figure 8: Pipe with Maker's Mark

Scale Drawing



Enlargement

The discovery of the 17th century artifacts at 7NC-E-60 makes a Contact Period occupation of the site very likely. However it is important to note that a late 17th century Euro-American site was excavated less than 400m east of 7NC-E-60 during the 1970s. Although the details of the excavations are sketchy, the collection seems to have been derived from sub-surface trash pits and includes a variety of faunal remains, ceramics, metal, and glass (Charles Fithian, personal communication, April 1996). It is possible that the 17th century historic artifacts at 7NC-E-60 were derived from the Euro-American site and were inadvertently spread to 7NC-E-60, but the distance between the sites is rather large. Furthermore, the artifact assemblage from 7NC-E-60 is from a somewhat earlier time period compared to the Euro-American habitation site (Charles Fithian, personal communication, December 1996).

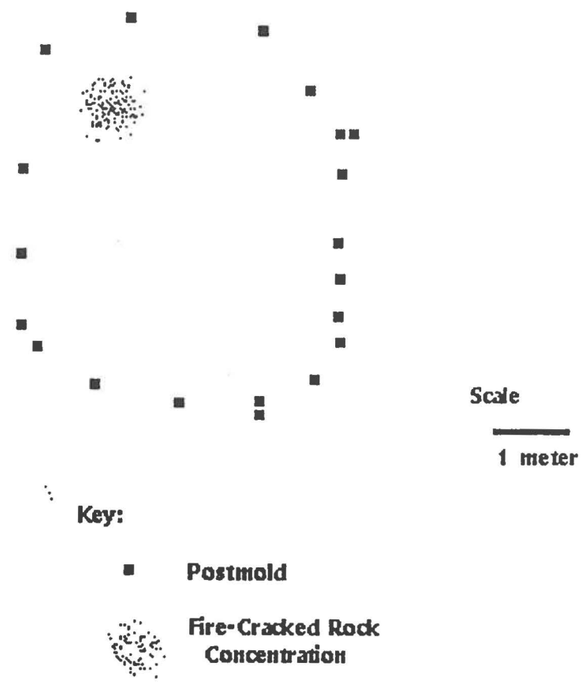
To summarize the assessment of the site's context and chronology, all artifacts were discovered from plow zone soils that were disturbed by historic farming activities. All of the major time periods of Delaware prehistory, including the 17th century Contact Period are represented in the diagnostic artifact assemblage. The most intensive period of use of the site, as evidenced by the relative frequency of diagnostic artifacts, occurred during the Middle Archaic (ca. 6500-3000 B.C.), the later part of the Late Woodland (ca. 1350-1600 A.D.), and the early part of the Contact (ca. 1600-1660) chronological periods. Based on data from other nearby sites (Custer and Watson 1985), it is possible that the Late Woodland Minguannan pottery and triangular projectile points were actually associated with the Contact Period European artifacts. However, the disturbed nature of the site's context makes their association problematic.

House Pattern

A series of 23 postmolds were identified intruding into the Columbia Formation soils from the base of the plow zone. Figure 9 shows a map of the postmolds and they form a rectangular shape with rounded ends measuring 4 meters in width and 5.25 meters in length (13 feet by 17 feet). A large concentration of fire-cracked rock (approximately 5 kg - 11 pounds) was found in the plow zone soils in the northwest quadrant of the rectangular postmold pattern (Figure 10).

The postmold pattern is considered to be the remains of a prehistoric, or early historic, Native American house. The concentration of fire-cracked rock may have been associated with an interior hearth located in the northwest quadrant of the structure. A gap in the postmold pattern in the north end of the structure may be a possible door. A similarly large gap is present in the extreme northern end of the western wall, but its location next to the hearth makes it an unlikely entryway.

Figure 9: Map of Postmold Features



Dating of the house structure at 7NC-E-60 is difficult because there are no direct associations of diagnostic artifacts and the house feature, and also because of the disturbed nature of the plow zone soils containing the artifacts. One possible approach is to consider the general distribution of diagnostic artifacts in relation to the house pattern (Figure 10). Correlation of the house location and diagnostic artifacts could provide some indications of its age, but no correlations are present. Cross tabulations of Archaic, Woodland I, and Woodland II points and their association with the house area of the site were developed (Table 5). Equal numbers of points from all time periods were found associated with the house and outside of it. Likewise, nearly equal numbers of Woodland I and Woodland II points were found in both areas. Application of a chi-square test yielded a value of .21 (p>.75) indicating no special spatial association for Woodland I and Woodland II points. Table 5 does indicate that more Archaic points were found in the house area than outside it. However, application of the chi-square test yielded a value of 1.58 (P>.10) indicating no special spatial association for these points either. In sum, there are no associations of points from particular time periods and the house structure.

Attributes of the house itself also do not provide insights to its age. Similar houses have been found in Woodland I, Woodland II, and Contact Period contexts in Delaware and adjacent areas of Pennsylvania (e.g. - Custer and Hodny 1989; Custer and Silber 1994; Custer, Watson and Silber 1995; Custer 1994; Marshall Becker, personal communication March 1996; R. Michael Stewart, personal communication May 1996). And, although no similar Archaic Period houses have been conclusively identified in Delaware, there is no reason why the house at 7NC-E-60 could not date to that period. For example, a Paleo-Indian house of similar shape and size was identified by Gardner (1977) in Virginia'a Shenandoah Valley. In sum, it is very difficult to date the house structure at 7NC-E-60; however, continuing excavations may help to resolve the issue.

In spite of the difficulties in dating the structure noted above, some observations relevant to its possible age can be made. First, postmold preservation in the sandy soils of the Delaware Coastal Plain is rare (see discussions in Custer 1994:46-48); Griffith and Artusy 1975). Where postmolds predating the Woodland II Period (older than 1000 years) have been found, there are usually special preservation factors involved, such as the thick layers of slopewash that helped to preserve the postmolds at the Snapp Site in southern New Castle County (Custer and Silber 1994). No such special preservation conditions are present at 7NC-E-60 and the soils are very sandy. Therefore, current data would suggest that preservation of postmolds more than 1000 years old was unlikely. Consequently, this line of reasoning would suggest that the house pattern does not predate A.D. 1000 and dates to the Woodland II or Contact periods.

Figure 10: Distribution of Diagnostic Lithic Artifacts

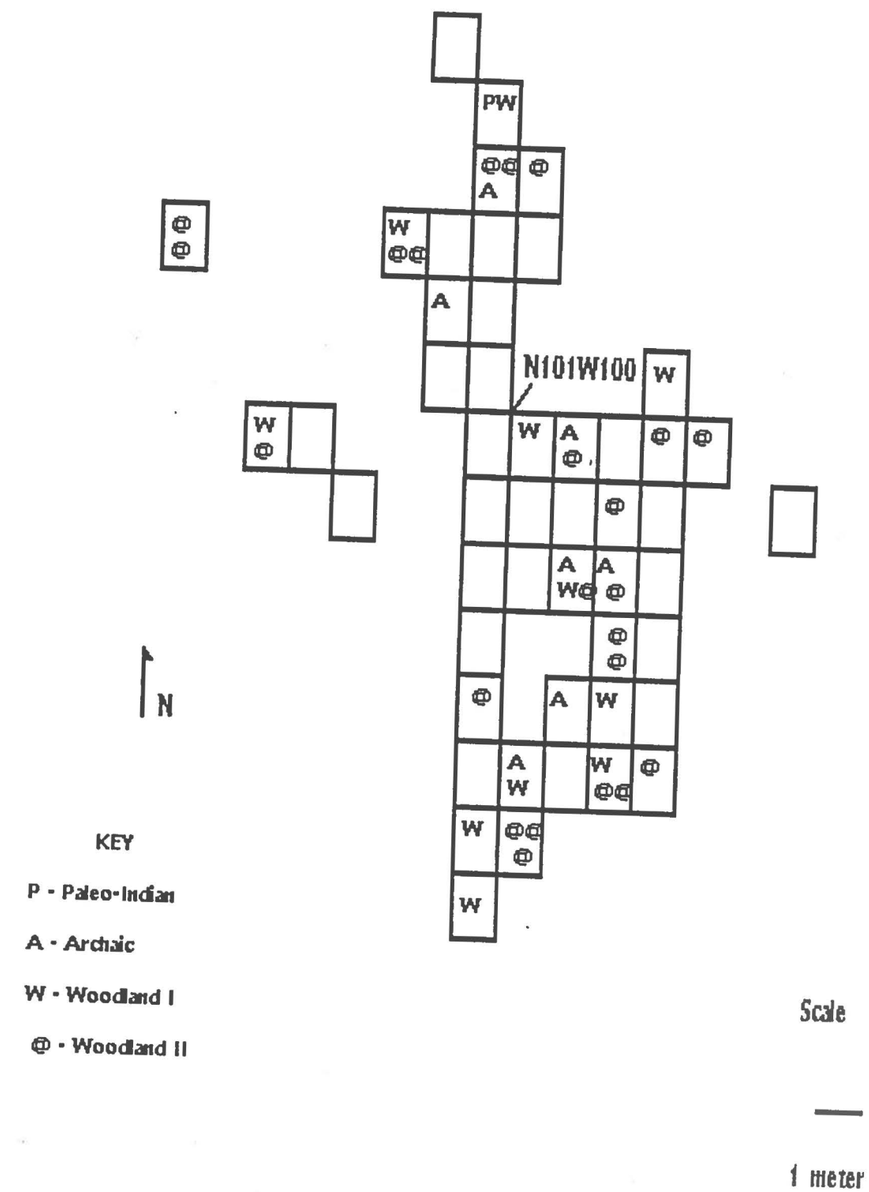


Table 5: Projectile Point Crosstabulation

Point Types	Provenience	
	House Area	Non-House Area
Triangles	11	12
Other	9	8
Archaic Points	5	2
Other	15	18
Woodland I Points	5	6
Other	15	14

Secondly, it should be noted that house patterns in the prehistoric archaeological record seem to be associated withe relatively longer periods of site occupation. Even though the labor invested in the construction of an Eastern Woodlands "wig wam" structure is minimal, it is generally assumed that the presence of a house structure implies a longer duration of site occupation than would be considered if no house pattern was present. Indeed, the presence of structures is a defining characteristic of "base camp" habitation sites in most Middle Atlantic site typologies (see Gardner 1977). And, longer periods of site occupation imply the deposition of more artifacts. Following this line of reasoning, and using the relative frequency of diagnostic artifacts at 7NC-E-60 as an indicator of frequency of occupation, it could be argued that because Woodland II

triangular projectile points are the most numerous diagnostic point style, the most intensive occupation of the site occurred after A.D. 1000. If the house pattern is associated with the most intensive site occupation, it also dates to the Woodland II or Contact Period.

Both of these arguments for a Woodland II/Contact date of the structure are admittedly less than definitive proof of its age, especially the second argument. However, they do provide a tentative age for the house, the validity of which can be tested with future fieldwork and excavations.

Lithic Technology

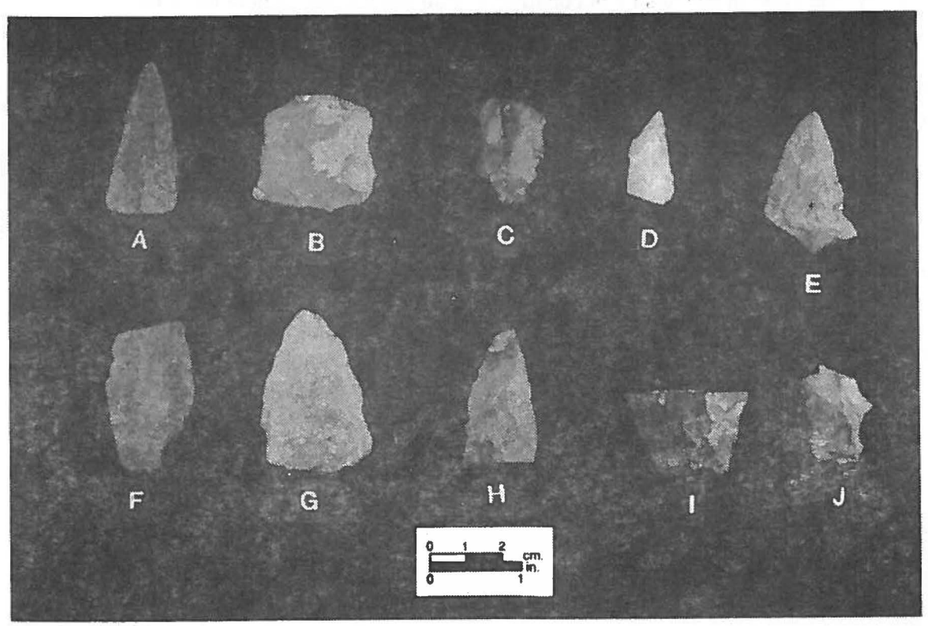
The lithic artifact assemblage from the site is composed primarily of debitage, most of which is derived from local cobbles, as indicated by the fact that 36% of the flakes show the presence of cortex (Table 1). A roughly equal mix of quartz, chert, and jasper was used by the site's inhabitants. Some projectile points from all time periods were broken in use and discarded (Figure 3C,E,L,N,P; Figure 4C,D,I,J,M,O) while others were broken during reduction and rejected (Figure 3I,M,Q; Figure 4I,J,R,S,U). Bifaces from a variety of the reduction stages defined by Callahan (1979) are also present (Figure 12). Few, less than 15, formal flake tools are present and most utilized pieces of debitage show little if any detailed edge shaping. In general, the lithic artifact assemblage is based on the use of local cobbles and the main lithic reduction activities were associated with the refurbishing of bifacial tools and the production of expedient flake tools.

DISCUSSION

The excavations at 7NC-E-60 have produced data pertinent to several archaeological research issues. For example, the house pattern does not include the semi-subterranean components that are so common to other prehistoric houses found on the Delmarva Peninsula (see discussions in Custer 1994:46-61). Therefore, the structure at 7NC-E-60 highlights the variability of prehistoric houses in Delaware.

The presence of a Contact Period component is also of interest. The meager assemblage of 17th century European artifacts suggests that local Native Americans, presumably the Lenape, added European clay smoking pipes, firearms, and a few ceramics to a material culture inventory dominated by traditional Minguannan ceramics and stone tools. Similar interpretations have been made concerning site 7NC-E-42 (Custer and Watson 1985), a Contact Period site located less than 300m northwest of 7NC-E-60.

Figure 11: Bifaces



Key to Figure 11

A jasper point blade - N101W97 (95-83-39)

B jasper early stage biface - N100W99 (95-83-9)

C jasper middle stage biface - N103W103 (95-83-42)

D quartz late stage biface - N104W104 (95-83-47)

E quartzite late stage biface - N103W107 (95-83-41)

F ironstone late stage biface - N97W97 (95-83-10)

G quartz triangle preform - N94W100 (95-83-105)

H jasper late stage biface - N102W102 (95-83-117)

I chert late stage biface - N94W101 (95-83-106)

J jasper compound tool - N95W98 (95-83-95)

Traditional views of 17th century interactions between Native Americans and Europeans in the northeastern United States (Wallace 1981; Weslager 1972) have stressed the large extent to which Native American populations adopted European trade items into their material culture. This view was based on excavations of Susquehannock (Cadzow 1936; Kent 1984) and Seneca (Wray and Schoff 1953) sites which produced massive quantities of European trade items in 17th century contexts. However, there is good documentary evidence (Jennings 1966, 1968, 1975, 1984) that not all Native American groups were interacting with Europeans in the same way or to the same extent that Iroquoian Susquehannocks or Senecas did. Jennings' work clearly shows that the Algonkian Lenape definitely were not interacting with local Swedish, Dutch, and English fur traders with the frequency and intensity shown by the Susquehannocks. Although Jennings' (1966, 1968) early work suggests that the Susquehannocks dominated the Lenape and allowed them to trade with the Europeans only on a limited basis, his more recent work (Jennings 1984) and studies by Witthoft (1992) suggest that the Lenape simply may have chosen not to participate in the fur trade and assimilate large amounts of European material culture items.

Whatever the cause, archaeological data from 7NC-E-60 and 7NC-E-42, and the ethnohistoric data noted above, indicate that Contact Period sites associated with the Lenape will not have the masses of European trade goods associated with Susquehannock and other Iroquoian-related cultural groups. Consequently, Contact Period sites of the Lenape will be harder to identify archaeologically. Because the Lenape were the resident Native American population of Delaware during the Contact Period (Goddard 1978), Contact Period sites will be hard to recognize throughout the state. Indeed, prior to the discovery of 7NC-E-42 and 7NC-E-60, and recent research by Charles Fithian using older collections maintained by the Delaware Bureau of Museums and Historic Properties, there were few, if any, archaeological sites clearly associated with the Contact Period on the Delmarva Peninsula (Custer 1989), in sections of eastern Pennsylvania associated with the Lenape (Custer 1996), or in New Jersey (Kraft 1986).

In the senior author's opinion, the dearth of Contact Period sites is a result of the fact that archaeologists working in Delaware and adjacent states have not been looking for the correct kinds of sites. We have been looking for Susquehannock-like accumulations of trade goods when we really should have been sensitive to the presence of sites like 7NC-E-60 and 7NC-E-42.

ACKNOWLEDGMENTS

We thank members of the Archaeological Society of Delaware, the Society for Pennsylvania Archaeology, and the Delaware Nature Society, and the participants in the 4H Summer Day Camp from the College of Agriculture, University of Delaware, for their help with fieldwork at 7NC-E-60. Research at 7NC-E-60 was funded through the Survey and Planning Grant Program of the Delaware State Historic Preservation Office and the Austin F. Okie Archaeology Endowment.

REFERENCES CITED

Bradley, J.W. and G. DeAngelo
1981 European Clay Pipe Marks from 17th Century Onondaga Iroquois Sites. **Archaeology of Eastern North America** 9:109-133.

Cadzow, D.
1936 **Archaeological Studies of the Susquehannock Indians of Pennsylvania**. Safe Harbor Report No. 2, Pennsylvania Historical and Museum Commission, Harrisburg.

Callahan, E.
1979 The Basics of Biface Knapping in the Eastern Fluted Point Tradition. **Archaeology of Eastern North America** 7:1-80.

Custer, J. F.
1982 The Archaeology of the Churchman's Marsh Vicinity. **Bulletin of the Archaeological Society of Delaware** 13:1-41.

1989 **Prehistoric Cultures of the Delmarva Peninsula: An Archaeological Study**. University of Delaware Press, Newark.

1994 **Stability, Storage, and Culture Change in Prehistoric Delaware: The Woodland I Period (3000 B.C. - A.D.1000)**. University of Delaware Center for Archaeological Research, Newark.

1996 **Prehistoric Cultures of Eastern Pennsylvania**. Anthropological Series, Pennsylvania Historical and Museum Commission No. 7. Harrisburg.

Custer, J. F. and J. Hodny
1989 **Final Archaeological Investigations at the Hockessin Valley Site (7NC-A-17), New Castle County, Delaware**. Delaware Department of Transportation Archaeology Series No. 75. Dover.

Custer, J. F. and B. Silber
1994 **Final Archaeological Investigations at the Snapp Prehistoric Site (7NC-G-101), State Route 1 Corridor, Chesapeake and Delaware Canal Section, New Castle County, Delaware**. Delaware Department of Transportation Archaeology Series No. 122. Dover

Custer, J. F. and S. C. Watson
1985 Archaeological Investigations at 7NC-E-42, A Contact Period Site in New Castle County, Delaware. **Journal of Middle Atlantic Archaeology** 1:97-116.

Custer, J. F., S. C. Watson, and C. A. DeSantis
1985 An Early Woodland Household Cluster from the Clyde Farm Site (7NC-E-6), Delaware. **Journal of Archaeological Research** 14:229-235.

Gardner, W.M.
1977 Flint Run Paleo-Indian Complex and Its Implications for Eastern North American Prehistory. **Annals of the New York Academy of Sciences** 288:257-263.

Goddard, I.
1978 The Delaware. In **Handbook of North American Indians, Vol. 15: The Northeast, edited** by B. Trigger, pp. 583-588. Smithsonian Institution, Washington, D.C.

Griffith, D. R. and R. Artusy
1975 A Brief report on Semi-Subterranean Dwellings of Delaware. **Archeolog** 27(1):1-9.

Griffith, D. R. and J. F. Custer
1985 Late Woodland Ceramics of Delaware: Implications for the Late Prehistoric Archaeology of Northeastern North America. **Pennsylvania Archaeologist** 55(3):5-20.

Jennings, F.
1966 The Indian Trade of the Susquehanna Valley. **Proceedings of the American Philosophical Society** 110(6):406-424.

1968 Glory, Death, and Transfiguration: The Susquehannock Indians in the Seventeenth Century. **Proceedings of the American Philosophical Society** 12(1):15-53.

1975 **The Invasion of America: Indians, Colonialism, and the Cant of Conquest.** University of North Carolina Press, Chapel Hill.

1984 **The Ambiguous Iroquois Empire.** W.W. Norton and Co., New York.

Jordan, R. R.
1964 **Columbia (Pleistocene) Sediments of Delaware.** Delaware Geological Survey Bulletin No. 12. Newark.

Kent, B. C.
1984 **Susquehanna's Indians.** Anthropological Series, Pennsylvania Historical and Museum Commission No. 6. Harrisburg.

Kraft, H.C.
1986 **The Lenape: Archaeology, History, and Ethnohistory.** New Jersey Historical Society, Newark.

McCashion, J. H.
1975 The Clay Tobacco Pipes of New York State - Part One: Caughnawaga 1667-1693. **Bulletin of the New York State Archaeological Association** 65:1-18.

1979a An Unique Dutch Clay Tobacco Pipe from the Blowers Oneida Site and a Preliminary Statement on the Seventeenth Century Oneida Sequence Based on the Pipe Data. **Bulletin of the Chenago Chapter, New York State Archaeological Association** 18(1):1-30.

1979b A Preliminary Chronology and Discussion of Seventeenth and Early Eighteenth Century Clay Tobacco Pipes from New York State Sites. In **The Archaeology of the Clay Tobacco Pipe,** Volume II, British Archaeological Research International Series No. 60, edited by P. Davey, pp. 63-151. Oxford.

McCashion, J. H. And T. Robinson
1977 Part 2: The Clay Tobacco Pipes of New York State, Under the Sidewalks of New York: Investigations near the U.S. Customs House on Manhattan Island, New York. **Bulletin of the New York State Archaeological Association** 71:2-18.

Pearce, J.
1992 **Post-Medieval Pottery in London, 1500-1700, Vol. I: BorderWares.** Museum of London, London.

Wallace, P.
1981 **Indians of Pennsylvania.** Anthropological Series, Pennsylvania Historical and Museum Commission No. 5. Harrisburg.

Weslager, C.A.
1972 **The Delaware Indians: A History.** Rutgers University Press, New Brunswick, NJ.

Witthoft, J.
1992 The Lenape as "Peacekeepers of the Forest." **Keystone Folklore** 4(2):30-36.

Wray, C.F. and H.L. Schoff
1953 A Preliminary Report on the Seneca Sequence in Western New York, 1550-1687. **Pennsylvania Archaeologist** 23(2):53-63.

LAST MINUTE FIND

contributed by

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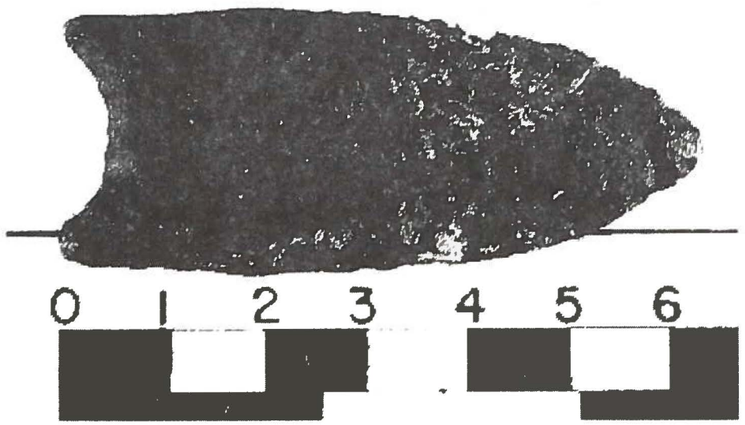

DIMENSIONS:		FLUTE:	Obverse	Reverse
Length:	6.25 cm	Length:	3.70 cm	5.40 cm
Width:	2.59 cm	Width:	1.54 cm	1.30 cm
Thickness:	0.66 cm			

Recent Fluted Point Find

In early December 1996, Mr. Kevin Mulrooney found this point in a bulldozer cut on the south west flank of Chestnut Hill, just north of I-95. The fluted point is made of black chert. This area of Chestnut Hill has been collected over many years and by several different people. Numerous points and other artifacts from all prehistoric time periods have been recovered there. Not far from this site, where the toll booth now stands, another fluted point was found by Clarence Wilkins in the 1920s.

As part of our on going efforts to document the archaeology of Delaware we encourage all of our readers to document and record their finds. If you have questions about artifacts you have discovered, feel free to contact the:

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