



LETTER FROM THE EDITORS

Dear Reader,

In our continuing efforts to support and report on the wide variety of archaeology in our state, we are pleased to present the *Fall 1999 ASD Bulletin*. You will observe that this issue is unique in that it contains three papers which together offer a diverse look at archaeological activities in Delaware.

The first article, by William Liebeknecht, is a report by a professional archaeologist on investigations conducted for the state at the Hickory Bluff Site (7K-C-411), a prehistoric site near Dover. The second article is a report by Mel Schoenbeck, a dedicated amateur archaeologist, on investigations conducted mostly by amateurs under the direction of professionals at the Brandywine Springs Amusement Park, a historic site near Prices Corner. The third article of this issue is by Wade Catts and Lu Ann DeCunzo. Originally presented at a professional conference in 1996 (Annual Meeting of the Middle Atlantic Archeological Conference), this article provides a comprehensive discussion on the research questions, directions, and interpretations of historical archaeological investigations in Delaware.

All three of these contributions reflect the time, dedication, and perseverance that is needed to bring understanding to our archaeological resources. We thank all of the authors and the field crews involved for their efforts.

Regards and may all of your archaeological endeavors be adventures,

Keith Doms and Barbara Hsiao Silber
Editors

CERAMIC PRODUCTION AT THE HICKORY BLUFF PREHISTORIC SITE 7K-C-411

by

William B. Liebeknecht
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Project Background

The following article describes a unique ceramic feature uncovered at the Hickory Bluff Prehistoric Site (7K-C-411) while conducting archaeological studies along the project corridor for the Punccheon Run Connector, a proposed two-mile-long segment of new highway that will link State Route 1 with U.S. Route 13 to the southeast of Dover in Kent County, Delaware (Figure 1). This work involved Phase I-level survey of the entire project corridor, follow-up Phase II-level investigations, partial Phase III-level data recovery and monitoring at the Hickory Bluff Prehistoric Site in mitigation of the effects of the construction of a drainage swale. These studies were performed by Hunter Research, Inc. for the Delaware Department of Transportation (DelDOT).

The planned highway runs in a generally west-east direction and will span the St. Jones River, one of the principal drainages flowing into the west side of the Delaware Bay between Wilmington and Lewes. Beginning at the western end of the corridor at the intersection of Webbs Lane and U.S. Route 13 (Figure 2), the Punccheon Run Connector will veer northeast away from U.S. Route 13, crossing State Street and Punccheon Run just downstream from the present State Street crossing of this drainage. The alignment for the new highway then passes through an area of cultivated fields lying to the south and east of U.S. Route 13 and crosses the St. Jones River just upstream of its confluence with Punccheon Run. East of the St. Jones River, the corridor passes through secondary woodland and meadow before crossing U.S. Route 113, entering another patch of secondary woodland (since cleared) and intersecting with the recently constructed State Route 1. In addition to containing the full width of the proposed traveled way and right-of-way for the highway, the project corridor also included land set aside for drainage improvements and stormwater retention ponds.

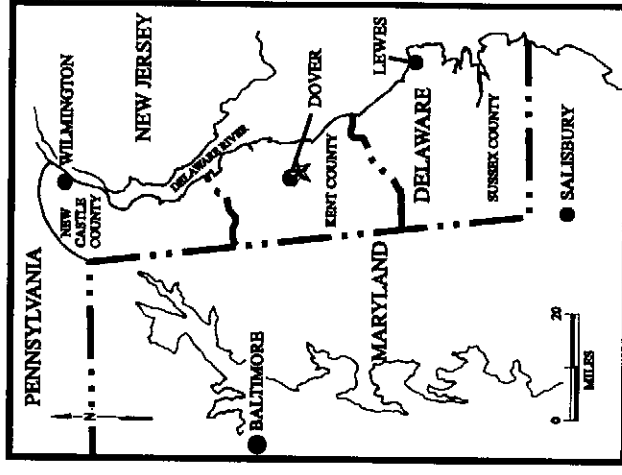


Figure 1. General Location of Project Area (starred).

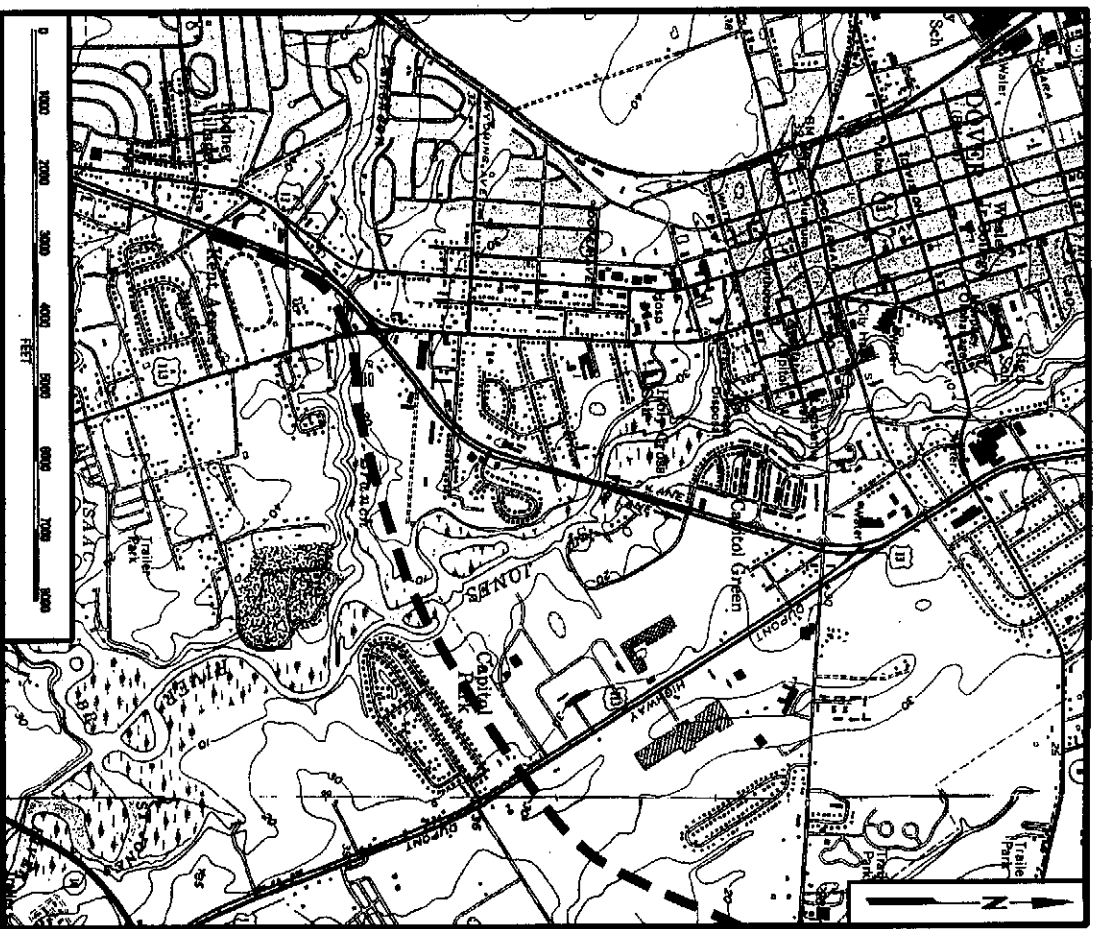


Figure 2. Detailed Location of Puncteon Run Connector (shown with dashed line). Source: USGS Topographic Series Dover, DE Quadrangle (1956, photorevised 1981) and Little Creek, DE Quadrangle (1956, photorevised 1982).

These studies were conducted in accordance with the instructions and intents of various applicable Federal and State legislation and guidelines governing the evaluation of project impacts on archaeological resources, notably: Section 106 of the National Historic Preservation Act of 1966, as amended; Section 4(f) of the Department of Transportation Act of 1966; Section 101(b)(4) of the National Environmental Policy Act of 1969; Section 1(3) and 2(b) of Executive Order 11593; the regulations and guidelines for determining cultural resource significance and eligibility for the National Register of Historic Places (36 CFR 60 and 63); the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (36 CFR 61); the regulations and guidelines specifying the methods, standards and reporting requirements for the recovery of scientific, prehistoric, historic and archaeological data (36 CFR 66); the regulations and guidelines for the protection of historic properties (36 CFR 800); the regulations and guidelines developed for the implementation of Section 4(f) of the Department of Transportation Act of 1966 (23 CFR 771); the *Guidelines for Architectural and Archaeological Surveys in Delaware* (Delaware State Historic Preservation Office 1993); and various historic preservation and

cultural resource management planning documents developed for the State of Delaware, notably the *Delaware Comprehensive Historic Preservation Plan* (Ames et al. 1989) and supplementary texts addressing prehistoric archaeological resources (Custer 1983) and historical archaeological resources (De Cunzo and Catts 1990; De Cunzo 1992).

Field Investigations

An advance phase of archaeological data recovery was performed at the Hickory Bluff Prehistoric Site (7K-C-411) in connection with the construction of a drainage swale. This work built upon information gained from the Phase I and II field survey investigations and consisted primarily of a systematic sampling program undertaken within the construction limits of the proposed drainage ditch (Figure 3). The purpose of this initial phase of data recovery was in part intended to better inform and guide a second, more comprehensive program of data recovery anticipated prior to the main highway construction program. It was intended that this latter work would supply the principal means of placing the site in the context of broader regional issues identified in the *Management Plan for Delaware's Prehistoric Cultural Resources* (Custer 1983) and the recent report *Stability, Storage, and Culture Change in Prehistoric Delaware: The Woodland I Period (3000 B.C.-A.D. 1000)* (Custer 1994).

This initial phase of data recovery involved the excavation of 24 one-meter-square excavation units and a series of split-spoon auger tests. Following the approach established by the University of Delaware Center for Archaeological Research (UDCAR), the 24 excavation units (EU#s 31-54) were located on a 10-meter grid extending over the entire site (Figure 3). The split-spoon augering was conducted on a two-meter grid, which was tightened to a one-meter spacing when soil anomalies or probable features were encountered. Sixteen possible pit features were identified using this latter technique.

Following completion of these tasks, an additional 75 one-meter-square excavation units (EU#s 55-129) were placed in areas projected to yield important information based on the artifact distributions established by the earlier excavations and the results of the split-spoon augering (Figure 3). These excavation units, mostly disposed in two large blocks, located nine pit features, eight of which were adjacent or overlapping. These features are provisionally interpreted here as pit houses.

Forty-eight excavation units (EU#s 65-74, 80-83, 95-99 and 102-128) were located around Excavation Unit 44 (Figures 3 and 4; Plate 1). This location was chosen based on data gained from the split-spoon auger testing and the location of a possible pit house recorded in Excavation Unit 44. The opening up of a larger area of contiguous units here resulted in the identification of a series of adjacent and overlapping pit features, all of which are considered to be pit houses. A total of eight pit houses were identified (Pit Houses 2-9). Pit houses 2 and 3 were excavated completely, while Pit Houses 4 and 5 were half-sectioned. Pit houses 6-9 were sampled as they continued beyond the limits of the block of excavation units.

Initial interpretation of this group of pit houses is that they were not part of a single house cluster, but represent an overlapping range of temporal and cultural occupational episodes within the early and middle Woodland I period. The fills of these features contain diagnostic materials from the Barker's Landing, Delmarva Adena, Wolfe Neck, Carey and Delaware Park complexes. The integrity of the information gained from the post-depositional fill of the pit houses is thus somewhat unreliable and probably inadequate for answering questions on the function and affinity of the pit houses themselves and on Woodland I sites in Delaware.

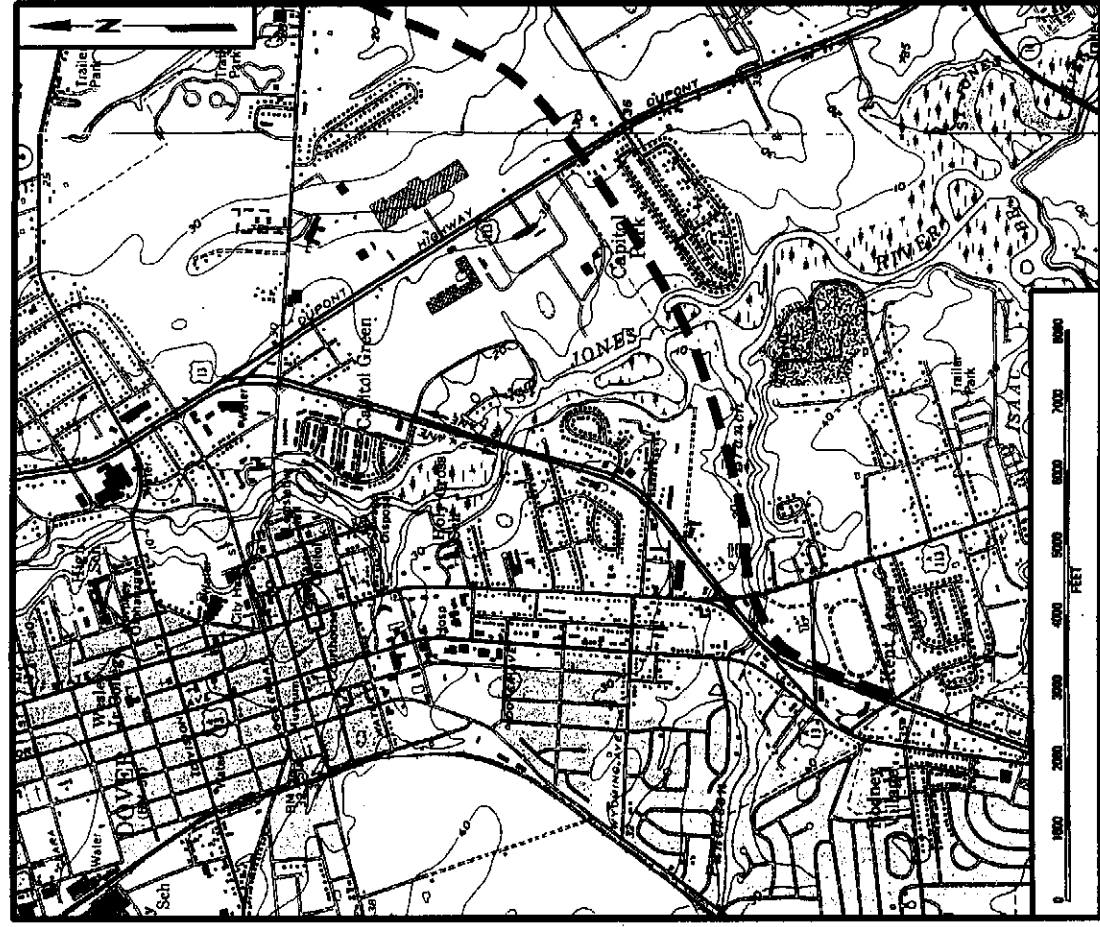


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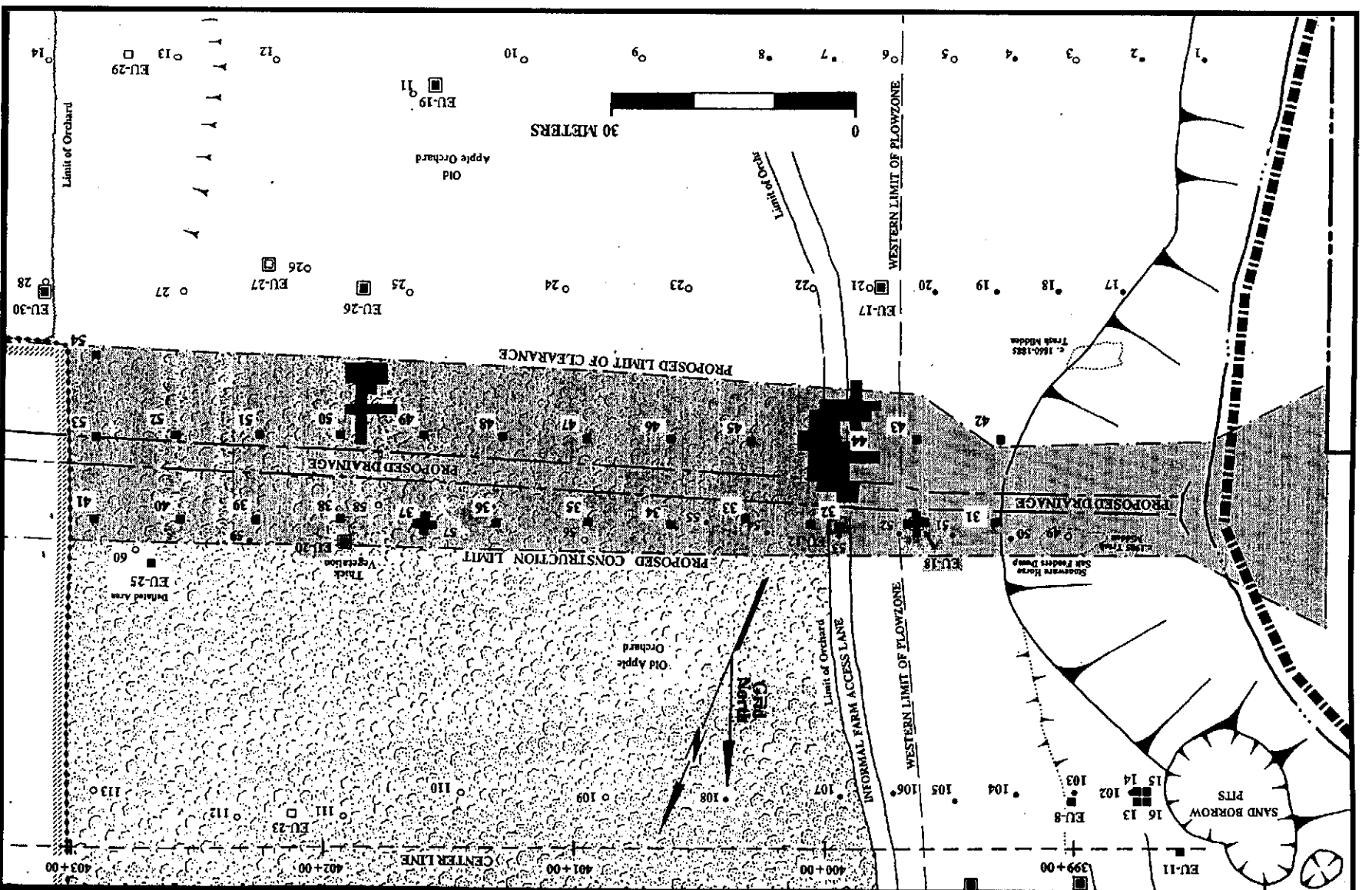
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Figure 3. Hickory Bluff Prehistoric Site, Data Recovery, First Phase - Site Plan Showing Locations of Subsurface Tests.



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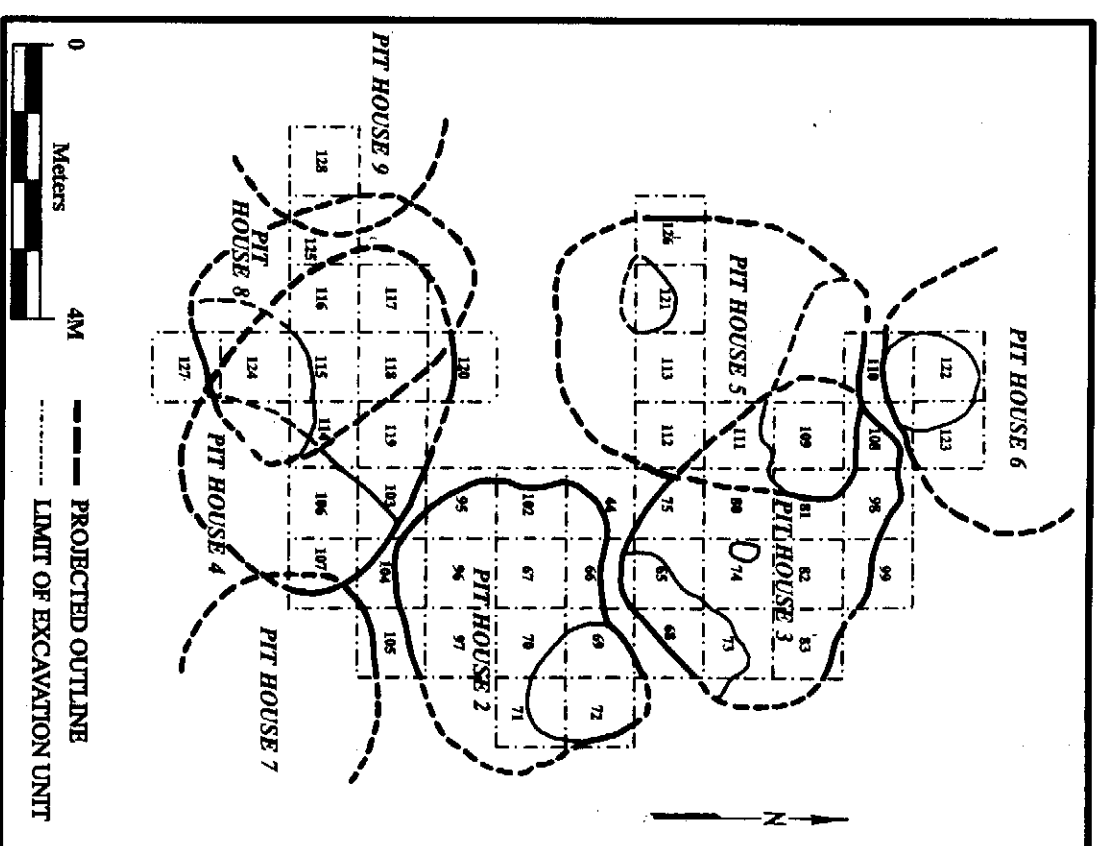


Figure 4. Hickory Bluff Prehistoric Site, Data Recovery, First Phase - Excavation Units 44, 65-74, 80-83 and 102-128, Pit Houses 2-9, Plan View Showing the Projected Outlines of the Subsurface Portion of Pit Houses.

Pit House 4 exhibits what appears to be an intact living floor along the bottom of the upper basement. This context was consistently thin and compact. Artifacts recovered from the basal deposit have much greater interpretive potential for understanding pit features.

Within Pit House 4 the living floor averaged 15 centimeters in thickness and contained a Jasper pebble core, 49 pieces of debitage, 37 thermally-fractured rock fragments (randomly scattered across the floor), 29 ceramic sherds of Marcey Creek (7 sherds), Wilgus (5) and Coulbourn (1) wares, as well as 16 other sherds of uncertain type. Marcey Creek ceramics are characteristic of the Barker's Landing Complex (circa 3000 B.C. to 500 B.C.), while the Wilgus and Coulbourn wares are representative of the Delmarva Adena complex (circa 500 B.C. - 1 A.D.). The earlier steatite-tempered Marcey Creek ware sherds may have found their way into a later context as a result of a later pit house cutting into or through archaeological evidence of an earlier occupation.

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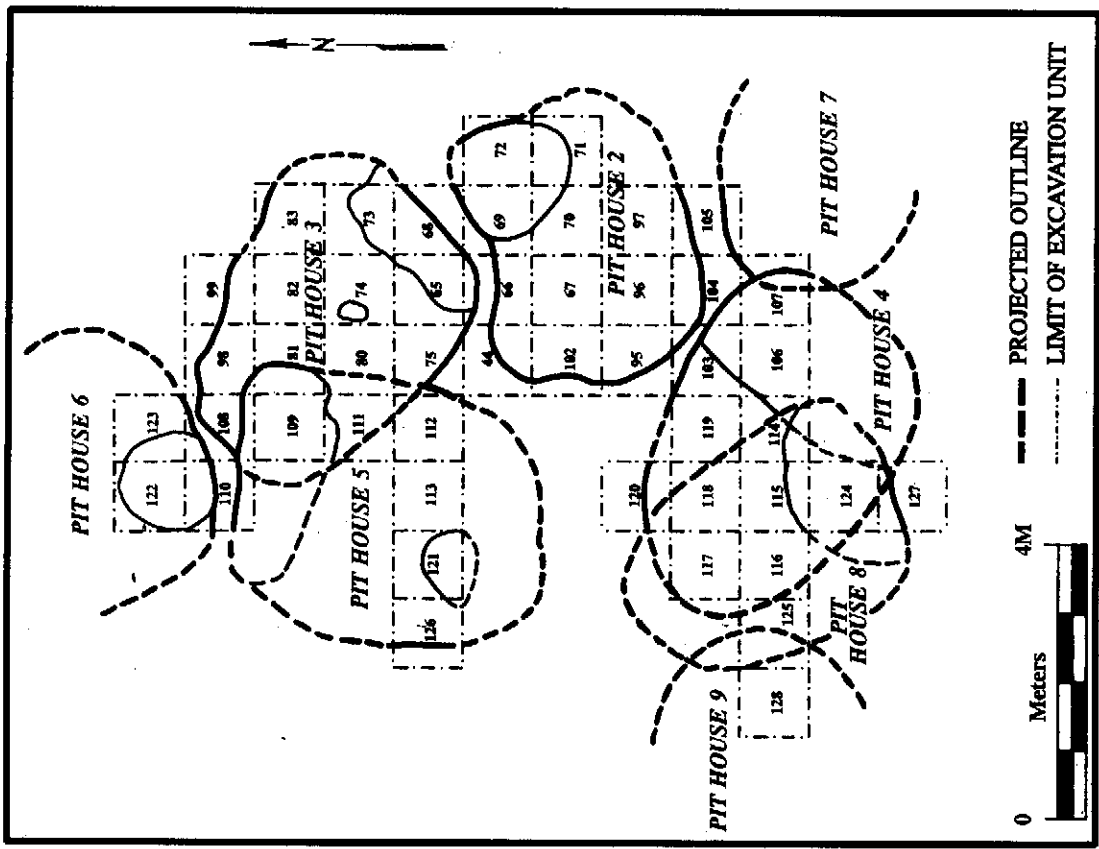


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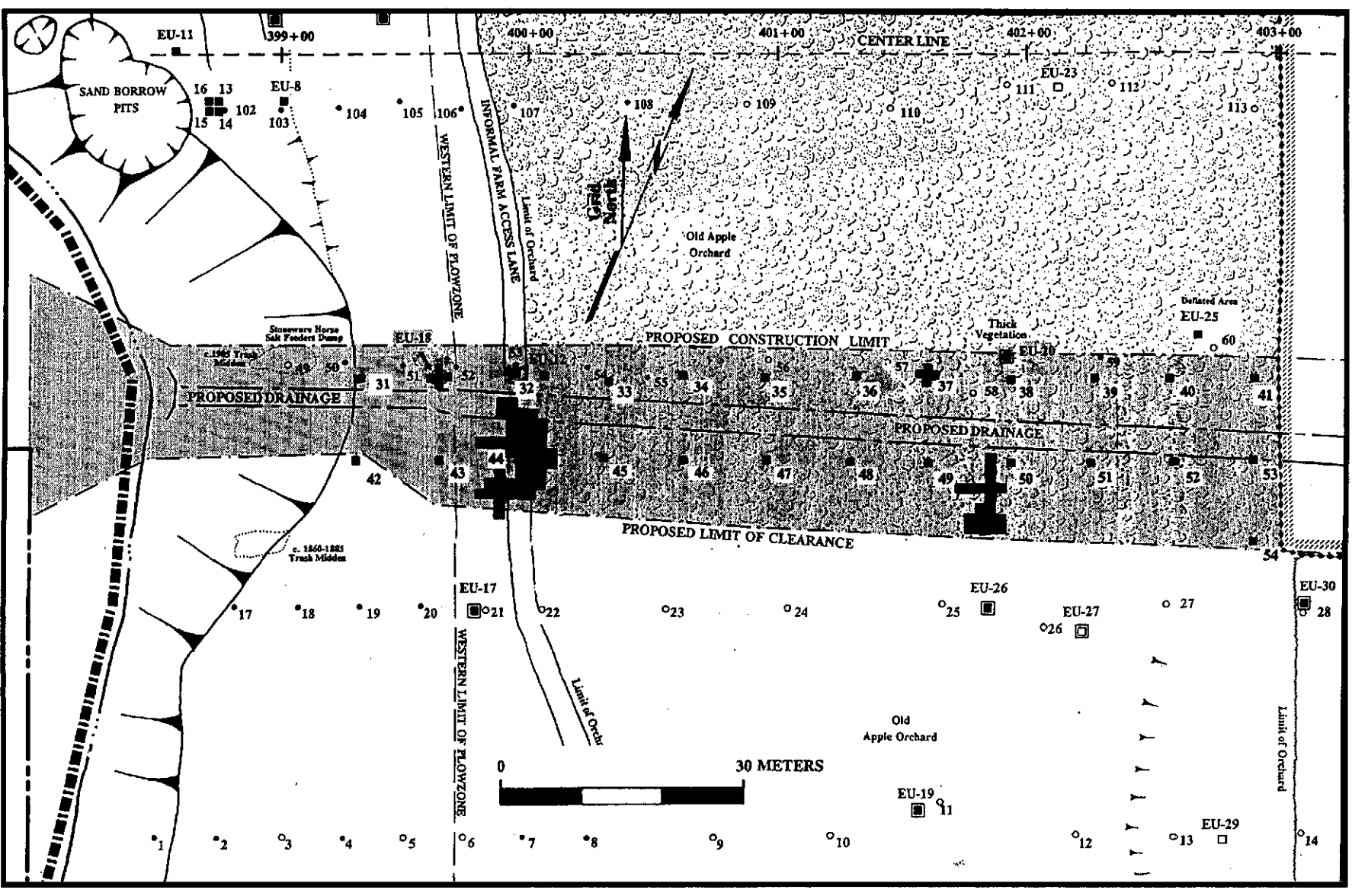


Figure 3. Hickory Bluff Prehistoric Site, Data Recovery, First Phase - Site Plan Showing Locations of Subsurface Tests.



Plate 1. Area C - Hickory Bluff Prehistoric Site (TK-C-411): General View Looking East Showing Western Block of Excavation Units Containing Pit Houses 2-9 (Photographer: Frank Dunsmore, March 1995) (HRI Neg. 95004/31-32).

This suggestion is further supported by a unique set of internal features clearly associated with the occupation of Pit House 4 (Figures 5 and 6; Plate 2). A stack of 56 ceramic sherds (representing the upper portions of two ceramic vessels) of net-impressed (6 sherds, 10.5mm mesh) and Z-twist cord-impressed (50 sherds) Coulbourn/Wilgus ware was found adjacent to a clay and grog-filled, bell-shaped pit in Excavation Units 114 and 119. These vessels can be treated as a single ceramic type for discussion purposes since they both made use of the same clay as a tempering material (see below). All of the sherds exhibit clay temper containing many small pieces of freshwater mussel shell. Cross-mending of these sherds revealed that sherds exhibiting shell and clay temper mended with sherds that were clay tempered and showed no signs of shell tempering. The freshwater mussel shell may indicate utilization of local resources for tempering materials, since traditional Wilgus ware is tempered with crushed saltwater shells, such as oyster or clam. This observation is important as it would suggest that Coulbourn and Wilgus wares are one ceramic type with local variants using available local resources for tempering.

The 56 sherds in Pit House 4 were deposited in four distinct layers. Cross-mending revealed that they were not broken in-place but were broken prior to deposition and then neatly placed in a stack. As noted above, all of the sherds derive from the upper portions of just two vessels. The upper part of a ceramic vessel is usually the thinnest part and the most likely to be fractured or chipped; this section of a vessel can be trimmed off and recycled as temper for new vessels, while the lower portion can continue to be used. The bell-shaped pit located in Excavation Units 103 and 119, adjacent to the stack of

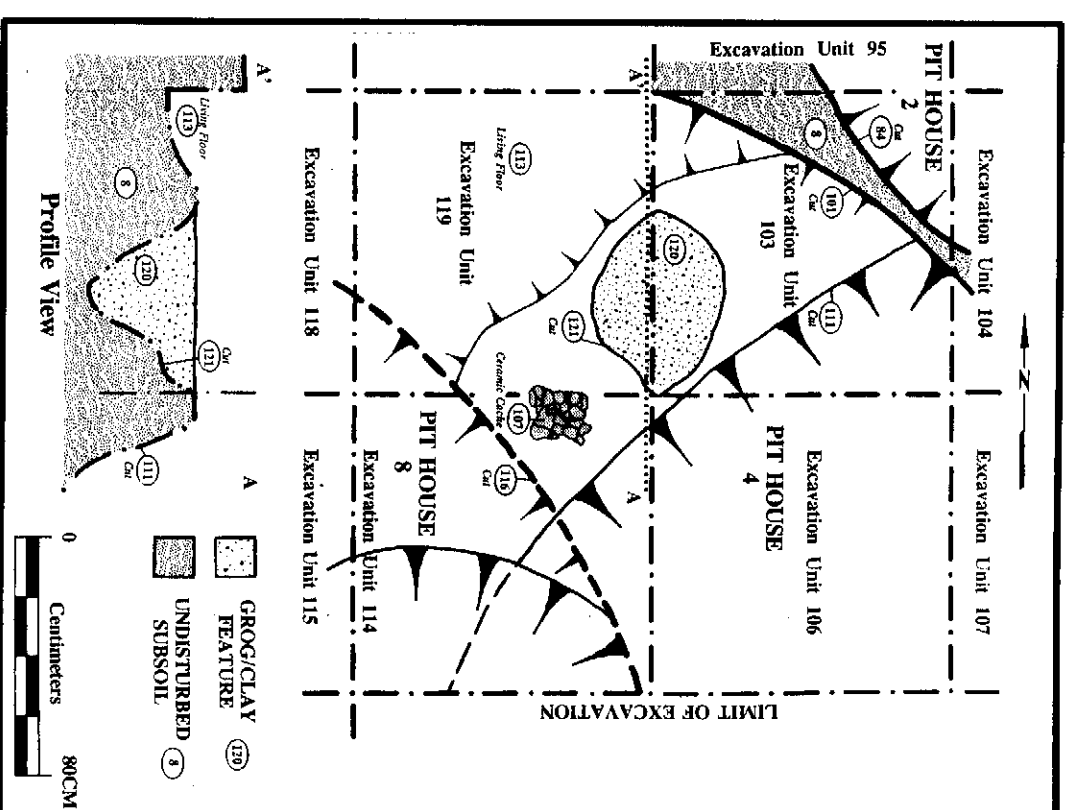


Figure 5. Hickory Bluff Prehistoric Site, Data Recovery, First Phase - Excavation Units 103, 106, 114, and 119, Pit House 4, Plan View and Profile of Ceramic Cache (107) and Associated Grog/Clay Pit Feature (120/121).

ceramic sherds, measured 62 centimeters across with a depth of 36 centimeters. This small pit contained a mixture of clay and crushed, charred ceramic sherds. Together, these features suggest the on-site production of ceramic vessels from the upper portions of old vessels.

The small pit feature within Pit House 4 demonstrates that ceramic vessels were being crushed and recycled as tempering material on site. Evidence of this process could mean that the sherd counts for clay-tempered wares, which are the dominant type, would have even been higher if broken vessels were not being re-used for temper.

Using the following formula developed for conoidal vessels based on rim diameters: **Volume $\approx 0.533 \times \text{Diameter}^3 \pm 27\%$** (Mounier 1987:95-102), the vessel capacities were calculated for the two vessels found within the small pit in Pit House 4. The rim diameter for the net-impressed vessel was 26 centimeters. Using Mounier's formula, this vessel would have had a capacity of 9.4 liters or 2.8 gallons



Plate 1. Area C - Hickory Bluff Prehistoric Site (7K-C-411): General View Looking East Showing Western Block of Excavation Units Containing Pit Houses 2-9 (Photographer: Frank Dunsmore, March 1995) (HRI Neg. 95004/31-32).

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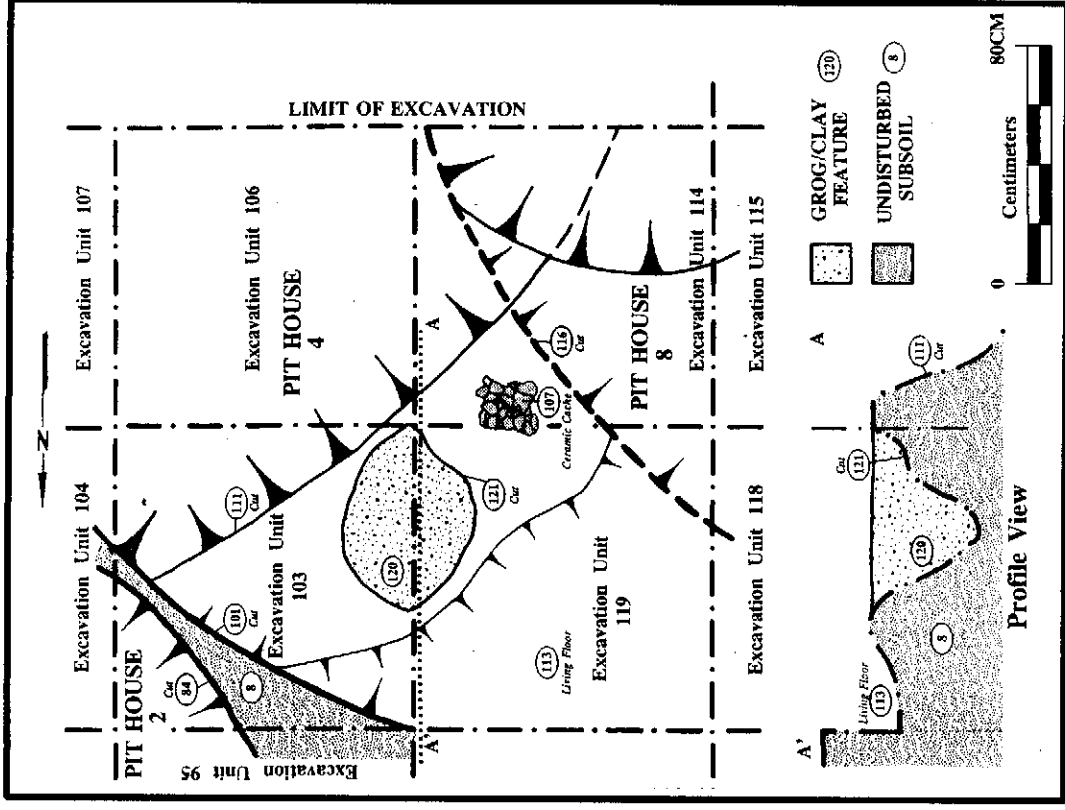


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Plate 2. Area C - Hickory Bluff Prehistoric Site (7K-C-411), Excavation Units 114 and 119, Pit House 4, Context 107: Plan View of Cache of 56 Clay-tempered Ceramic Sherds for Two Vessels (Photographer: Frank Dunsmore, March 1995) (HRI Neg. 95004/27-29A).

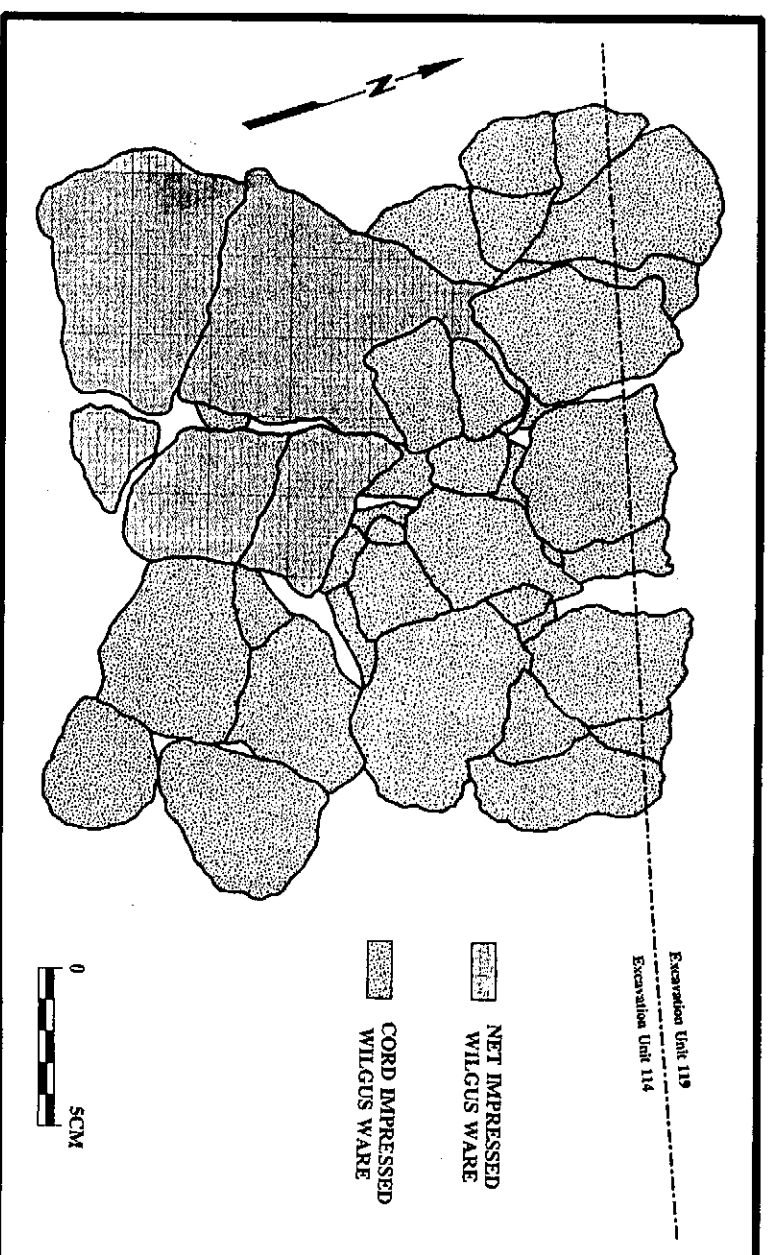


Figure 6. Hickory Bluff Prehistoric Site, Data Recovery, First Phase - Excavation Units 114 and 119, Wilgus Ware Ceramic Cache (107), Detailed Plan View Showing Association of Net-Imprinted and Cord-Imprinted Variants.

(+/-). The rim diameter of the cord-impressed vessel measured 28 centimeters. The capacity of this vessel would have been 11.7 liters or 3.1 gallons (+/-). Both were clearly substantial vessels, presumably used for food storage.

Several of the clay-tempered sherds contain fragments of freshwater mussel shell. Use of shell in conjunction with clay as a tempering material would classify these sherds as Wilgus ware. However, traditional Wilgus ware is tempered with crushed saltwater shells, such as oyster or mussel. It should be noted that the Wilgus type site is in the Coastal Bay Zone of southern Delaware and contains a shell midden largely composed of oyster with lesser amounts of clams and other shellfish, such as mussel (Custer 1989:256; Blume 1996: personal communication, February 2, 1996). On this basis, one may suggest that Wilgus ware and the clay-tempered Coulbourn ware should be regarded as one ceramic type with local variants defined according to the availability of tempering materials. Another possibility is that the clay and freshwater mussel-tempered sherds recovered from the Hickory Bluff Prehistoric Site merely represent a previously unrecognized variant of Wilgus ware. Another clay-tempered ware found at the site is Nassawanggo Ware which also contains crushed rock tempering materials. This ware, found only in small quantities on the site, may represent a Coulbourn variant manufactured off-site and inland, away from salt or freshwater shell sources.

Appreciation is extended to the following individuals for their help and support: Kevin Cunningham-DeIDOT Archaeologist, Gwen Davis-Delaware State Historic Preservation Office Archaeologist, Charles Fithian-Delaware Bureau of Museums and Historic Properties Curator, Frank Dunsmore and Sue Ferenbach Senior Archaeologists with Hunter Research Inc., Richard Hunter, Ian Burrow and Michael Tomkins of Hunter Research Inc., and a special thanks to Glen Mellin who never stops asking what if or why.

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 1987 Estimation of Capacity in Aboriginal Conoidal Vessels. *Journal of Middle Atlantic Archaeology* 3:95-104.



Plate 2. Area C - Hickory Bluff Prehistoric Site (7K-C-411), Excavation Units 114 and 119, Pit House 4, Context 107: Plan View of Cache of 56 Clay-tempered Ceramic Sherds for Two Vessels (Photographer: Frank Dunsmore, March 1995) (HRI Neg. 95004/27-29A).

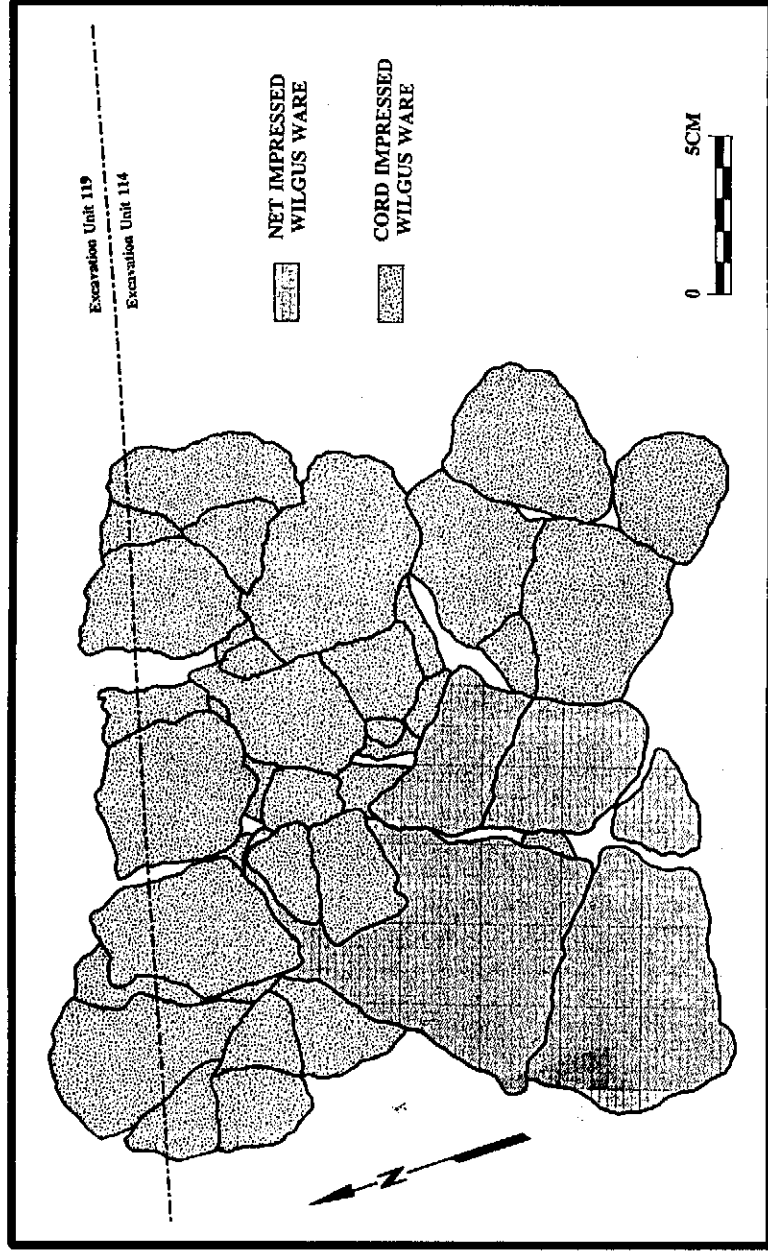


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