SOUTHERN INDIAN STUDIES

Volume XXXVI-XXXVII October 1988

The *Southern Indian Studies* was established in April, 1949, as a medium of publication and discussion of information pertaining to the life and customs of the Indians in the Southern states, both prehistoric and historic. Subscription is by membership in the North Carolina Archaeological Society.

PUBLISHED
by
THE ARCHAEOLOGICAL SOCIETY OF NORTH CAROLINA
and
THE RESEARCH LABORATORIES OF ANTHROPOLOGY
THE UNIVERSITY OF NORTH CAROLINA
CB# 3120, Alumni Bldg.
Chapel Hill
27599-3120

Southern Indian Studies

Volume XXXVI-XXXVII October 1988

ARCHAEOLOGY OF THE HISTORIC OCCANEECHI INDIANS

Edited by

H. Trawick Ward
and
R. P. Stephen Davis, Jr.

Research Laboratories of Anthropology
University of North Carolina
Chapel Hill

PREFACE

In 1983, the Research Laboratories of Anthropology at the University of North Carolina embarked upon a long-term research project to study culture change among the small Siouan tribes of the North Carolina Piedmont during the period of initial European exploration and colonization of the New World. Specifically, we wanted to examine the ways and extent to which these native peoples were changed by trading relationships with Europeans and to see how these groups coped with the progressive effects of depopulation and regional instability.

Archaeological investigations began at the Wall site, traditionally thought to represent the historic Occaneechi settlement visited by John Lawson in 1701, near Hillsborough, NC. After demonstrating that this was a prehistoric site (ca. AD 1500), other locations in the immediate site vicinity were carefully examined for evidence of an historic Indian settlement and the Fredricks site was discovered. This site, which contained an abundant inventory of Euroamerican trade items that date to the late seventeenth and early eighteenth centuries, represents the remains of Occaneechi Town.

Between 1983 and 1986, and with major financial support from the National Geographic Society, this site was excavated in its entirety. The scope of these investigations has permitted considerable insight into the lifeways of the historic Occaneechi and provides a firm basis for examining the question of culture change. This report, and an earlier monograph reporting the results of investigations conducted during 1983 and 1984 (Dickens et al. [ed.] 1987), fully document this initial phase of Siouan Project research.

We are indebted to the former and present owners of the site, Messrs. Frank Fredricks, Cyrus Hogue, and Richard Jenrette, for their generosity in allowing us to conduct our excavations each summer and to the scores of graduate and undergraduate students at the University of North Carolina who served as field supervisors and assistants. Finally, we would like to acknowledge our deep appreciation to the late Roy S. Dickens, Jr., who was instrumental in the development of the Siouan Project and whose spirit remains strong.

H. Trawick Ward
R. P. Stephen Davis, Jr.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

by
H. Trawick Ward
and
R. P. Stephen Davis, Jr.

The Fredricks site (31Or231), located on the Eno River near Hillsborough, North Carolina (Figure 1), represents the remains of an historic Occaneechi village that was visited and described by John Lawson in 1701 (Lefler 1967). Archaeological investigations at the Fredricks site began in 1983 as part of a larger research project, undertaken by the Research Laboratories of Anthropology, University of North Carolina, Chapel Hill, to study culture change among the Siouan tribes of the North Carolina Piedmont during the Late Prehistoric and Historic periods (ca. A.D. 1300–1740). This site represents one of the latest and best-preserved Indian village sites yet discovered in piedmont North Carolina. Given its proximity to the Wall site (31Or11), an earlier Protohistoric period (ca. A.D. 1500–1550) site that also has been investigated by the Research Laboratories, the Fredricks site has provided significant comparative data for investigating specific aspects of culture change within a single locality (see Dickens et al. [ed.] 1987). Work at the Fredricks site also has allowed substantial insight into aboriginal lifeways on the Piedmont following the initial influx of English traders. At the end of the 1986 field season, all of the interior area of the palisaded village had been excavated, revealing a complete architectural plan. This issue of *Southern Indian Studies* reports the results of this final season at the Fredricks site and presents an overall summary of the Occaneechi investigations.

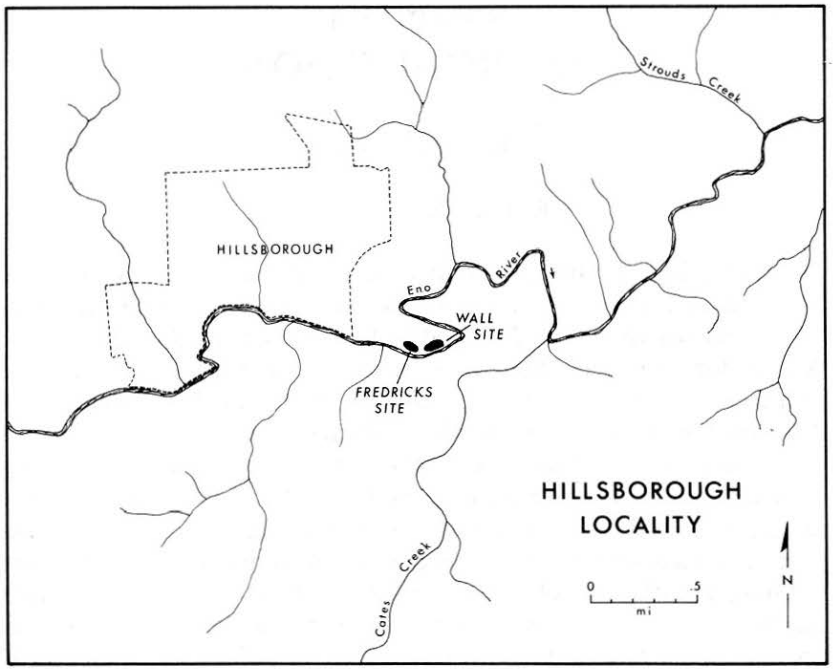


Figure 1.

Location of the Fredricks Site Near Hillsborough, North Carolina.

HISTORY OF INVESTIGATIONS

The Fredricks site was discovered by the Research Laboratories during 1983 while conducting excavations at the nearby Wall site. Limited test excavations of 800 ft^2 revealed a portion of a cemetery lying just outside the village and a segment of the village palisade. Three human burials within the cemetery were excavated. All three pits were rectangular with sharp corners (indicating that they probably were excavated with metal tools) and contained numerous artifacts of Euroamerican manufacture. A fourth pit excavated within the cemetery contained neither human remains nor grave associations.

A second field season at the Fredricks site, conducted during the summer of 1984 and sponsored by the National Geographic Society, uncovered a much larger area of the cemetery and the adjacent village (Dickens et al. 1984, [ed.] 1987). These investigations were designed to obtain additional data on mortuary behavior and to begin sampling domestic areas. In addition, systematic subsurface testing was undertaken on unexcavated portions of the site to delimit probable site boundaries and to make a preliminary assessment of internal site structure.

During 1984, 27 new 10×10-ft units (2,700 ft²) were excavated, and six 10×10-ft units excavated in 1983 were re-exposed. These excavations uncovered six additional burials within the cemetery, a 90-ft palisade segment, and approximately 2,250 ft² of the village area inside the palisade. Mapping of postholes revealed two complete domestic structures. In addition, an oval, wall-trench sweat lodge with an interior fire pit was exposed in the southwesternmost corner of the excavation. Subsurface testing of unexcavated areas consisted of auger sampling at 2.5-ft intervals to identify archaeological features. This procedure proved to be highly reliable and was successful both in delimiting the remainder of the cemetery and in identifying areas of intensive domestic activity within the village. It was somewhat less effective, however, in providing a precise definition of site boundaries (see Davis and Ward 1987).

In 1985, a third season of fieldwork was made possible by additional funding from the National Geographic Society (Dickens et al. 1985; Dickens et al. [ed.] 1986). These excavations exposed 62 10×10-ft units, almost doubling the total area uncovered during the previous two field seasons. The large excavated area made it possible to estimate the overall size of the village as well as to predict its internal spatial configuration. Twenty-five features and three burials were excavated. The burials were the last remaining in the cemetery, bringing the total to 12 with an additional probable burial. Six new structures also were defined as a result of the 1985 work, and approximately 100 ft of the palisade were exposed as it continued to encircle the habitation area. At the end of the 1985 field season, it was estimated that the village compound within the palisade was small, comprising only about .25 acres. A total of 11–12 houses were estimated to have sheltered approximately 50–75 individuals.

RESEARCH PROBLEMS

The exploratory work conducted at the Fredricks site during 1983–1984 provided information sufficient to answer some general questions about the period of occupation, the overall configuration of the material-culture inventory, mortuary behavior, and subsistence activities; however, it did not provide a firm basis for addressing larger problems pertaining to internal settlement structure and composition. These latter problems were addressed by the 1985 fieldwork and considered the following specific research questions: 1) Is the existing cemetery the only one on the site, and was it the result of one episode of warfare?; 2) What were the habitation structures like and how were they arranged in the settlement?; 3) Did more than one tribe reside in the village?; and 4) What was the size and overall pattern of the settlement? Fieldwork undertaken to answer these questions consisted of excavating the remaining burials in the cemetery, isolating

domestic structures in the northwestern and southeastern parts of the village, and uncovering a large portion of the palisaded village area.

Although the 1985 excavations did much to clarify the internal configuration of the Occaneechi village, additional fieldwork was proposed in 1986 to allow the total excavation of the habitation area within the palisade. Because the small village compound is unique in the Piedmont region, its complete excavation offered a rare opportunity to study the *in situ* remains of a spatially-bounded social unit larger than a household. And although approximately half the compound had been exposed by 1985, the intrasite patterns were still only generally understood because several structures were represented by diffuse posthole clusters. It was believed that the total excavation of the palisaded area would clarify the spatial definition and relationships of all the structures as well as expose all associated features. The data from the habitation area in conjuction with the cemetery data would permit fine-grained subsistence, social, and ritual reconstructions, and allow accurate estimates of population size. Sampling biases that plague most archaeological investigations would be reduced to a minimum. A detailed knowledge of the village spatial structure also would provide an excellent comparative background for assessing smaller scale excavations at other Contact Period sites and facilitate the reconstruction of intrasite patterns from relatively small excavated samples. This phase of fieldwork was again supported by the National Geographic Society.

FIELD METHODS

The 1986 field season at the Fredricks site lasted seven weeks, from May 19 to July 3. The field crew consisted of 14 undergraduate students enrolled for six course credits in Anthropology 151 (Archaeological Field School) at the University of North Carolina, Chapel Hill, and 9 undergraduate and graduate field assistants. Excavations were supervised by Dr. H. Trawick Ward and Dr. R. P. Stephen Davis, Jr. of the Research Laboratories of Anthropology.

Field methods employed during the 1986 excavation were similar to those of the three previous field seasons (see Dickens et al. 1984). Site preparation consisted of bushhogging the work area (ca. 200×200 ft) and reestablishing the site grid and reference point for elevations. All plowzone (0.5–1.6 ft thick) was excavated in 10×10-ft units, with soil being dry screened through ½-inch wire mesh using hand sifters (Figure 2). A 20-liter soil sample from the plowzone of each unit was waterscreened through 1/16-inch mesh to assess small artifact content.

Following the removal of plowzone, the bottom of each excavation unit (top of subsoil) was carefully trowelled in order to identify and record pits and postholes (Figure 3). The trowelled surface was documented by black-

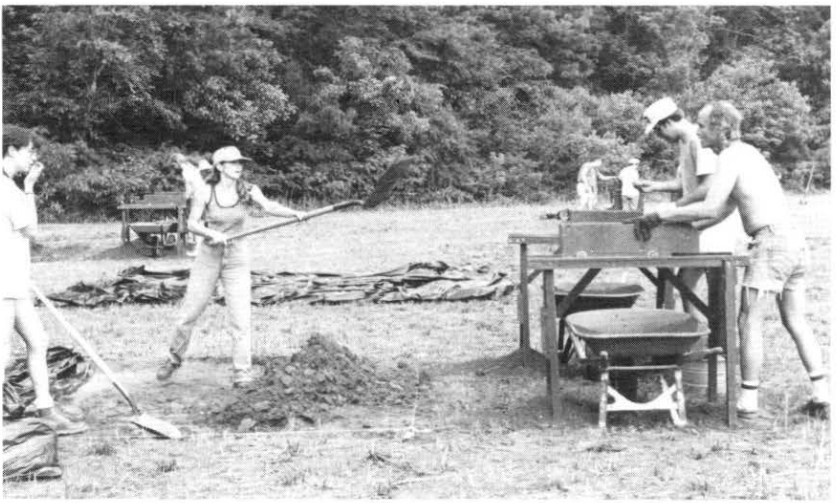


Figure 2.

Removing Plowzone.

Figure 3.

Trowelling the Top of Subsoil to Expose Archaeological Features.

and-white and color photographs and was mapped at a scale of 1 in=2 ft (Figure 4). The drawings of each excavation unit were subsequently combined to produce an overall plot of the excavation. Photographs were also made of all procedures and of the general progress of work (Figure 5). Horizontal and vertical control was maintained through reference to the site grid and by using a transit and rod to determine elevations.

Sixty-two 10×10-ft units forming a single block were excavated in this manner (Figures 6–7). In addition to these excavations, four 10×10-ft units excavated in 1985 were re-exposed.

The 1986 work at the Fredricks site resulted in the identification and/or excavation of 21 features, including two human burials, two possible burial pits, a possible hearth, an irregular trench, and 13 pit features. One probable pit (Feature 60) and a shallow basin (Feature 52) were not excavated. An additional 150 ft of the palisade were exposed and four wall-trench and posthole structures were identified. None of the structures were excavated; however, all of the postholes and wall trenches were systematically mapped and recorded.

Excavation of features and burials was accomplished using trowels, grapefruit knives, brushes, and other small tools. Sunscreens, constructed of wooden frames and bedsheets, were erected over features during excavation to minimize the damage to feature contents by the summer sun. Feature fill was removed in natural zones, when evident, and all fill was waterscreened through sluice boxes having a sequence of ½-inch, ¼-inch, and 1/16-inch wire mesh. This technique permitted the recovery of minute artifacts, including shell and glass beads, lead shot, small animal bones, and carbonized plant remains. Standard 10-liter soil samples from each zone of each feature were simultaneously processed by flotation to retrieve very small, extremely fragile carbonized seeds and plant parts that might otherwise be lost in the waterscreening. Elevations were taken following the removal of each soil zone of a feature in order to establish precise provenience for zone contents and to permit the calculation of soil volume.

After completion of excavation, all features and burials were extensively documented by black-and-white and color photography, and by drawings in profile and plan at a scale of 1 in=1 ft. Also, extensive notes were kept by all excavators in both field journals and on standardized feature and burial data forms.

A property line separated the area excavated in 1986 from the area of previous excavations. Respecting this landowner's wishes, human skeletal remains associated with the two definite burials were not removed. Neither were associated artifacts. The pits, however, were excavated, and the skeletal remains were cleaned, throughly examined, measured, and photographed. After being documented, the skeletal remains were covered with clean white sand and the pits were re-filled with sifted soil.

Figure 4.

Plotting Archaeological Features at Top of Subsoil.

Figure 5.

General View of Excavations at the Fredricks Site.

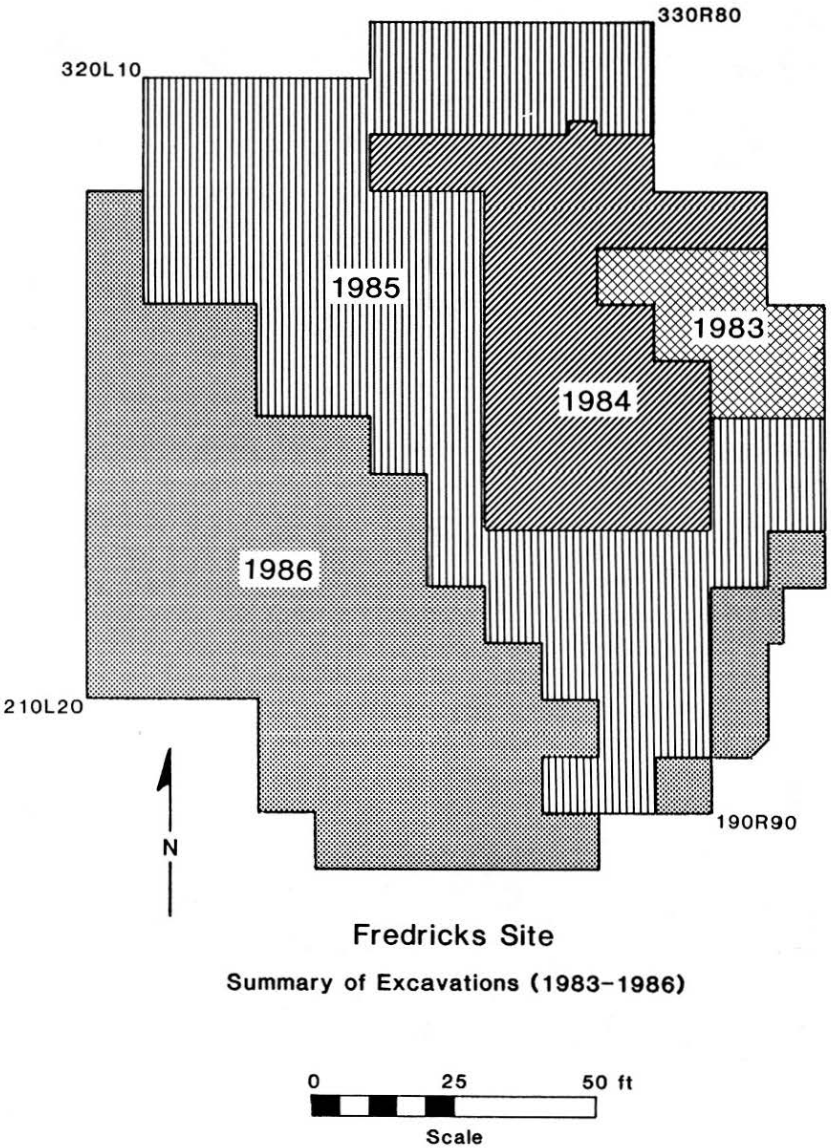


Figure 6.

Area Covered by 1983–1986 Excavations.

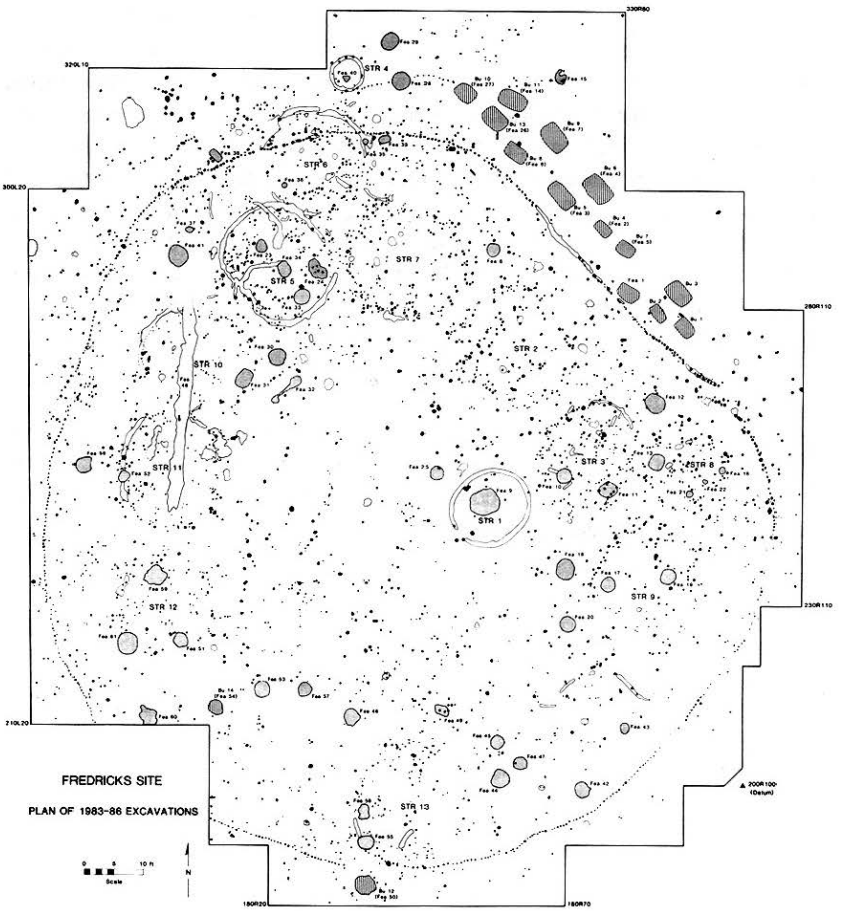


Figure 7.

Fredricks Site Plan Showing the Results of 1983–86 Excavations.

RESULTS

The 1986 excavation at the Fredricks site uncovered all the village area enclosed within the palisade except for a small section in the southwest corner where a large tree prevented soil removal. Although still small, the village shape was more irregular than predicted after the 1985 field season (see Figure 7). The irregular outline resulted from the fact that the palisade "bowed-out" or expanded to the southwest, thus creating a D-shaped rather than oval configuration. Although much of the structural evidence continued to consist of vague posthole clusters, two additional wall-trench structures were defined and the pit features associated with the structures were extremely rich. Their depositional character and contents add significant new data that has aided in clarifying general as well as specific behavioral patterns within the village. These remains are described and discussed in Chapter 2.

A large collection of artifacts and subsistence remains were recovered from both plowzone and feature contexts during 1986, and add appreciably to existing artifact assemblages from the site. Specific artifact categories for which substantial new collections were obtained include: aboriginal ceramic artifacts, aboriginal lithic artifacts, Euroamerican artifacts, faunal remains, and ethnobotanical remains. The results of analyses for these artifact classes are presented in Chapters 3–7.

CHAPTER 2

BURIALS, FEATURES, AND STRUCTURES

by
H. Trawick Ward

INTRODUCTION

Two burials, seventeen features, and four structures were excavated during the 1986 field season. Two additional features were mapped but not excavated (Table 1). Because of the landowner's wishes, the burials were cleaned and documented but the skeletal remains and associated artifacts were not removed. The majority of the features were relatively large storage facilities, rich in cultural materials, associated with domestic structures. Two of the four structures consisted of vague posthole outlines, whereas the others were defined, at least partially, by wall trenches.

Table 1. Summary of Archaeological Features at the Fredricks Site, 1983–1986.

Feature/Burial Number	Excav. Season	Feature Type	Center Location	Dimensions (ft) L	W	D
Bu. 1	1983	Burial	276.8R90.3	3.6	2.6	2.4
Bu. 2	1983	Burial	279.3R85.8	3.1	2.6	2.1
Bu. 3	1983	Burial	282.7R89.1	4.4	3.2	3.0
Fea. 1	1983	Probable Burial	282.7R80.7	3.9	2.9	2.8
Fea. 2/Bu. 4	1984	Burial	293.5R76.5	3.2	2.2	2.1
Fea. 3/Bu. 5	1984	Burial	299.2R69.5	5.0	2.8	2.1
Fea. 4/Bu. 6	1984	Burial	300.6R75.7	5.6	4.0	2.3
Fea. 5/Bu. 7	1984	Burial	290.0R80.4	3.4	2.3	1.4
Fea. 6/Bu. 8	1984	Burial	306.5R61.7	4.0	2.5	2.5
Fea. 7/Bu. 9	1984	Burial	308.7R68.2	5.1	3.5	2.3
Fea. 8	1984	Tree Stump	290.0R58.0	2.4	2.2	2.3
Fea. 9	1984	Fire Pit	247.4R56.6	5.0	4.7	2.9
Fea. 10	1984	Storage Pit	251.6R70.0	2.6	2.3	3.1
Fea. 11	1984	Pit	249.5R77.4	3.0	2.4	1.5
Fea. 12	1984	Pit	264.0R85.5	3.4	3.2	1.1
Fea. 13	1984	Pit	254.0R85.7	2.8	2.4	1.5
Fea. 14/Bu. 11	1985	Burial	315.2R66.2	4.9	3.1	3.1
Fea. 15	1985	Tree Stump	318.8R69.3	2.6	1.5	1.4
Fea. 16	1985	Shallow Basin	253.0R96.6	1.3	1.1	0.2
Fea. 17	1985	Storage Pit	233.5R77.5	2.7	2.4	2.1
Fea. 18	1985	Pit	236.3R70.3	3.3	3.3	0.9
Fea. 19	1985	Storage Pit	234.5R87.6	2.7	2.6	2.4
Fea. 20	1985	Pit	224.0R71.5	3.0	2.8	1.5

Table 1 Continued.

Feature/Burial Number	Excav. Season	Feature Type	Center Location	Dimensions (ft) L	W	D
Fea. 21	1985	Shallow Depression	248.9R91.1	1.2	1.1	0.1
Fea. 22	1985	Shallow Depression	251.1R93.7	0.8	0.7	0.2
Fea. 23	1985	Pit	291.1R20.0	2.2	1.9	1.5
Fea. 24	1985	Shallow Basin	286.0R28.5	4.3	2.2	0.5
Fea. 25	1985	Shallow Basin	252.2R48.5	2.3	2.3	0.6
Fea. 26/Bu. 13	1985	Burial	312.0R58.0	4.6	3.2	2.3
Fea. 27/Bu. 10	1985	Burial	316.5R53.2	3.5	2.8	2.9
Fea. 28	1985	Storage Pit	318.0R42.5	3.2	3.2	3.0
Fea. 29	1985	Storage Pit	324.7R40.7	3.0	2.8	3.4
Fea. 30	1985	Storage Pit	271.5R21.5	2.9	2.8	2.2
Fea. 31	1986	Probable Burial	267.5R16.0	3.1	2.2	2.0
Fea. 32	1985	Rodent Disturbance?	266.0R23.0	-Not Excavated-		
Fea. 33	1985	Pit	281.5R25.9	3.0	2.6	1.7
Fea. 34	1985	Hearth	286.0R22.3	3.2	3.0	—
Fea. 35	1985	Cob-Filled Pit	307.8R36.6	0.9	0.8	0.6
Fea. 36	1985	Cob-Filled Pit	300.4R22.3	1.8	0.9	0.3
Fea. 37	1985	Shallow Basin	292.6R07.0	1.8	1.0	0.5
Fea. 38	1985	Shallow Basin	305.5R11.5	2.5	1.3	0.3
Fea. 39	1985	Shallow Basin	308.2R39.8	2.1	1.6	0.7
Fea. 40	1985	Shallow Basin	318.5R33.5	1.3	1.0	0.2
Fea. 41	1985	Storage Pit	288.5R05.0	3.5	3.2	1.9
Fea. 42	1986	Pit	198.0R73.0	3.0	3.0	1.8
Fea. 43	1986	Probable Hearth	209.5R80.5	2.0	1.5	—
Fea. 44	1986	Storage Pit	201.2R59.3	2.8	2.0	2.5
Fea. 45	1986	Pit	207.5R58.8	2.7	2.6	1.5
Fea. 46	1986	Storage Pit	211.5R34.5	2.6	2.4	2.0
Fea. 47	1986	Pit	203.8R62.5	2.7	2.6	1.6
Fea. 48	1986	Irregular Trench	—	—	—	—
Fea. 49	1986	Probable Burial	212.5R49.2	2.5	1.5	1.2
Fea. 50/Bu. 12	1986	Burial	212.9R11.3	2.4	2.0	1.1
Fea. 51	1986	Storage Pit	224.2R05.2	2.4	2.4	2.0
Fea. 52	1986	Shallow Basin	251.4L04.3	-Not Excavated-		
Fea. 53	1986	Storage Pit	216.0R19.0	2.9	2.7	2.1
Fea. 54/Bu. 14	1986	Burial	183.4R36.5	3.5	2.5	1.3
Fea. 55	1986	Pit	190.5R36.7	2.9	2.6	0.6
Fea. 56	1986	Storage Pit	252.5L09.0	2.9	2.8	3.3
Fea. 57	1986	Pit	215.9R26.3	2.4	2.3	1.3
Fea. 58	1986	Pit	195.3R36.3	2.6	2.2	0.8
Fea. 59	1986	Pit	235.0R00.6	3.6	2.5	1.7
Fea. 60	1986	Probable Pit	211.5R00.0	-Not Excavated-		
Fea. 61	1986	Probable Pit	223.8L03.8	3.7	3.2	2.1

BURIALS

Neither of the two burials excavated in 1986 was associated with the cemetery, and both were contained in pits that were very different from those of the cemetery burials. Oval shaft-and-chamber pits replaced the straight-sided rectangular graves of the cemetery. Neither of the 1986 burials contained lenses of refuse-laden fill that also characterized the earlier interments.

Burial 12 (Feature 50)

This burial (Figure 8) was located in the southern part of the site, just outside the palisade in what appears to be a southern entrance to the village compound. It contained the remains of an infant about six months old. The body was placed in a shaft-and-chamber pit. Bone preservation was extremely poor, but it appears that the legs were flexed and the head pointed to the south-southwest. Brass bells, which preserved small fragments of cane matting, were found in the leg area. The presence of matting suggests that the body was wrapped prior to interment. A lead bale seal and several shell beads also were present in the leg area.

Burial 14 (Feature 54)

This grave (Figure 9) also was located in the southern part of the site within a cluster of pit features that formed a band paralleling the interior margin of the palisade. In this burial, the loosely flexed remains of a 12-year-old subadult were placed in the side chamber of a shaft-and-chamber pit with the head oriented to the east. Shell beads were strung around the neck and the right wrist. European trade artifacts consisted of a brass buckle and several pewter buttons in the waist area, brass rings on the fingers of both hands, and numerous white glass beads in the area of the right hip.

FEATURE DESCRIPTIONS

Probable Burial Pits

Feature 31. This unit was first observed as an oval area of mottled clay in Sq. 260R20 during the 1985 excavations. At that time the feature was augered and, based on the resultant fill profile, was thought to represent a possible burial. Re-troweling in 1986 revealed a surface of orange mottled clay containing brown loam that surrounded a central area of brown loam. In all respects, this configuration is very similar to that of burial pits as observed at the base of the plowzone. Generally, the orange clay soil represents the original burial fill, whereas the central deposit of darker loam

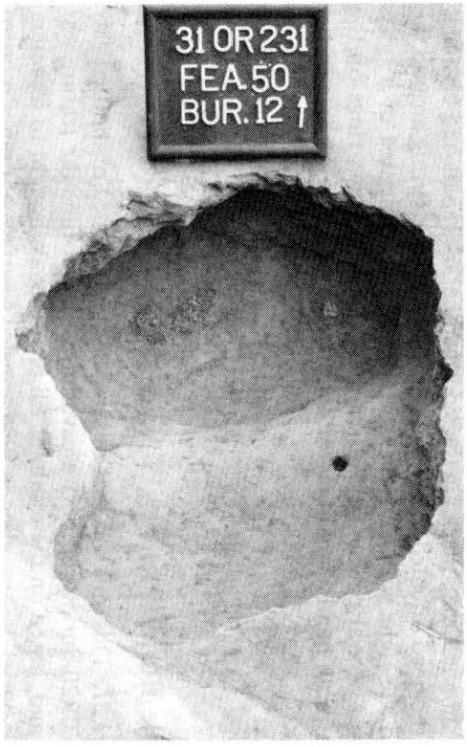


Figure 8.

Burial 12, Excavated.

Figure 9.

Burial 14, Excavated.

reflects humus or midden soil that has slumped into a depression created as the cavity surrounding the decayed body collapsed.

The brown loam was labeled Zone 1 and the mottled clay, Zone 2. Upon excavation, Zone 1 turned out to be very thin (.18 ft) and contained a small triangular projectile point, a few fragments of animal bone, and flecks of charcoal. Once Zone 1 was removed, the mottled clay fill extended uninterrupted across the length of the pit. It, too, contained very few artifacts and the small fragments of bone observed were fragmentary and highly decomposed. Zone 2 extended to the pit bottom, which was reached at a depth of 2.2 ft below the base of the plowzone. In other dimensions the pit measured 3.1 ft in maximum length and 2.2 ft in width. The pit walls were generally straight and sloped in slightly at the bottom (Figure 10).

Given the size, configuration, and fill characteristics of the feature, the original assessment of it having served as a burial pit still seems valid. The deteriorated state of the animal bone in the clay fill indicates conditions of poor bone preservation which might account for the lack of human bone at the bottom of the feature. The size of the pit also indicates that the individual buried probably would have been a young child. If so, the preservation potential of skeletal remains would be even less. It is, therefore, not surprising that human bones were not present; however, the absence of grave goods is uncharacteristic in light of the cemetery burials. Perhaps they consisted of highly perishable organic materials such as cloth or furs.

Feature 49. This pit was observed at the top of the subsoil as a roughly rectangular stain of mottled orange clay centered at 212.5R49.2. Three poorly defined postholes were plotted across the surface of the feature, but an attempt to separate their fill from that of the pit was unsuccessful. Consequently, all the mottled orange clay soil, including that from the suspected postholes, was excavated as a unit and labeled Zone 1.

After removing approximately 0.2 ft of Zone 1, it became apparent that a heavier concentration of charcoal and dark organic soil was present in the northeast section of the pit. However, the area had no well-defined boundaries, and the transition from mottled clay to mottled clay with charcoal and organic soil was gradual. At a depth of 0.5 ft below the subsoil surface of the pit, the area with organic soil expanded until it encompassed approximately two-thirds of the pit area. When an attempt was made to establish the pit walls, it became evident that a clay subsoil shelf extended around the pit along all but the southern wall. This shelf created an offset chamber that slightly undercut the southern wall. Toward the bottom of the chamber, a thin layer, approximately 0.2 ft thick, of a more compact mottled clay was excavated as Zone 2. This zone continued to the bottom of the pit which was reached at a depth of 1.5 ft below the base of the plowzone (Figure 11).

Figure 10.

Feature 31, Excavated.

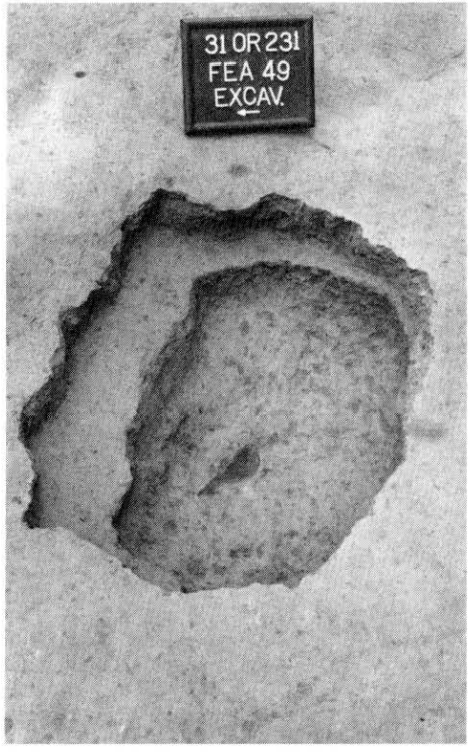


Figure 11.

Feature 49, Excavated.

Very few artifacts or ecofacts were recovered from the fill of the pit. A kaolin pipe stem and a gunflint were found in Zone 1, while a brass thimble was found near the bottom of the feature in Zone 2.

Given the nature of the pit fill—its mottled clay composition with few artifacts—and the shaft-and-chamber configuration of the pit itself, this feature probably was used for human burial. As with Feature 31, the mottled clay was not conducive to the preservation of organic material such as bone. Also, the size of the pit suggests the interment of a young child which would enhance the probability of skeletal remains not being preserved. The thimble in the otherwise sterile mottled clay of Zone 2 may represent a modest grave offering.

Storage Pits

Feature 42. A circular stain of dark gray soil mottled with charcoal and burned clay flecks (Zone 1) defined this pit at the base of the plowzone. Noted at the pit surface were numerous animal bones and rock fragments. Two gunflints and several glass beads also were recovered from Zone 1 which measured 0.5 ft at its thickest point, near the middle of the feature.

At the base of Zone 1, a gray ashy soil (Zone 2) was encountered. This zone was noticeably moist and got progressively wetter toward the bottom. It contained numerous animal bones, several aboriginal and kaolin pipe fragments, and one complete "onion" pipe. Several rocks also were encountered. Zone 2 extended to an average depth of 1.6 ft below the subsoil surface and rested on a thin band of mottled clay and gray soil that contained almost no artifacts. This zone (Zone 3) extended to the bottom of the pit which was reached at a depth of 1.8 ft.

In plan, the feature was circular, measuring approximately 3.0 ft in diameter. The sides bowed out slightly towards the bottom creating a bell-shaped profile (Figure 12). Apparently, the feature was originally excavated for storage purposes. Given the composition of Zone 3, it appears that after the pit was emptied of its contents, an indeterminate amount of time passed before it was filled with debris. The upper fill zones strongly suggest that hearth areas or other food preparation facilities were cleaned and the resulting refuse used to finish filling the pit. The clay mottling in Zone 1 probably resulted from subsoil slumping into the pit as the fill settled.

Feature 44. This feature appeared at the base of the plowzone as a roughly circular stain of brown loamy soil with some orange mottling and flecks of charcoal. Its center was clearly defined and was encircled by a lighter collar of mottled brown and orange soil representing fill that had been smeared across the subsoil surface by plow action. This rich brown layer, which contained lenses of grey ash, was excavated as Zone 1 and contained animal bone, pottery, glass trade beads, and a brass bell.

Zone 1 extended to a depth of approximately 0.9 ft and rested on a less compact zone of dark brown soil that contained large amounts of ash and charcoal. This layer, Zone 2, was further distinguished from the upper fill by containing a dense concentration of animal bones, including three nearly intact turtle carapaces and a bear humerus. It also contained pottery, glass trade beads, an ivory bead, an aboriginal pipe, and lead shot. Zone 2 averaged 0.9 ft in thickness.

A lump of orange clay, similar to the surrounding subsoil, lay along the western wall of the feature and was labeled Zone 3. This soil contained no artifacts and may represent slump from the pit wall while the feature was still being used for storage.

The final zone, Zone 4, was identified by a uniform layer of dark reddish fill that was very moist and contained a considerable amount of ash. This zone continued to the bottom of the pit and, like Zones 1 and 2, produced a rich array of artifacts and subsistence remains.

Feature 44 measured 2.8 ft by 2.0 ft in plan and was 2.5 ft deep. The north, south, and east walls were barrel-shaped in profile, whereas the west wall sloped outward at the bottom creating a bell-shaped outline. It is possible that the original west wall was inadvertently cut through during the course of the excavation. If this was the case, the pit originally would have had a symmetrical barrel shape.

The size and shape of the pit clearly indicate that it initially served as a subterranean storage facility prior to being abandoned and filled, within a brief time period, with refuse. The composition of the fill zones suggests episodes of refuse disposal associated with cleaning in and around hearth and cooking areas. The size of the deposits further suggests multihousehold activities.

Feature 46. Prior to excavation, this pit appeared as an oval-shaped stain of dark brown loam with charcoal flecks and mottled orange clay. The outer perimeter of the stain was lined with a thin zone of lighter mottled soil that represented smear from the main body of the feature. The soil (labeled Zone 1) that appeared at the base of the plowzone continued to the bottom of the pit. It was homogeneous except for an occasional lump or small pocket of orange clay. Cultural material consisted primarily of animal bone. Relatively few artifacts were recovered other than a few European and aboriginal pipe fragments, lead shot, sherds, glass beads, a hammerstone, and a possible grinding stone.

The feature was slightly barrel shaped, had a flat bottom, and measured 2.6 ft by 2.4 ft. It reached a depth below the subsoil of 2.0 ft (Figure 13). The fill was deposited in the pit over a short period of time soon after it was abandoned as a storage facility. The character of the fill is suggestive of general village midden.

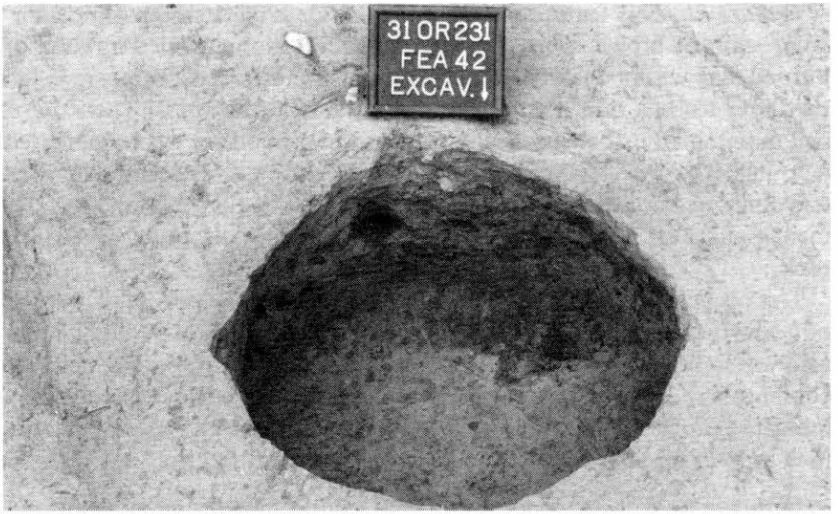


Figure 12.

Feature 42, Excavated.

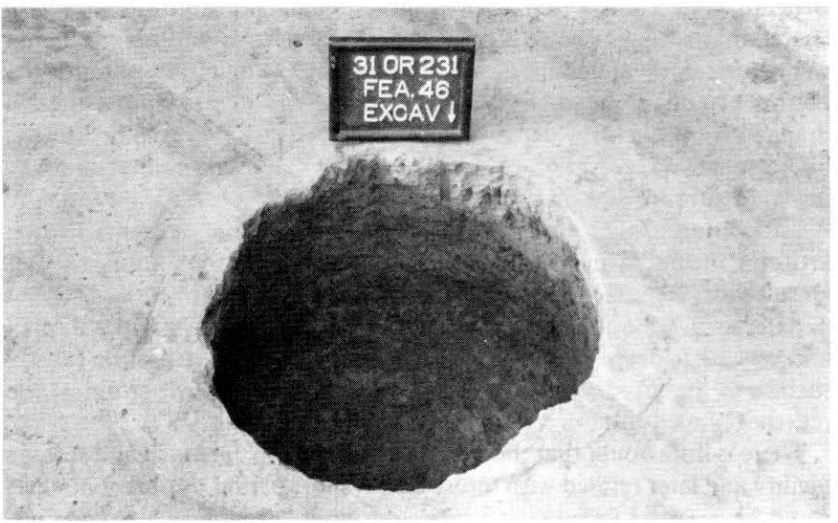


Figure 13.

Feature 46, Excavated.

Feature 51. This feature was observed in Sq. 220R110 as an almost circular stain of brown, ashy clay loam (Zone 2) that encircled an area of burned clay with a charcoal concentration (Zone 1). Excavation revealed the latter to be a thin lens only about a 0.2 ft in thickness. The Zone 2 soil maintained its consistency until near the pit bottom where increased amounts of yellow clay were encountered. The fill was rich in animal bones and contained numerous artifacts including pottery, glass beads, pipe fragments, gunflints, a bone knife handle, a few stone tools, and fire-cracked rock.

The pit bottom was slightly concave and the sides sloped inward at the bottom. It measured 2.4 ft in diameter and was 2.0 ft deep. This feature also was rapidly filled soon after it ceased to be used for storage. The ashy content of the fill, as well as the upper lens of burned orange clay, may indicate that the soil and refuse were collected as part of cleaning activities around an area of food preparation and consumption.

Feature 53. This pit, located in squares 210R20 and 210R30, appeared at the base of the plowzone as a dark stain of brown loam mottled with orange clay (Zone 1). On the surface, the central part of the fill was softer and had less clay mottling than the pit perimeter. Pockets of mottled orange clay also were noted in the upper 0.2 ft of Zone 1 which contained noticeable quantities of charcoal and animal bones.

At a depth of approximately 0.5 ft, a collar of slightly mottled orange clay was encountered (Zone 3). This fill was left intact as excavation continued on Zone 1, which terminated at a depth of approximately 1.0 ft. Beneath Zone 1 was a rich layer of more homogenous brown loam with charcoal and animal bone (Zone 2). Large potsherds and animal bones were particularly abundant at the top of Zone 2 (Figure 14). Towards the bottom of Zone 2, the soil became ashy and rapidly changed into a mottled orange clay (Zone 4) which contained few artifacts and extended to the pit bottom. The excavation of Zone 3 revealed that it was a thin band resting on a subsoil clay shelf.

In addition to the charcoal, animal bone, and pottery, several historic artifacts, including an iron axe, a pair of scissors, lead shot, gunflints, and glass beads, were recovered primarily from Zones 1 and 2.

After excavation, the oval-shaped feature measured 2.7 by 2.9 ft in plan and was 2.1 ft deep (Figure 15). The walls were vertical from the subsoil surface to the top of the clay shelf. From the shelf to the bottom of the pit, they sloped inward creating a bowl-shaped profile.

There is little doubt that the feature was originally intended as a storage facility and later refilled with refuse over a short period of time. The shelf could have served to support a cover during its use-life as a storage pit. The refuse indicates multiple dumping episodes from domestic activities associated with food preparation and consumption. The small quantity

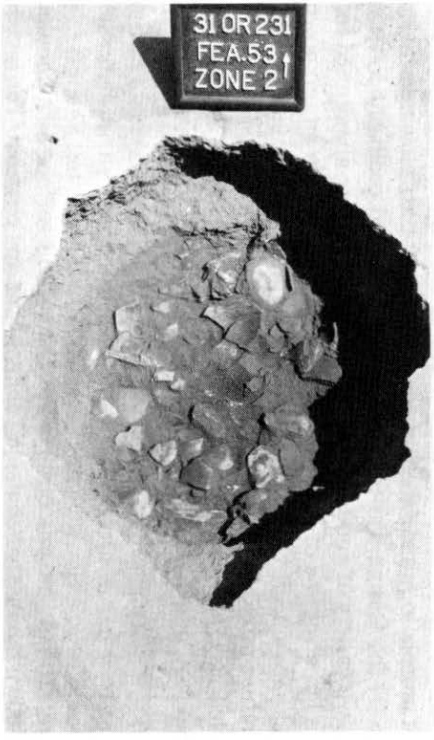


Figure 14.

Feature 53, Top of Zone 2.

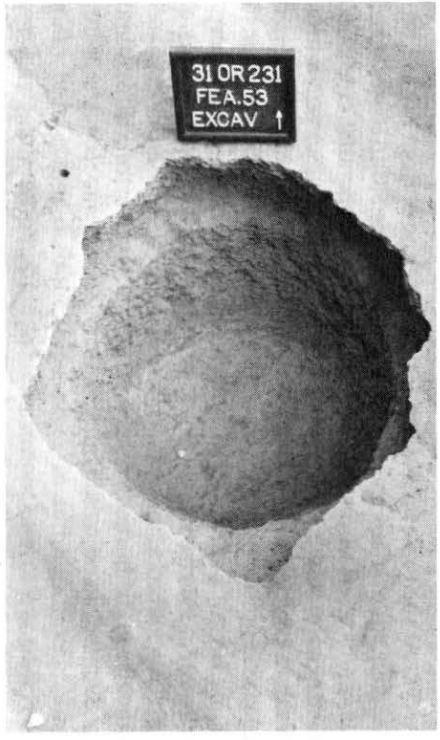


Figure 15.

Feature 53, Excavated.

of mottled clay in the upper fill zone may reflect deposits resulting from cleaning activities around a hearth area, whereas the more homogenous clay fill in the bottom of the feature may have been deposited as a consequence of soil slumping from the pit walls during its use as a storage facility.

Feature 56. At the top of the subsoil, the fill (Zone 1) from this pit was almost identical to that comprising Zone 1 of Feature 53. It consisted of a brown loam mottled with small particles of orange clay that contained numerous animal bones and fragments of charcoal. Also included within the zone were a large number of potsherds, two bone knife handles, a gun part, and glass and shell beads. The upper part of Zone 1 also contained a 0.3 ft thick lens of grey ash. This ashy layer was virtually sterile except for a few pottery sherds and a couple of fragments of burned bone.

Zone 1 changed into a brown loam that was mottled with tan ashy soil and small particles of burned red clay (Zone 2). An array of artifacts and subsistence remains comparable to that from Zone 1 was recovered from this layer.

The final fill zone, Zone 3, consisted of a mottled orange clay and was very similar to the lower zone in Feature 53. It measured 1.8 ft in thickness and comprised over half the total volume of the pit. The cultural material recovered from this zone, however, was very sparse.

The sides of the feature were generally straight, although they did slope inward slightly toward the bottom which was flat. In plan, the pit was circular with a diameter of 2.8 ft, and was the deepest feature excavated on the site, extending 3.3 ft below the surface of the plowzone (Figure 16).

The pit morphology and fill characteristics suggest the following activity sequence: 1) the feature was intially used to store and probably conceal an unknown variety of goods and resources; 2) after being abandoned for storage, a large volume of clay soil mixed with humus from an unknown source, perhaps a nearby, freshly dug pit, was dumped into the empty hole; 3) food refuse mixed with household debris and ash was deposited atop the mottled clay; and 4) a larger amount of domestic refuse and fill derived from food preparation and consumption activities were used to completely fill the pit.

Pits

Feature 45. This pit was observed at the subsoil surface as a circular stain of brown humus that contained animal bone and charcoal. The brown humus comprised the only fill zone within the pit, and it was particularly rich in animal bone and European artifacts. The latter include a bone-handled knife, gunflint, kaolin pipe fragments, an iron blade, and numerous lead shot and glass beads. The fill also contained two clusters of large fitting pottery sherds.

The pit walls were straight and the bottom flat. After excavation, it measured 2.6 ft in diameter and was 1.5 ft deep. The relatively shallow depth of the feature would seem to preclude its use as a storage facility. The homogeneity of the fill indicates that it was excavated and refilled rapidly with household refuse, perhaps representing a single dumping episode.

Feature 47. This pit was observed at the base of the plowzone as a roughly circular patch of dark brown sandy soil (Zone 1) that contained several animal bone fragments, charcoal, and pockets of ash. Toward the periphery of the feature, the soil was lighter in color and a small pocket of yellow mottled fill was located along the southern edge. Except for the bone, relatively few artifacts were contained within Zone 1. European artifacts consisted of a few glass beads and one lead shot. This upper zone was approximately 0.6 ft thick and overlay Zone 2 which was defined by mottled clay with a mixture of sand, orange clay, ash, and some darker soil similar to Zone 1. This fill also contained numerous animal bones and many more sherds than the upper zone. In addition, pockets of ash and sand were noted throughout Zone 2. European artifacts were represented by glass beads.

The walls of the pit sloped inward at the bottom, giving it a barrel-shaped profile. The bottom was flat and extended to a depth of 1.6 ft below the subsoil surface. The orifice of the feature measured 2.6 by 2.7 ft.

This feature may have originally served as a shallow storage pit or perhaps as a soil recovery facility. In either case, it was ultimately filled with household refuse, consisting primarily of animal bones. The ash, sand, and charcoal deposits indicate that hearth areas within structures were also cleaned and their contents dumped into the pit along with the other debris.

Feature 55. A circular stain of dark brown loam mottled with orange clay (Zone 1) defined this pit at the subsoil surface. The latter was more pronounced around the edge of the feature. Zone 1 also contained small flecks of charcoal and calcined bone. Cultural materials consisted primarily of a few sherds, animal bones, and glass beads. At a depth of 0.3 ft below the subsoil, the dark loam was replaced by a mottled orange clay with some brown loam (Zone 2). Very few artifacts were recovered from this fill which extended to the bottom of the feature at a depth of 0.6 ft. The bottom was flat and the pit walls were irregular but generally sloped inward at the bottom. The feature measured 2.6 ft by 2.9 ft at the surface of the subsoil.

Feature 55 apparently intruded a segment of a wall trench associated with Structure 13. Zone 1 fill was very similar to that of the wall trench. The sparsity of cultural remains in both fill zones, the similarity between the wall trench fill and Zone 1, and the mottled clay comprising Zone 2 suggest that the pit was quickly re-filled with soil that was removed during

its excavation. It is difficult to determine the original function of the feature; perhaps it, too, resulted from soil recovery operations.

Feature 57. This circular feature contained a single fill zone consisting of a mottled brown and yellow clay. Artifacts included a few pottery sherds, glass beads, and poorly preserved fragments of animal bone. These were concentrated at the top and bottom of the pit where the organic content was slightly higher.

The pit walls were straight and sloped into a flat bottom at a depth of 1.3 ft (Figure 17). The feature measured 2.4 ft by 2.3 ft across the top. It appears to have been filled rapidly with a homogenous clay subsoil mixed with a small amount of surface dirt. Although the pit may have originally served as a storage facililty, it is relatively shallow compared with similar units. Of particular interest is the homogenous and relatively sterile fill.

Feature 58. At the top of the subsoil, this feature was observed to have two distinct zones of fill contained within an irregular oval outline. Zone 1, located in the southern half, was a dark brown loam with charcoal flecks. Other than a few poorly perserved animal bone fragments, this fill was virtually sterile. Zone 2 consisted of a mottled orange clay and brown loam which was located in the northern half of the feature and beneath Zone 1. This fill also was sterile except for a few small bone fragments. After excavation, the feature measured 2.6 ft by 2.2 ft and was 0.8 ft deep. Given its irregular shape and shallow depth, it may have resulted from soil extraction activities.

Feature 59. At the subsoil surface, Feature 59 was formed by an irregularly-shaped expanse of brown loam that contained bits of fired clay, charcoal, and animal bone (Zone 1). Also found in this zone were pottery sherds and a variety of Euroamerican artifacts, including gunflints, lead shot, iron fragments, and glass and ivory beads. This lens extended to a depth of 0.6 ft and lay atop a brown ashy soil (Zone 2) that yielded numerous animal bones concentrated primarily along the sides of the pit. Zone 2 also produced several European trade items such as kaolin pipe fragments, lead shot, and glass beads. It was roughly 0.6 ft at its thickest point. Beneath Zone 2 was a layer of fired clay chunks and slabs (Zone 3) intermixed with a small amount of loamy soil. The clay fragments extended across the pit and appear to have been part of a puddled clay hearth that was broken up and placed in the pit. Most of the pieces were rough on one side and smoothed and curved on the opposite side. Beneath the fired clay layer was Zone 4, a brown loamy soil with ash, charcoal, and numerous animal bones. It also produced several sherds, lead shot, and a bone handled knife. In most respects, Zone 4 was very similar to Zone 1.

After excavation, the pit measured 3.6 ft by 2.5 ft and was 1.7 ft deep.

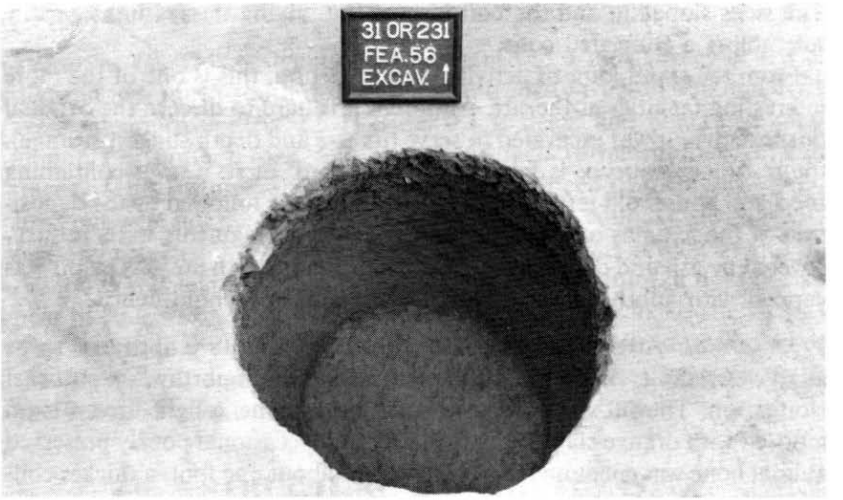


Figure 16.

Feature 56, Excavated.

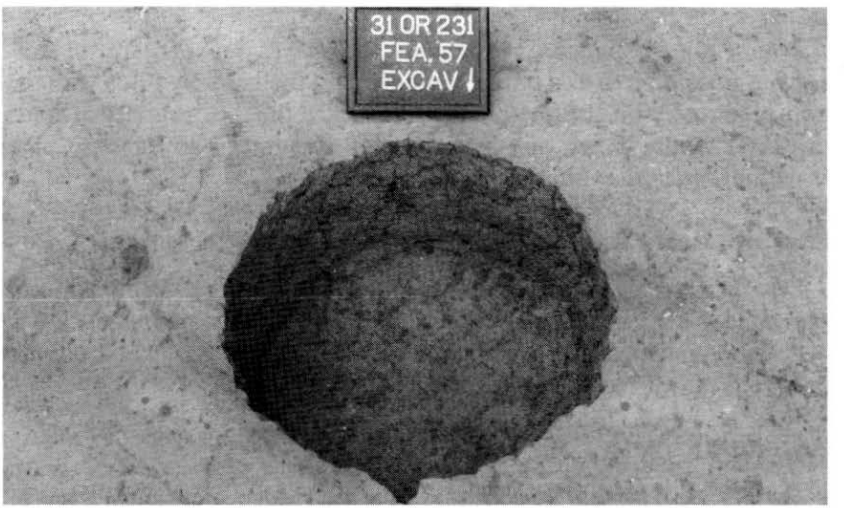


Figure 17.

Feature 57, Excavated.

The sides sloped in and the bottom was flat, giving the feature a profile resembling a truncated cone.

From the standpoint of activity reconstruction, this is one of the more interesting facilities at the site. Although it is hard to discern the original purpose the pit was excavated to serve (its size and depth suggest storage), the re-filling sequence is fairly straightforward. First, a layer containing food and household refuse was deposited; this was followed by the deposition of the remains of a clay hearth. The hearth fragments were, in turn, covered by ash and debris from cleaning around hearth areas. The pit was capped with another layer of food refuse and household debris.

Feature 61. At the surface of the subsoil, this feature appeared to be a large burial pit, circular in outline but with a slight northwest-southeast elongation. The fill was comprised of a single zone, a light brown loam mottled with orange clay. In the first 0.8 ft, an occasional poorly preserved animal bone was encountered. At a depth of about one foot, a thicker concentration of animal bone as well as other artifacts was noted. Most of the bone was deer except for three intact turtle shell carapaces. In this same general area were several beads, a kaolin pipe bowl with a split stem, three gunflints, and a large polished stone disk. A concentration of large checked-stamped ceramics was uncovered at this same depth along the eastern edge of the pit.

Unfortunately, the pit was flooded before excavation was completed, making the sides toward the bottom and the bottom difficult to define. The east wall was probably cut through, as well as a portion of the bottom near the center. After excavation, the feature measured 3.7 ft by 3.2 ft and was 2.1 ft deep.

Its function is enigmatic. Apparently, the pit was dug, perhaps for storage purposes or even as a burial container and then rapidly filled with the same excavated soil. Just before the fill reached the top, a variety of trade artifacts, animal bones, and a broken pot were tossed in. Subsequently, the filling process continued with the same soil.

Shallow Basin

Feature 52. This shallow basin was identified during 1986 but was not excavated. This feature was oval in plan dimension, approximately 2.0 ft in diameter and intruded the Structure 11 wall trench. Augering in the center indicated that it lacked any appreciable depth.

Probable Hearth

Feature 43. This feature consisted of a fire-reddened area at the top of the subsoil measuring approximately 1.5 ft by 2.0 ft in diameter. Augering of the center indicated that it was less than 0.3 ft deep.

Irregular Trench

Feature 48. This designation was assigned to a long, irregular trench that ran in a north-south direction and intruded Structures 10 and 11. It averaged approximately 2.5 ft wide, 0.3 ft deep, and contained small amounts of pottery, rock, and historic artifacts (primarily beads). Thin traces of this feature were observed at the north end of the excavation in 1985 but were not excavated. This earlier evidence, coupled with the 35-ft section excavated in 1986, indicate that the trench was at least 75 ft long. Although this feature certainly post-dates both structures, it does not appear to be associated with later Euroamerican activity in the site vicinity. This conclusion is based on the fact that no Euroamerican artifacts were found that post-date the Indian occupation of the site. The exact nature and function of this feature is unknown.

STRUCTURE DESCRIPTIONS

Before 1985, nine structures had been exposed at the Fredricks site. Four (Structures 1, 4, 5, and 6) were well-defined circular to oval wall-trench constructions. Two of these (Structures 1 and 4) probably represent non-domestic, ceremonial or special purpose buildings, whereas the other two (Structures 5 and 6) probably served as houses. Except for Structure 7, the remaining structures (Structures 2, 3, 8, and 9) were represented by somewhat vague clusters of postholes and pit features, and probably represent the remains of houses. Structure 7 consisted of a well-defined circular alignment of wall posts. No features were associated with it.

During 1986, four additional structures (Structures 10, 11, 12, and 13) were uncovered. Two were constructed using wall trenches, and two were represented by posthole clusters.

Wall-Trench Structures

Structure 10. This domestic structure was located adjacent to Structure 5 and was defined by a segment of a wall trench and several wall posts. It was oval in shape and measured roughly 18×15 ft. Feature 31, a possible burial pit, was located just inside the structure and another pit (Feature 30) was positioned immediately outside its northeast corner. Based on ceramic evidence and a radiocarbon date of A.D. 920, Feature 30 is associated with an earlier, prehistoric occupation of the site (see Davis, this report). Structure 10 was intruded by the long shallow trench (Feature 48). Feature 32, a rodent disturbance, also was located in the vicinity of the structure.

Structure 11. This house was located adjacent to and south of Structure 10. Although a wall trench comprised most of its perimeter, individual wall

posts were predominant along the southern and eastern walls. This oval structure measured approximately 20×18 ft. It was intruded by Feature 52, an unexcavated shallow basin, and the long trench feature (Feature 48) that also intruded Structure 10. Feature 56, a deep storage facility, lay west of the structure, between it and the palisade.

Wall-Post Structures

Structure 12. This ill-defined wall-post structure was located adjacent to and north of Structure 11. It was circular to slightly oval in outline and measured approximately 15 ft in diameter. Features 51, 59, and 61 were dug along the periphery of the structure. Feature 51 was a circular storage facility, and Feature 59 also probably served a similar function. Feature 61 may have been excavated in the process of soil recovery or perhaps as a burial pit.

Structure 13. This was the only structure identified along the southern edge of the site. Like Structure 12, it was somewhat vague but appeared to be represented by a circular cluster of postholes adjacent to the palisade, near the southern entrance. Two features (Feature 55 and 58) were located inside the circle of postholes. Both probably represent soil recovery facilities associated with house construction and maintenance. Northeast of the structure were five pit features, four of which were used for storage (Features 42, 44, 45, and 47) and one (Feature 49) that may have served as a burial.

A cluster of features (Features 46, 53, 54, and 57) and postholes between Structures 12 and 13 may indicate the presence of an additional structure along the palisade perimeter. However, the postholes did not define a pattern of sufficient clarity to warrant structural designation. Features 46, 53, and 57 probably represent storage facilities, whereas Feature 54 contained Burial 14.

CONCLUSIONS

Some of the most interesting results of the 1986 excavations can be found in the behavioral implications suggested by the form and structure of the various features. Storage pits continued to be the most popular type of pit facility with such features as probable burials, soil recovery units, shallow basins, and miscellaneous disturbances being less well represented (Table 2). It is not so much the fact that most of the pits were dug for storing or caching materials (cf. Petherick 1987)—although that data certainly has very obvious social implications—but rather the uses the pits were put to after they were no longer suited to their primary function that make them interesting from a behavioral standpoint.

Table 2. Summary of Pit Feature Attributes (1986).

Feature No.	Length (ft)	Width (ft)	Estimated Original Depth	Depth/Diameter	Function
31	3.1	2.2	3.0	1.1	Burial (?)
42	3.0	3.0	2.6	0.9	Storage
44	2.8	2.0	3.3	1.4	Storage
45	2.7	2.6	2.3	0.9	Storage (?)
46	2.6	2.4	2.8	1.1	Storage
47	2.7	2.6	2.4	0.9	Storage (?)
49	2.5	1.5	2.0	1.0	Burial (?)
51	2.4	2.4	2.8	1.2	Storage
53	2.9	2.7	2.9	1.0	Storage
55	2.9	2.6	0.6	0.2	Soil Recovery
56	2.9	2.8	4.1	1.4	Storage
57	2.4	2.3	2.1	0.9	Storage (?)
58	2.6	2.2	0.8	0.3	Soil Recovery
59	3.6	2.5	2.5	0.8	Storage (?)
61	3.7	3.2	2.1	0.6	Burial (?)

After being emptied of their stored or cached contents, all the pits were rapidly filled. Most contain fill zones rich in domestic refuse including broken pottery, animal bone, charred plant remains, and a variety of European artifacts. These deposits seem to have resulted from cleaning activities within or around structures. In many cases hearths themselves, as well as surrounding areas, appear to have been swept and the refuse dumped in the various storage pits associated with individual structures. Of particular importance is the fact that this cleaning and dumping activity apparently occurred over a very short time span. Most of the features contain fill zones that are almost identical in texture, color, and content. No attempt, as yet, has been made to establish contemporaneity between feature fill zones; however, two fitting pieces of a broken quartz crystal were found in Features 51 and 53.

The nature of the refuse deposition in the storage pits appears to represent a behavioral phenomenon closely related to the ritual feasting suggested earlier by the fill characteristics of the cemetery burials (Ward 1987). In both cases, the behavior is episodic and seems to be precipitated by ceremonial occasions. Death provided the occasion for ritual feasting and associated cleaning activities which resulted in burial pits being capped with rich deposits of refuse. The village-wide behavior refected in the storage pit deposits may be related to the same or a similar ceremonial event.

The well-known Busk celebration found among most Southeastern Indians naturally comes to mind as a logical behavioral expression that could form patterns in the archaeological record similar to those identified in the depositional matrix of the Fredricks site storage facilities.

CHAPTER 3

POTTERY

by

R. P. Stephen Davis, Jr.

INTRODUCTION

Native pottery comprises one of the most abundant and ubiquitous classes of artifacts recovered at the Fredricks site. The purpose of this chapter is to describe the pottery assemblage that was recovered from archaeological features during the four years of excavation at the site and to make some observations about what the collection may mean in terms of intrasite ethnic composition. The majority of potsherds, including those recovered from pits and burials that also contained Euroamerican trade items, are thought to represent the material remains of an Occaneechi pottery-making tradition. Some pottery, however, is either associated with an earlier Late Woodland occupation at the site or represents contemporary vessels that fall outside the range of variability expected for Occaneechi pottery. These latter artifacts may reflect ethnic diversity among potters within the Occaneechi village.

Pottery samples recovered during the four excavation seasons at the Fredricks site are summarized in Table 3.

Table 3. Summary of Pottery Recovered from the Fredricks Site.

Excav. Season	Features/ Burials	Structures	Plowzone	Total n	Total %
1983	725	0	2059	2784	4.43
1984	1077	28	7345	8450	13.47
1985	2620	62	20926	23608	37.62
1986	3365	0	24545	27910	44.48
Total	7787	90	54875	62752	100.00

ANALYTIC METHODS

As with an earlier study of the Fredricks site pottery recovered during the 1983–84 field seasons (Davis 1987), this study employed a computer-assisted analysis format that permitted the recording of multiple attributes related to context, morphology, technology, style, and size. These attributes and associated attribute states are defined elsewhere (see Davis 1987).

Analysis was directed primarily toward defining the assemblage of ceramic vessels that was in use during the historic aboriginal occupation of the site. Following a careful examination of individual attributes and attribute associations, and incorporating the results of the detailed attribute analysis of sherd collections from the first two excavation seasons, eight separate ceramic categories were defined. These categories, including two new types and one existing type, are explicitly described and form the basic framework for interpreting patterns within the Fredricks site pottery. These derived patterns are then used to construct a hypothetical vessel assemblage model.

POTTERY DESCRIPTIONS

A total of 7869 potsherds and eight whole vessels that occurred as grave offerings were recovered from undisturbed sub-plowzone contexts at the Fredricks site (Table 4). An additional 54,875 potsherds were recovered from disturbed plowed soil. The descriptions that follow are limited to those artifacts that were recovered from pit features and burials which possess contextual integrity. Of these, 3864 sherds (49.6%) were indeterminate. Sherds from other contexts, such as structure wall trenches (analyzed) and plowzone (partially analyzed), have been excluded.

Two new ceramic types—Fredricks Plain and Fredricks Check Stamped—are formally defined. These types comprise 78% of all identifiable pottery recovered from features and burials and thus are the predominant types associated with the Occaneechi occupation of the site. Another previously defined type—Dan River Net Impressed—is associated with an earlier site occupation represented by Feature 30 and radiocarbon dated to A.D. 920±60 (Beta-20378) (uncorrected). Other ceramic artifact categories at the site are defined primarily by exterior surface treatment and include (in descending order of frequency): Simple Stamped, Brushed, Cord Marked, Cob Impressed, and Complicated Stamped.

Most information about vessel morphology and function is based upon 35 whole vessels and reconstructed vessel sections. Data specific to these artifacts are presented in Table 5.

Fredricks Plain (Figure 18)

Sample Size: N=1202 (including 2 Whole Vessels and 5 Vessel Sections).

Distribution: 1198—Occaneechi Features, 4—Feature 30.

Paste:

Method of Manufacture: The presence of thickened basal sherds and other sherds displaying coil seam fractures indicate that most vessels were constructed by applying thin annular strips of clay to a basal plate.

Table 4. Distribution of Pottery from Features, Burials, and Structures.

Context	Fredricks Series Plain	Fredricks Series Check Stamped	Fredricks Series Simple Stamped	Fredricks Series Cord Marked	Dan River Net Impressed	Dan River Brushed	Dan River Cob Impressed	Dan River Complicated Stamped	Indet.
Fea. 1	12	15	3	—	3	—	—	—	40
Fea. 2/Bur. 4	20	29	3	3	5	2	—	—	78
Fea. 3/Bur. 5	7	32	3	2	5	4	—	—	86
Fea. 4/Bur. 6	9	10	2	1	2	2	1	—	88
Fea. 5/Bur. 7	—	2	—	—	3	—	—	—	8
Fea. 6/Bur. 8	37	15	3	—	5	5	—	—	80
Fea. 7/Bur. 9	10	21	4	—	13	1	3	—	99
Fea. 8	7	2	—	—	2	—	—	—	13
Fea. 9	19	10	1	1	20	6	—	—	57
Fea. 10	9	9	—	—	5	10	—	—	22
Fea. 12	18	7	—	—	3	—	—	—	34
Fea. 13	17	23	2	—	4	1	—	—	72
Fea. 14/Bur. 11	43	27	5	9	13	1	1	—	161
Fea. 15	—	—	—	—	—	—	—	—	3
Fea. 16	1	—	—	—	—	—	—	—	1
Fea. 17	18	32	1	—	5	5	—	—	45
Fea. 18	28	138	43	—	—	—	—	—	88
Fea. 19	47	73	1	—	14	30	—	—	164
Fea. 20	13	43	3	—	3	1	—	—	79
Fea. 21	—	—	—	—	—	—	—	—	3
Fea. 22	1	—	—	—	—	—	—	—	—
Fea. 23	7	1	5	—	8	21	—	—	35

Table 4 Continued.

Context	Fredricks Series Plain	Fredricks Series Check Stamped	Simple Stamped	Cord Marked	Dan River Net Impressed	Brushed	Cob Impressed	Complicated Stamped	Indet.
Fea. 24	1	—	—	—	—	—	—	—	4
Fea. 26/Bur. 13	4	11	2	4	9	—	—	—	28
Fea. 27/Bur. 10	38	65	7	6	12	4	—	—	206
Fea. 28	34	43	6	4	49	4	1	—	146
Fea. 29	43	126	12	3	40	8	1	—	183
Fea. 30	4	—	—	—	71	5	1	—	69
Fea. 31	4	6	3	—	3	—	—	—	12
Fea. 33	18	4	2	1	6	2	—	—	65
Fea. 38	1	—	—	—	2	—	—	—	4
Fea. 39	1	—	—	4	3	1	—	—	4
Fea. 41	175	94	64	—	10	2	2	10	245
Fea. 42	8	9	—	1	1	—	—	4	62
Fea. 44	83	35	9	—	2	3	5	—	120
Fea. 45	9	74	1	1	9	2	—	—	24
Fea. 46	7	5	—	—	3	—	—	—	28
Fea. 47	33	84	—	—	5	1	—	—	73
Fea. 48	23	48	8	1	15	2	—	—	294
Fea. 49	—	3	—	—	—	—	—	—	6
Fea. 50/Bur. 12	1	1	1	—	—	—	—	—	3
Fea. 51	23	30	4	8	5	—	—	—	77
Fea. 53	130	479	2	31	2	—	—	—	208
Fea. 54/Bur. 14	4	4	—	—	—	—	—	—	14
Fea. 55	1	—	1	2	—	—	—	—	15

Table 4 Continued.

Context	Fredricks Series Plain	Fredricks Series Check Stamped	Simple Stamped	Cord Marked	Dan River Net Impressed	Brushed	Cob Impressed	Complicated Stamped	Indet.
Fea. 56	58	88	2	—	1	5	—	—	188
Fea. 57	11	1	—	—	2	—	—	—	—
Fea. 58	2	2	—	—	1	—	—	—	2
Fea. 59	31	50	1	—	5	4	—	1	86
Fea. 61	4	12	2	—	—	—	—	—	37
Fea. Misc.	1	3	—	—	—	—	—	—	16
Bur. 1	36	25	3	—	4	1	—	—	121
Bur. 2	10	9	—	—	3	—	—	—	18
Bur. 3	81	64	4	1	21	1	—	—	250
Str. 1	—	1	3	—	7	1	—	—	16
Str. 5	11	8	6	—	5	2	—	—	29
Str. Misc.	—	1	—	—	—	—	—	—	—
Total	1213	1874	222	83	409	137	15	15	3909

Table 5. Whole Vessels and Reconstructed Vessel Sections from the Fredricks Site.

Vessel Number	Temper Type	Exterior Surface	Interior Surface	Decoration/Modification	Vessel Type	Rim Profile	Lip Form
1	Fine Quartz	Net Impressed	Scraped	Incising (Neck)	Jar	Everted	Rounded
2	Fine Sand	Check Stamped	Plain	None	Jar	Everted	Flat
3	Fine Sand	Check Stamped	Plain	None	Jar	Everted	Flat
4	Fine Sand	Check Stamped	Plain	None	Jar	Everted	Flat
5	Fine Sand	Plain Smoothed	Plain	None	Bowl	Inverted	Pointed
6	Fine Sand	Check Stamped	Plain	None	Jar	Everted	Flat
7	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Rounded
8	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Rounded
9	Fine Sand	Cord Marked	Plain	None	Bowl	Inverted	Rounded
10	Fine Sand	Rough Smoothed	Plain	None	Jar	Everted	Flat
11	Medium Quartz	Simple Stamped	Plain	V-Shaped Notches (Lip)	Jar	Everted	Flat
12	Medium Quartz	Check Stamped	Plain	None	Jar	Everted	Flat
13	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Flat
14	Fine Sand	Check Stamped	Plain	None	Jar	Everted	Flat
15	Fine Sand	Plain Smoothed	Plain	None	Bowl	Straight	Rounded
16	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Flat
17	Fine Sand	Net Impressed	Scraped	None	Jar	Everted	Rounded
18	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Flat
19	Qtz. & Feldspar	Plain Smoothed	Plain	None	Jar	Everted	Flat
20	Fine Sand	Plain Smoothed	Plain	Drill Hole(s) on Body	Jar	Everted	Flat
21	Fine Sand	Check Stamped	Plain	Indeterminate	—	—	—
22	Fine Sand	Rough Smoothed	Plain	Indeterminate	—	—	—
23	Fine Sand	Rough Smoothed	Plain	Indeterminate	—	—	—

Table 5 Continued.

Vessel Number	Temper Type	Exterior Surface	Interior Surface	Decoration/Modification	Vessel Type	Rim Profile	Lip Form
24	Fine Sand	Check Stamped	Plain	Drill Hole(s) on Neck	Jar	Everted	Flat
25	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Flat
26	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Flat
27	Fine Feldspar	Cord Marked	Plain	None	—	—	—
28	Fine Sand	Cord Marked	Plain	Drill Hole(s) on Neck	Jar	Everted	Flat
29	Fine Sand	Plain Smoothed	Plain	None	Jar	Everted	Rounded
30	Fine Sand	Plain Smoothed	Plain	None	Jar	Everted	Rounded
31	Fine Sand	Check Stamped	Plain	Drill Hole(s) on Neck	Jar	Everted	Flat
32	Fine Sand	Check Stamped	Plain	None	Jar	Everted	Flat
33	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Flat
34	Fine Sand	Simple Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Rounded
35	Fine Sand	Check Stamped	Plain	Oblique Incisions (Lip)	Jar	Everted	Flat

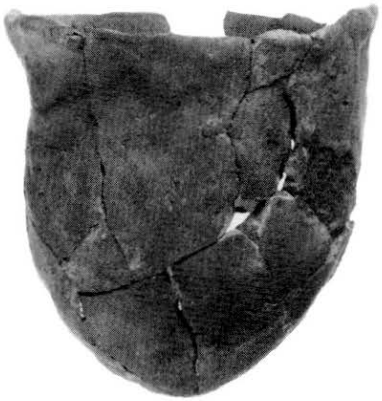
Table 5 Continued.

Vessel Number	Base	Orifice Percent	Orifice Diameter	Neck Dia.	Shoulder Dia.	Height	Wall Thickness	Location
1	—	15%	16 cm	16 cm	—	—	8-10 mm	Feature 8, Cleaning Top
2	—	6%	28 cm	—	—	—	4-6 mm	Burial 1, Zone 1
3	—	12%	16 cm	13 cm	15 cm	—	2-4 mm	Burial 2, Zone 1
4	—	6%	34 cm	—	—	—	4-6 mm	Burial 3, Zone 1
5	—	9%	10 cm	—	—	—	6-8 mm	Burial 3, Zone 1
6	Rounded	100%	14 cm	11 cm	12 cm	12 cm	4-6 mm	Burial 2, Association
7	Pointed	100%	17 cm	14 cm	16 cm	18 cm	4-6 mm	Burial 6, Association
8	Rounded	100%	14 cm	11 cm	12 cm	12 cm	4-6 mm	Burial 8, Association
9	Rounded	100%	19 cm	—	—	10 cm	>10 mm	Burial 11, Association
10	—	35%	12 cm	11 cm	11 cm	—	4-6 mm	Feature 17, Zone 1
11	—	100%	27 cm	27 cm	31 cm	—	8-10 mm	Feature 18, Zone 1
12	—	100%	32 cm	29 cm	30 cm	—	6-8 mm	Feature 18, Zone 1
13	—	26%	30 cm	27 cm	28 cm	—	4-6 mm	Feature 20, Zone 2
14	Rounded	100%	12 cm	10 cm	10 cm	11 cm	4-6 mm	Burial 10, Association
15	Rounded	100%	9 cm	—	—	7 cm	4-6 mm	Burial 10, Association
16	Rounded	100%	16 cm	14 cm	15 cm	18 cm	4-6 mm	Burial 10, Association
17	—	10%	22 cm	21 cm	22 cm	—	8-10 mm	Feature 30, Zone 1
18	—	26%	18 cm	18 cm	19 cm	—	6-8 mm	Feature 33, Zone 3
19	—	26%	18 cm	18 cm	19 cm	—	6-8 mm	Feature 41, Zone 3
20	—	51%	30 cm	27 cm	30 cm	—	6-8 mm	Feature 41, Zone 3
21	—	—	—	—	—	—	4-6 mm	Feature 44, Zone 2
22	—	—	—	—	—	—	6-8 mm	Feature 44, Zone 4
23	—	—	—	—	—	—	4-6 mm	Feature 44, Zone 2

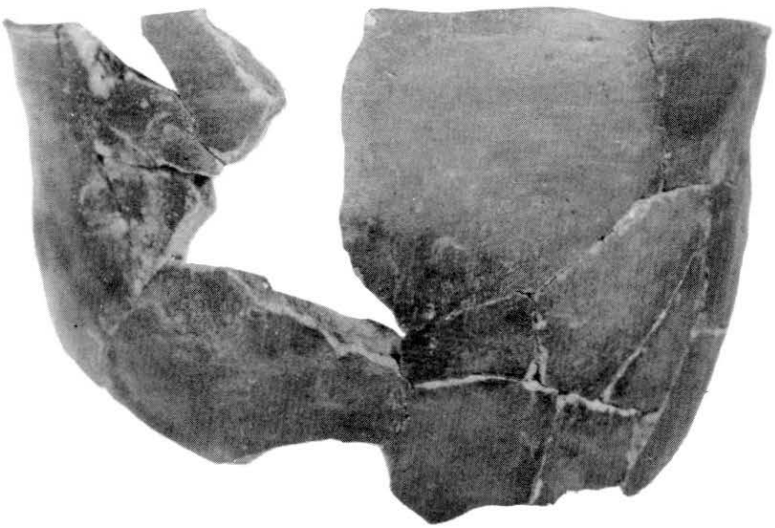
Table 5 Continued.

Vessel Number	Base	Orifice Percent	Orifice Diameter	Neck Dia.	Shoulder Dia.	Height	Wall Thickness	Location
24	—	16%	20 cm	16 cm	—	—	2-4 mm	Feature 45, Zone 1
25	Rounded	18%	25 cm	22 cm	25 cm	36 cm	4-6 mm	Feature 45, Zone 1
26	—	30%	30 cm	25 cm	28 cm	—	4-6 mm	Feature 47, Zone 2
27	—	—	—	—	18 cm	—	2-4 mm	Feature 51, Zone 1
28	—	50%	26 cm	24 cm	23 cm	22 cm	6-8 mm	Feature 53, Zone 1
29	Rounded	100%	11 cm	9 cm	10 cm	11 cm	6-8 mm	Feature 53, Zone 2
30	—	45%	23 cm	21 cm	21 cm	21 cm	6-8 mm	Feature 53, Zone 1
31	—	75%	32 cm	30 cm	31 cm	35 cm	2-4 mm	Feature 53, Zone 2
32	—	100%	34 cm	31 cm	33 cm	35 cm	4-6 mm	Feature 53, Zone 2
33	—	15%	26 cm	22 cm	22 cm	—	4-6 mm	Feature 61, Zone 1
34	—	17%	14 cm	12 cm	12 cm	—	6-8 mm	Feature 20, Zone 2
35	—	10%	30 cm	27 cm	—	—	4-6 mm	Feature 20, Zone 2

Vessel 15



Vessel 29



Vessel 30

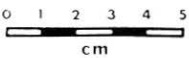


Figure 18.

Fredricks Plain Vessels.

In addition, a small number of hand-modeled sherds and two small hand-modeled vessels also were recovered.

Temper: Sherds are tempered predominantly with fine sand (84.0%). Other tempering materials that were incorporated into the potters' paste include coarse crushed feldspar (2.0%), fine crushed feldspar (6.0%), crushed quartz (4.0%), and mixed feldspar and crushed quartz (4.0%).

Texture: Texture is generally even and compact. Temper particles comprise 10% to 30% of the paste.

Hardness: 2.5–3.5.

Color: Exterior surface color ranges from black (7.5YR 2/0) to very pale brown (10YR 8/4) to pink (7.5YR 8/2). Most sherds have generally light exteriors and black firing clouds are common. Interior surfaces also exhibit the same range of colors.

Surface Finish (Exterior): The exterior surface has been smoothed, obliterating evidence of previous stamping. Although the majority of sherds in the Occaneechi feature sample are uniformly smoothed, about one third (n=400) have exteriors that were only roughly smoothed. Conversely, three of the four sherds from Feature 30 have roughly smoothed exteriors.

Surface Finish (Interior): Over 98.0% of the sherds in the Occaneechi feature sample have smoothed interiors, whereas three of the four plain sherds from Feature 30 were scraped on the interior surface. None of the vessels and vessel sections exhibit any evidence of smudging or sooting.

Decoration: Decoration of plain vessels was rare, being represented by only 17 sherds. Modes of decoration include: oblique incisions along the vessel lip (30.8%), V-shaped notches along the lip (23.1%), incised V's along the vessel neck (7.7%), and V-shaped notches along the lip/rim edge (3.9%). In addition, one neck sherd and eight body sherds have drill holes indicative of attempts to mend cracked vessels and thus to extend their use life.

Form: (Figure 19)

Rim: Of the 131 rim sherds recovered, 106 are of sufficient size to determine parent vessel rim morphology. The majority represent jars with either simple everted (81.1%), everted and folded (2.8%), or straight (9.4%) rims. Only a few sherds were recovered which represent bowls with simple inverted (5.7%) or carinated (0.9%) rims.

Lip: Most lip profiles are either straight-sided and rounded (48.9%) or straight-sided and flat (39.7%). The remainder are thickened and flat (4.6%), thickened and rounded (2.3%), and pointed (4.6%).

Body: Of the seven reconstructed vessels and vessel sections recovered, five are restricted sub-conoidal to globular jars and two are unrestricted jars.

Base: Slightly pointed to rounded.

Thickness: 2–4 mm (6.4%), 4–6 mm (28.9%), 6–8 mm (51.6%), 8–10 mm (9.9%), >10 mm (2.0%), Indeterminate (1.3%).

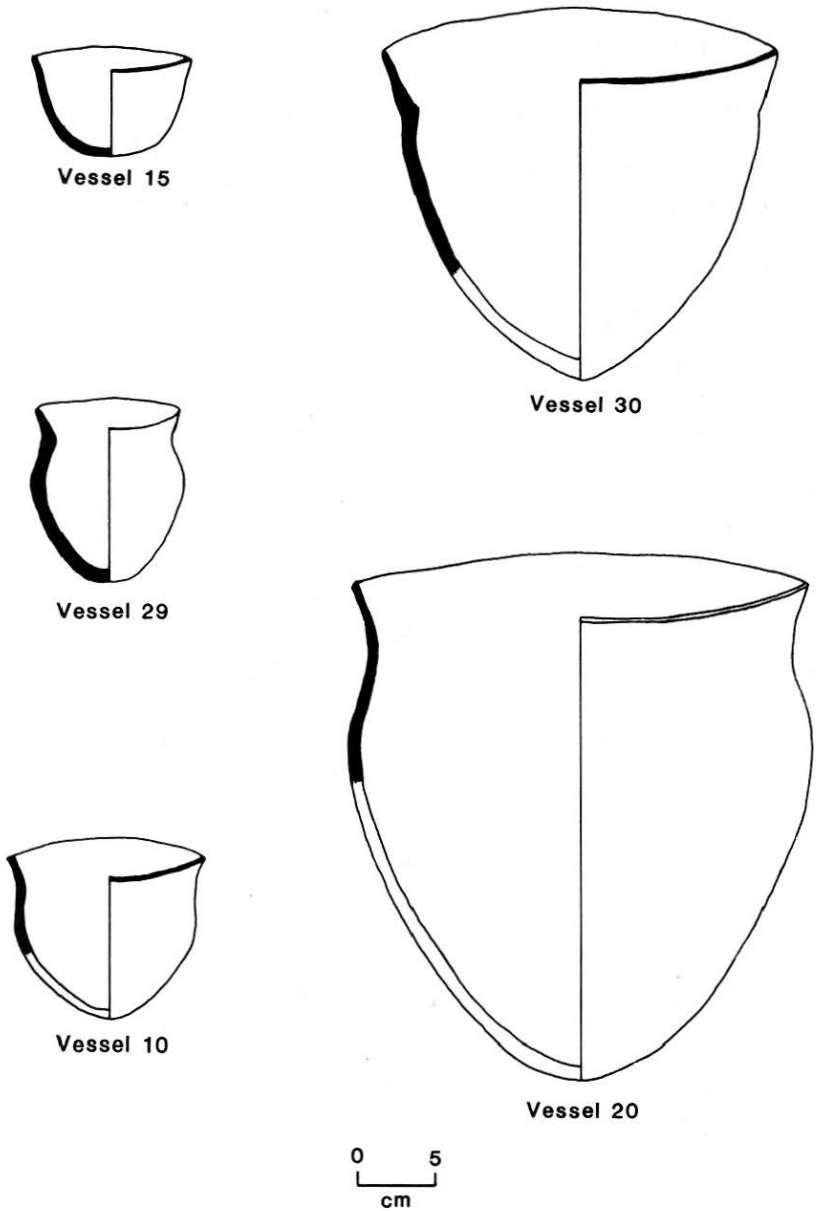


Figure 19.

Fredricks Plain Vessel Profiles.

Size: Both unrestricted bowls (Vessels 5 and 15) are small, measuring only 9–10 cm in orifice diameter and 7 cm (n=1) in height. Of the five restricted jars, both hand-modeled vessels (Vessels 10 and 29) also are small, measuring 11–12 cm in diameter and 11 cm (n=1) in height, while the three coiled vessels (Vessels 19, 20, and 30) are substantially larger and measure 18–30 cm in orifice diameter by 20–30 cm in height (estimated). Based on overall physical condition, these latter vessels apparently were used for storage rather than as cooking pots.

Comments: Fredricks Plain comprises a major constituent of the pottery assemblage manufactured and used by the Occaneechi at the Fredricks site. This type represents a variety of different forms that probably were functionally distinct, including small jars, large storage jars, and shallow bowls. This latter form apparently was only rarely manufactured. Because of a general lack of carbonized remains or sooting on the sherd and vessel surfaces, it is likely that these vessels normally were not used for cooking. Vessel 30, because of its similarity in form to a cord marked vessel found in association with it and and dissimilarity to other Fredricks Plain vessels, may represent a different pottery-making tradition.

As with Fredricks Check Stamped, the other dominant type present within the Fredricks ceramic assemblage, Fredricks Plain sherds have not been recognized within sherd collections from other late period sites within the region. Consequently, it is not yet possible to map its spatial distribution beyond the Hillsborough locality. General similarities can be seen in pottery of the Oldtown series, recovered from the historic Upper Saratown site (31Sk1a) and described by Wilson (1983); however, there also are important differences associated with overall morphology and modes of decoration. Hillsboro Plain pottery, associated with the earlier protohistoric occupation of the Hillsborough locality, also is distinctively different with respect to morphology and decoration.

Fredricks Check Stamped (Figures 20–21)

Sample Size: N=1864 (including 5 Whole Vessels and 19 Vessel Sections).

Distribution: 1864—Occaneechi Features, 0—Feature 30.

Paste:

Method of Manufacture: Vessels were constructed by applying thin annular strips of clay to a basal plate. Welding of adjoining coils apparently was not always successful as most large vessel sections represent the upper rim and neck portion of vessels whose bottoms had separated along coil seams just below the shoulder. Despite these failures, Fredricks Check Stamped vessels appear to have been exceptionally well made. Unlike Fredricks Plain, no examples of hand-modeled check stamped vessels are present in the ceramic sample.

Temper: As with Fredricks Plain, sherds are tempered predominantly

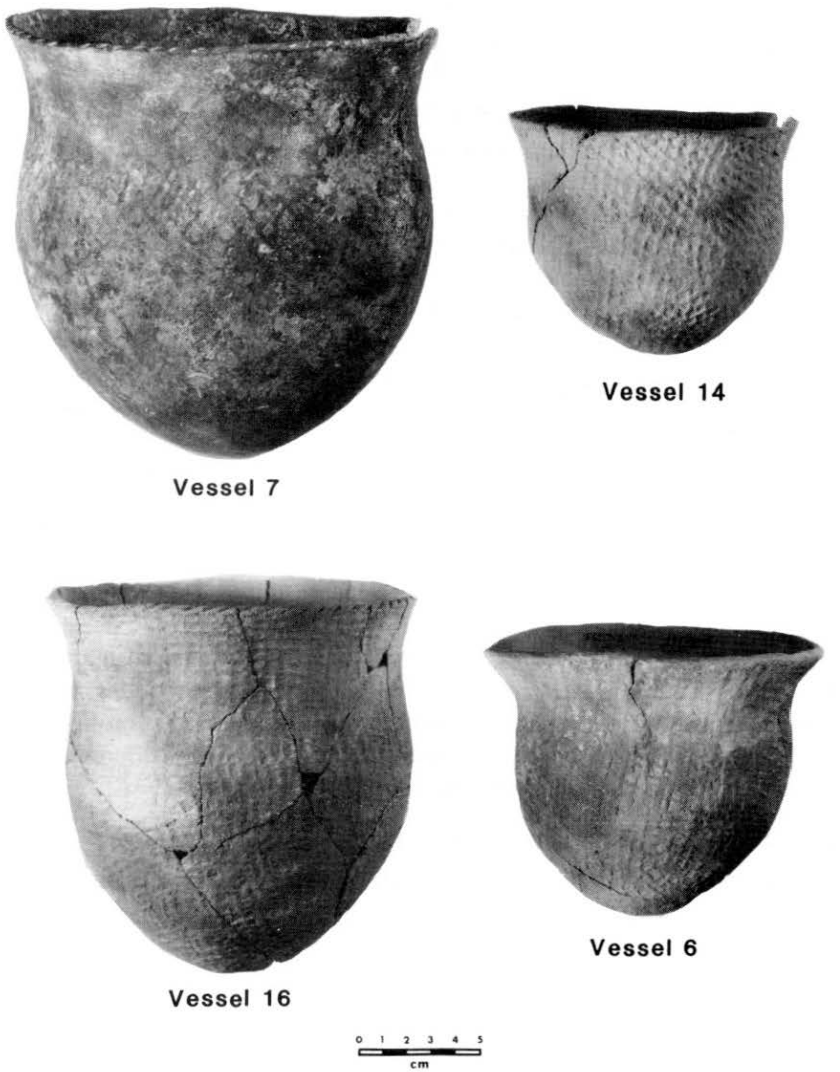


Figure 20.

Small Fredricks Check Stamped Vessels.

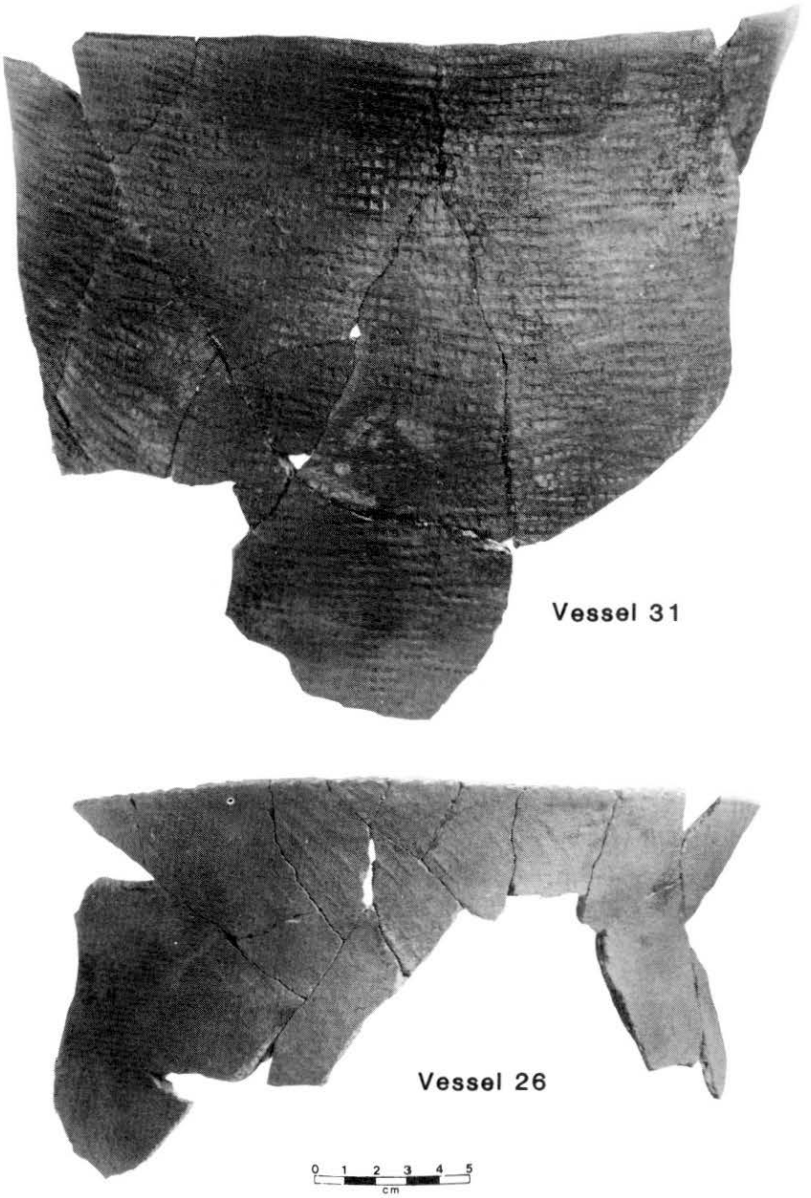


Figure 21.

Large Fredricks Check Stamped Vessels.

with fine sand (91.9%). Other temper types include medium-to-fine crushed quartz (7.3%) and crushed feldspar (0.8%). Almost all crushed quartz tempered sherds are from a single vessel (Vessel 12).

Texture: Even and compact. Temper comprises 20% to 30% of the paste.

Hardness: 2.5–3.5.

Color: Exterior surfaces range from black (7.5YR 2/0) to very pale brown (10YR 8/4) to pink (7.5YR 8/2). In contrast to Fredricks Plain, Fredricks Check Stamped sherds and vessels tend to have darker surfaces. Most interior surfaces are smudged and range in color from very dark gray (7.5YR 3/0) to black (7.5YR 2/0).

Surface Finish (Exterior): The exterior surface has been stamped with a carved paddle possessing a square to diamond-shaped grid pattern comprised of parallel grooves cut perpendicular or nearly perpendicular to one another. Lands usually are 1–2 mm wide and rarely are more than 3–5 mm apart. Stamp impressions are typically faint, shallow, and hard to discern, suggesting either the use of worn paddles or, more likely, final stamping once the exterior surface had partially dried. Given this characteristic, it seems likely that several of the sherds classified as Fredricks Plain represent sherds from poorly-stamped Fredricks Check Stamped vessels. A single reconstructed vessel section (Vessel 12 from Feature 18) does not conform to this pattern; instead, it has large checks (lands 3–4 mm wide and spaced 8–9 mm apart) that are boldly applied. Interestingly, this vessel is tempered with medium crushed quartz rather than fine sand and occurred in association with a broken simple stamped vessel (Vessel 11) with the same tempering material.

Surface Finish (Interior): Of the 1860 sherds that can be classified according to interior surface finish, all but two (99.9%) are smoothed. All of the small vessel and vessel section interiors are smudged and contain deposits of soot and carbonized organic material (unidentified). Most large vessel sections also possess similar characteristics.

Decoration: Decoration of Fredricks Check Stamped vessels consists solely of oblique incisions or linear impressions along the lip and occurs on 33.7% of the 187 rim sherds examined. As with Fredricks Plain, drilled sherds are relatively common (n=23) and indicate attempts to repair cracked vessels.

Form: (Figures 22–23)

Rim: Of the 187 rim sherds in the sample, 70.0% are everted, 9.1% are straight, 2.1% are inverted, and 18.8% are indeterminate.

Lip: Lip profiles are predominantly straight-sided and flat (73.3%) but occasionally are either thickened and flat (16.6%) or straight-sided and rounded (10.1%).

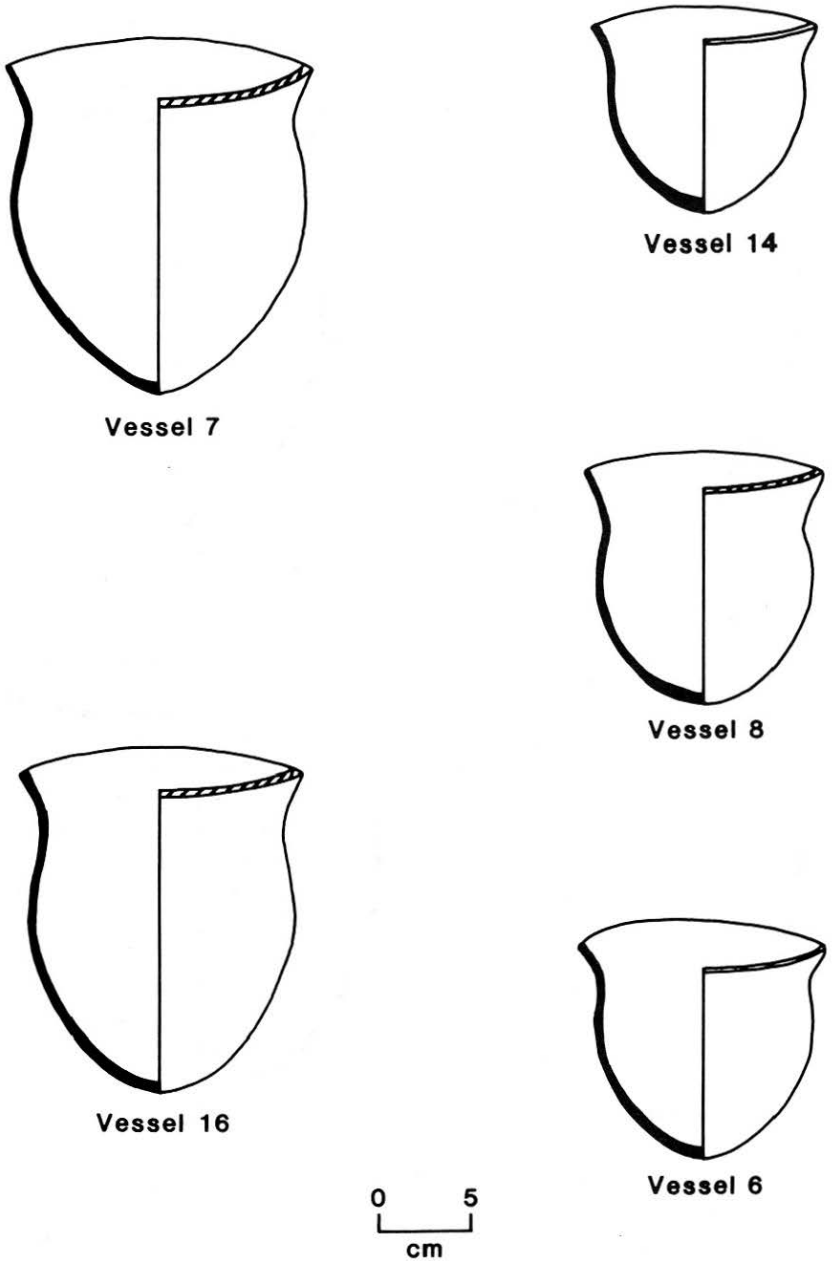


Figure 22.

Fredricks Check Stamped Vessel Profiles.

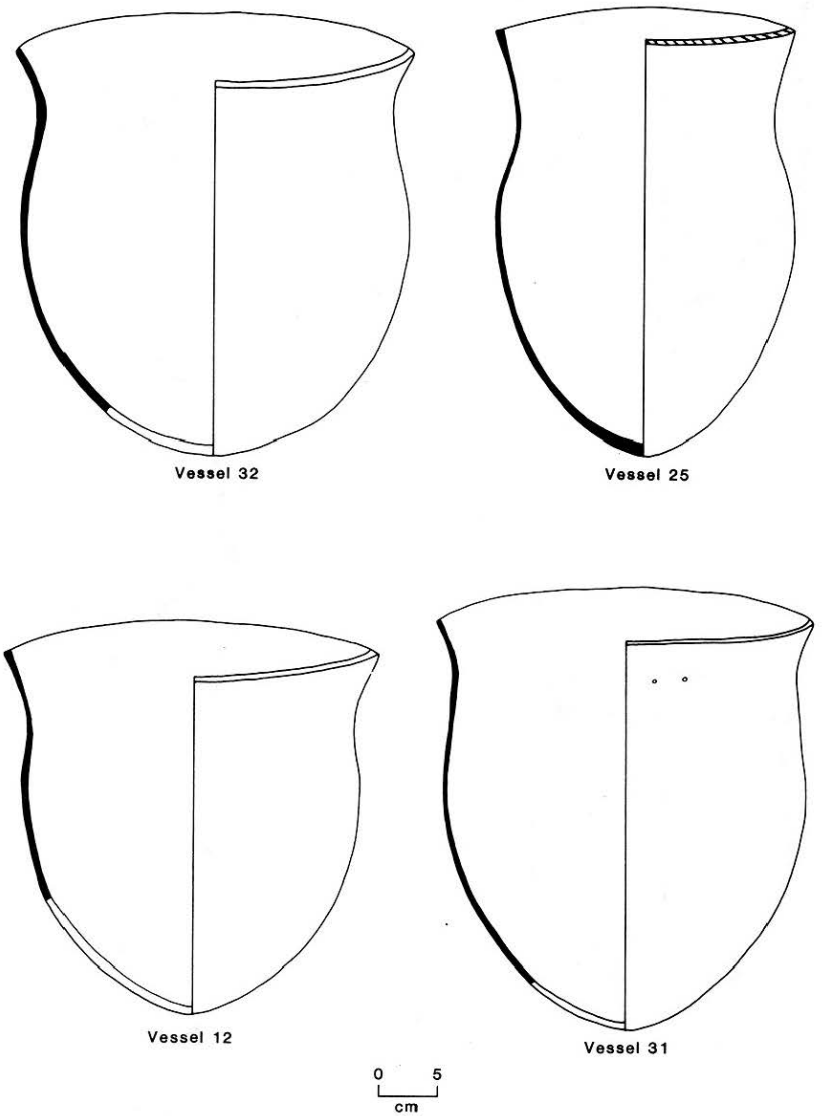


Figure 23.

Fredricks Check Stamped Vessel Profiles.

Body: All 24 whole vessels and vessel sections represent restricted jars.
Base: Slightly pointed to rounded.
Thickness: 2–4 mm (28.9%), 4–6 mm (44.2%), 6–8 mm (22.4%), 8–10 mm (1.7%), >10 mm (0.2%), Indeterminate (2.6%). These data indicate that Fredricks Check Stamped vessel walls are significantly thinner than those of Fredricks Plain vessels.
Size: In addition to the five whole pots that were recovered, thirteen vessel sections are sufficiently complete to allow determinations of overall vessel size. These specimens suggest the presence of two major size categories. Small jars, represented by three vessel sections (Vessels 3, 18, and 24) and all five whole vessels (Vessels 6, 7, 8, 14, and 16), range from 12–20 cm in orifice diameter (mean=15.9, s.d.=2.37, n=8) and from 11–18 cm in height (mean=14.2, s.d.=3.12, n=5). Large jars, represented by 10 vessel sections (Vessels 2, 4, 12, 13, 25, 26, 31, 32, 33, and 35), range from 25–34 cm in orifice diameter (mean=30.1, s.d.=2.91, n=10) and from 31–36 cm in height (mean=34.3, s.d.=1.92, n=4).

Comments: Fredricks Check Stamped was the major ceramic type recovered from Historic period features at the Fredricks site and, together with Fredricks Plain, comprise over 90% of all sherds recovered from feature contexts. Although strict functional studies of vessels representing these two types has not been undertaken, observations made during the analysis regarding vessel form and condition indicate that Fredricks Plain and Fredricks Check Stamped may be functional complements of one another. Differences in overall vessel size, morphological variability, and vessel wall thickness, together with a prevalence of sooting and caked residues on the interiors of check stamped vessels and corresponding absence on plain vessel interiors, suggest that Fredricks Check Stamped jars probably functioned primarily as cooking vessels and secondarily as storage jars while Fredricks Plain vessels probably were used more for storage and perhaps culinary activities. Moreover, these two types seem to represent the primary assemblage of pottery vessels that were manufactured by the Occaneechi inhabitants of the Fredricks site. Other types, excluding Dan River Net Impressed which is argued to be contamination from an earlier occupation (see below), may represent vessels that were either made elsewhere or made on the site by non-Occaneechi potters.

The predominance of check stamping in the ceramic assemblage is somewhat problematic in that few other late sites within the region contain more than minor amounts of check stamped sherds and none are reported from surveys and test excavations along the upper Roanoke River, the supposed homeland of the Occaneechi (see Miller 1962). If Fredricks Check Stamped is derived from Hillsboro Check Stamped, which comprises about 14% of the ceramic assemblage from the earlier nearby Wall site (Davis 1987),

then reconstructions of cultural developments within the Eno drainage may be more complex than previously thought. In any event, Hillsboro Check Stamped represents the sole precedent for check stamping within the northern North Carolina Piedmont.

Simple Stamped Sherds (Figure 24)

Sample Size: N=213 (including 2 Vessel Sections).

Distribution: 213—Occaneechi Features, 0—Feature 30.

Paste:

Method of Manufacture: Same as Fredricks Check Stamped. No examples of hand-modeled vessels were observed.

Temper: A majority of the simple stamped sherds are tempered with fine sand (62.4%). Other tempers include medium-to-fine crushed quartz (25.4%) and fine crushed feldspar (12.2%). Most of the crushed quartz tempered sherds are from a single vessel (Vessel 11).

Texture: Even and moderately compact. Temper comprises about 10% to 25% of the paste.

Hardness: 2.5–3.5.

Color: Exterior surface color ranges from black (7.5YR 2/0) to very pale brown (10YR 8/4) to pink (7.5YR 8/2). Most sherds have generally light exteriors and black firing clouds are common. Interior surfaces also display the same range of colors.

Surface Finish (Exterior): The exterior surface has been stamped with a carved wooden paddle containing a pattern of parallel lands and grooves. A majority of the sherds, including those from the two reconstructed vessel sections, display shallow stamping with lands and grooves aligned parallel or slightly oblique to the rim edge. This is the predominant method of stamping at other Historic period sites where simple stamping occurs (Davis 1987; Wilson 1983). Only a few sherds conform to the late prehistoric/protohistoric Hillsboro Simple Stamped type, where stamps are typically bold and are applied perpendicular to one another in order to produce a distinctive herringbone pattern.

Surface Finish (Interior): Over 99.0% of all simple stamped sherd interiors are uniformly smoothed. Neither vessel section displays any evidence of smudging or sooting.

Decoration: Eighteen (51.4%) of the 35 simple stamped rim sherds are decorated. Fourteen of these sherds, including those from Vessel 11, have V-shaped notches along the lip; one sherd is notched along the lip/rim edge; one possesses oblique incisions along the lip (similar to the mode of decoration observed for Fredricks Check Stamped); and two sherds with rim folds have circular reed punctations along the fold.

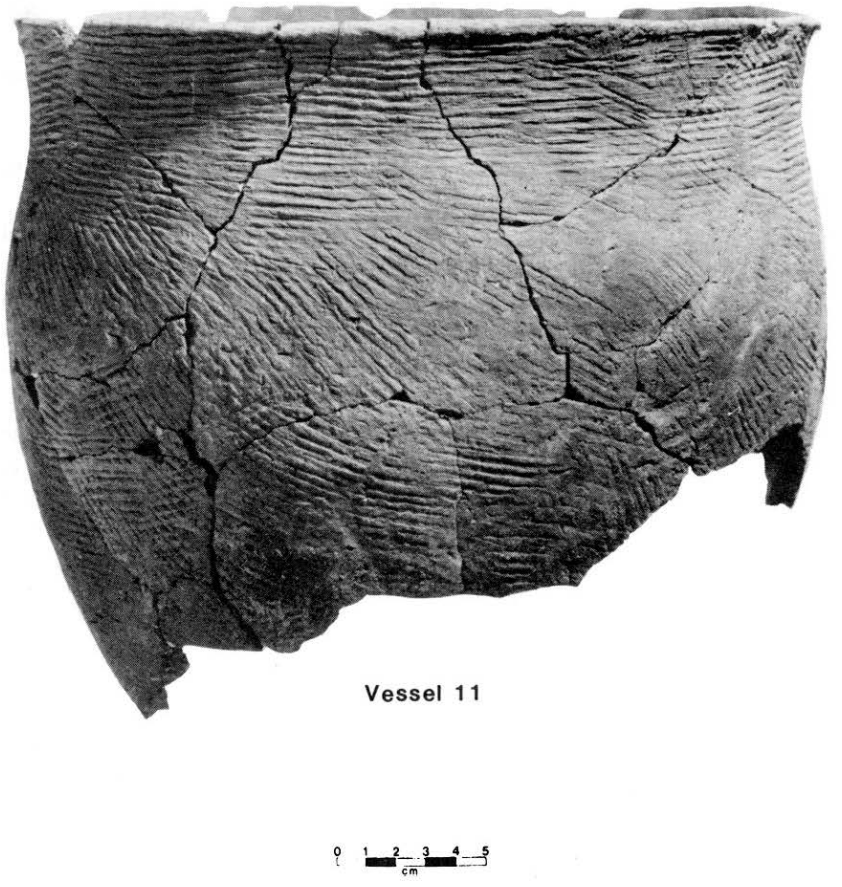


Figure 24.

Simple Stamped Vessel.

Form: (Figure 25)

Rim: A majority (74.3%) of the rims are simple everted. Other rim forms include: everted and folded (5.7%), straight (8.6%), and indeterminate (11.4%).

Lip: Lip profiles are mostly straight-sided and flat (65.7%), followed by straight-sided and rounded (28.5%), thickened and flat (2.8%), and thickened and rounded (2.8%).

Body: Both vessel sections and most other rim sherds represent restricted jar forms.

Base: Rounded.

Thickness: 2–4 mm (7.0%), 4–6 mm (24.4%), 6–8 mm (43.2%), 8–10 mm (24.4%), >10 mm (0.9%).

Size: Only one vessel section (Vessel 11) and a large rim sherd (Vessel 34) were large enough to determine overall vessel size and morphology. Vessel 11, a large jar, is 27 cm in orifice diameter and about 32 cm in height while Vessel 34 is a small jar approximately 14 cm wide at the mouth. Although these data are limited, they appear to reflect a similar size distribution observed for Fredricks Check Stamped.

Comments: Simple stamped sherds are only a minor constituent of the Fredricks site ceramic assemblage, comprising about 5.5% of the feature sherd sample. Given attribute frequency differences from Fredricks Plain and Fredricks Check Stamped related to temper type, rim form, and decoration, simple stamped sherds are not included within the Fredricks ceramic series attributed to the Occaneechi. However, it is clear from the occurrence of at least two vessel sections within Historic period features that some simple stamped jars were in use during the major occupation of the Fredricks site. It is suggested here, though by no means demonstrated, that these simple stamped vessels may be of non-Occaneechi origin or at least manufactured by potters of a different ceramic tradition. Pottery with similar attributes has been recovered at the Mitchum site, a slightly earlier historic Indian village along the Haw River which is thought to have been occupied by the Sissipahaw (Davis 1987).

Cord Marked Sherds (Figure 26)

Sample Size: N=83 (including 1 Whole Vessel and 2 Vessel Sections).

Distribution: 83—Occaneechi Features, 0—Feature 30.

Paste:

Method of Manufacture: Coiling and use of a paddle-and-anvil technique.

Temper: Although a majority of sherds (86.8%) are tempered with fine sand, some sherds are tempered with fine crushed feldspar (9.6%), medium crushed quartz (2.4%), and mixed quartz and feldspar (1.2%).

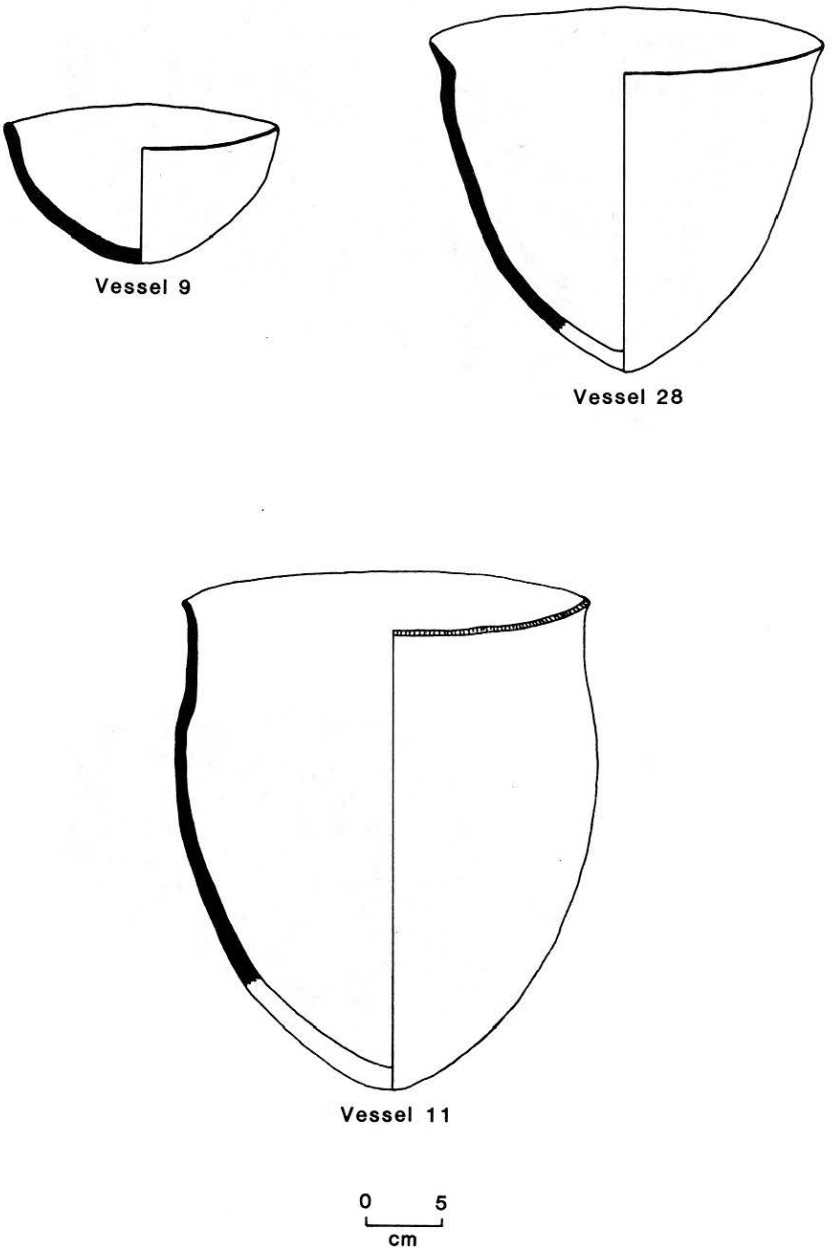


Figure 25.

Simple Stamped and Cord Marked Vessels.

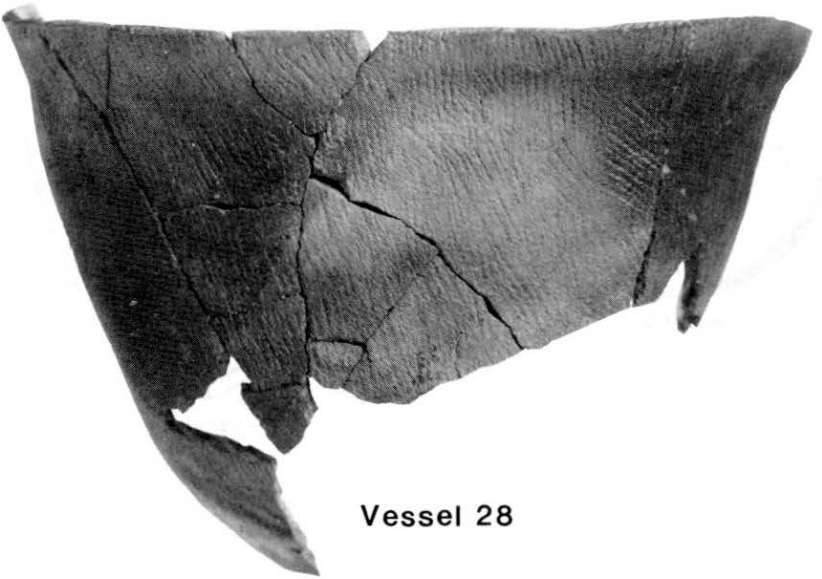


Figure 26.

Cord Marked Vessels.

Texture: Even and compact. Temper comprises 10–20% of the paste.
Hardness: 2.5–3.5.
Color: Exterior surfaces range in color from black (5YR 2/1) to yellowish red (5YR 4/8) to pink (5YR 8/4). Interior surfaces, usually smudged, range from black (7.5YR 2/0) to gray (7.5YR 5/0).

Surface Finish (Exterior): The exterior surface has been stamped with a cord-wrapped paddle. Stamp impressions mostly represent moderately thick-to-fine (1.0–3.0 mm) Z-twisted cordage (88.0%) with the remainder representing S-twisted cordage (12.0%).

Surface Finish (Interior): Almost 93.0% of the sherds have plain smoothed interiors; the remainder are scraped. The whole vessel (Vessel 9) is uniformly blackened on the interior while one of the vessel sections (Vessel 28) contains deposits of carbonized organic material along the interior neck area.

Decoration: Decoration is rare and consists of oblique incisions along the lip (n=1), smoothing of the rim/lip edge (n=1), and parallel finger impressions along the neck (n=1). In addition, two neck sherds and one body sherd possess drilled mend holes.

Form: (Figure 25)

Rim: Seven of the nine rim sherds are everted; one is inverted; and one is indeterminate.
Lip: Six rim sherds have flat lips while the remaining three are rounded.
Body: Only the whole vessel (Vessel 9) and one vessel section (Vessel 28) provided specific information about vessel shape. Vessel 9 is a shallow bowl with a rounded body while Vessel 28 is a straight-sided sub-conoidal jar which probably had a pointed base. Although no other shallow bowls like Vessel 9 were recovered, Vessel 28 is very similar in form to a Fredricks Plain jar (Vessel 30) recovered from the same feature (Feature 53).
Base: See Body discussion.
Thickness: 2–4 mm (12.0%), 4–6 mm (41.0%), 6–8 mm(43.4%), 8–10 mm (2.4%), >10 mm (1.2%).
Size: Vessel 9 is 19 cm in diameter and 10 cm high. Vessel 28 is 26 cm in diameter and approximately 22 cm high.

Comments: Cord marked sherds, recovered exclusively from Historic period features, comprise only 2.2% of the total ceramic sample. Although their association with the historic occupation of the site was only predicted by previous ceramic analyses (see Davis 1987), this association has since been demonstrated through the occurrence of a whole vessel as a burial association and the recovery of two other reconstructed vessel sections from feature contexts. Despite these contextual relationships, it appears unlikely that cord marking was an integral component of Occaneechi pottery-

making. In addition to the aberrant vessel forms represented, almost half of the sherds recovered from features are from only two separate vessels. Both factors argue strongly that these vessels probably were introduced into the site's vessel assemblage by non-Occaneechi potters; however, no possible source areas can be suggested at present.

Dan River Net Impressed (Figure 27)

Sample Size: N=397 (including 2 Vessel Sections).

Distribution: 326—Occaneechi Features, 71—Feature 30.

Paste:

Method of Manufacture: Preparation of a basal disk, with the addition of thin annular clay strips that were welded together using a paddle-and-anvil technique.

Temper: Sherds are tempered predominantly with coarse or fine sand (69.4%), followed by medium crushed quartz (13.2%), fine crushed quartz (9.2%), coarse crushed quartz (4.5%), crushed feldspar (1.8%), and mixed quartz and feldspar (1.8%). A proportionately greater number of sherds with coarse crushed quartz, mostly representing a single vessel, were recovered from Feature 30.

Texture: Rough, gritty, and compact.

Hardness: 2.5-3.5.

Color: Both exterior and interior surfaces usually have the same color and range from dark brown (7.5YR 4/4) to yellowish red (5YR 5/6).

Surface Finish (Exterior): The exterior surface has been stamped with a net-wrapped paddle. Both plain looped and knotted nets are represented; however, no attempt was made to determine specific net types on individual sherds.

Surface Finish (Interior): Of the 347 sherds that could be classified as to interior surface finish, 92.8% were scraped with a serrated tool. The remainder have smoothed interiors.

Decoration: Decoration of Dan River Net Impressed vessels was common and occurred along the lip, neck, and shoulder. Twelve (46.2%) of the 26 rim sherds in the sample have V-shaped notches along the lip or lip/rim edge. The next most common method of decoration, observed on seven sherds, is the placement of fingernail or fingertip punctations along the neck. Other decorations include incising along the shoulder (n=3), smoothing of the rim (n=1), short perpendicular incisions along the neck (n=1), and parallel brushed bands along the neck.

Form:

Rim: All identifiable rim sherds in the sample are everted.

Lip: Twenty-two (84.6%) of the 26 rim sherds have rounded lips; the remaining four are flattened.

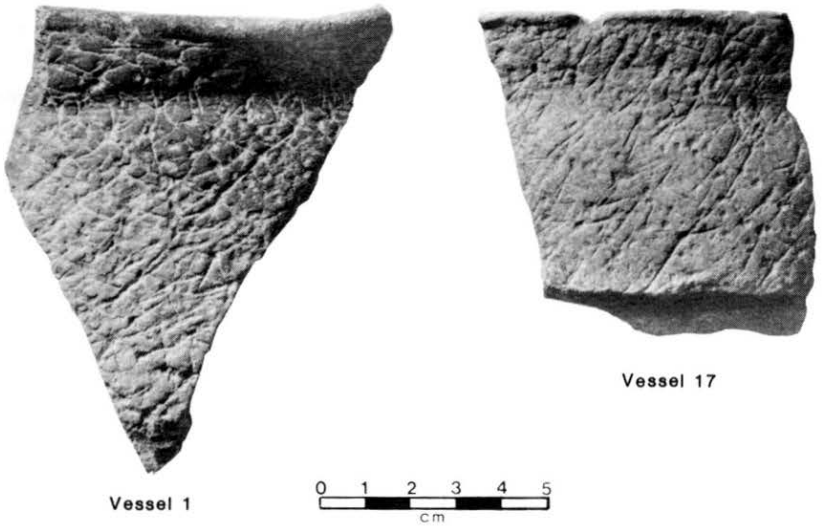


Figure 27.

Dan River Net Impressed Sherds.

Body: Sub-conoidal jars.
Base: Conoidal.
Thickness: Net impressed sherds are generally thicker than Fredricks Plain and Fredricks Check Stamped sherds. Sherd thickness distribution is as follows: 2–4 mm (0.3%), 4–6 mm (4.5%), 6–8 mm (48.9%), 8–10 mm (38.9), >10 mm (6.3%), and Indeterminate (1.1%).
Size: Only two large rim sherds (Vessels 1 and 17) provide information about vessel size. Both apparently represent sub-conoical jars with orifice diameters of 16 cm and 22 cm, respectively.

Comments: The Dan River Net Impressed type was initially defined by Coe and Lewis (1952) to describe the predominant ceramic type from the Lower Saratown site (31Rk1) on the Dan River. Although originally thought to be historic (see Coe 1952; Lewis 1951), the materials recovered from the site almost certainly predate the Historic period. Areally, this type is widespread and occurs throughout much of the northern North Carolina and southern Virginia Piedmont. Its temporal range also appears extensive when compared to other pottery types recognized for the Late Prehistoric and Historic periods.

In an earlier analysis of pottery from the Fredricks site, it was concluded that the net impressed pottery (described here) probably also predated the site's historic occupation since most sherds from features had eroded edges and differed significantly from the other ceramics in terms of most technological and stylistic attributes (Davis 1987). This conclusion has since

been substantiated by the discovery of Feature 30, which contained an abundance of net impressed pottery (including fitting sherds) in the absence of either Euroamerican trade artifacts or Fredricks Series pottery. Whereas Dan River Net Impressed sherds made up only 8.5% of the sample from Occaneechi features, they comprised 87.7% of all sherds from Feature 30.

Brushed Sherds

Sample Size: N=134.

Distribution: 129—Occaneechi Features, 5—Feature 30.

Paste:

Method of Manufacture: Coiling with use of paddle-and-anvil technique.

Temper: Sherds are tempered predominantly with coarse to fine sand (78.0%) and medium to fine crushed quartz (15.9%). Other tempering materials include crushed feldspar (3.7%) and mixed quartz and feldspar (2.4%).

Texture: Varies from even and compact to gritty.

Hardness: 2.5–3.5.

Color: Similar to Dan River Net Impressed.

Surface Finish (Exterior): Exterior surface has been scraped with a twig brush, serrated shell, or edge of a malleating paddle.

Surface Finish (Interior): Interior surfaces are either smoothed (54.5%) or scraped (45.5%).

Decoration: Forty percent of the rim sherds are decorated, which consists of V-shaped or fingernail notches along the lip. Other decorative modes include pinching (along the shoulder ?) and fingernail or fingertip impressions along the neck.

Form:

Rim: Four of the 10 rim sherds are everted, one is everted and folded, two are straight, one is inverted, and two are of indeterminate shape.

Lip: Eight lips are rounded and two are flattened.

Body: Restricted jars and possibly unrestricted bowls.

Base: No data.

Thickness: 4–6 mm (9.8%), 6–8 mm (70.7%), 8–10 mm (17.1%), >10 mm (2.4%). Sherd thickness is similar to Dan River Net Impressed.

Size: No data.

Comments: Brushed sherds comprise 3.3% of the Occaneechi Feature sherd sample and 6.2% of the Feature 30 sample. Given that no vessel sections were recovered, it is not possible to determine what vessel forms are represented or to clearly ascertain the cultural association of these remains. Attributes such as sherd thickness, color, lip form, and decoration correspond more closely to Dan River Net Impressed and therefore suggest

a non-historic primary association; however, relatively large brushed sherds were recovered from both feature contexts. Given this distribution, it is plausible that at least some pots from the historic Occaneechi occupation also were being brushed.

Cob Impressed Sherds

Sample Size: N=15.

Distribution: 14—Occaneechi Features, 1—Feature 30.

Paste:

Method of Manufacture: Coiling with use of paddle-and-anvil technique.

Temper: Sherds are tempered with sand (86.7%) and fine crushed feldspar (13.3%).

Texture: Mostly coarse and gritty.

Hardness: 2.5–3.5.

Color: Same as Dan River Net Impressed.

Surface Finish (Exterior): The surface has been impressed with a dried corncob, applied by rolling across the vessel exterior.

Surface Finish (Interior): Ten of 13 sherds with preserved interior surfaces were smoothed; the remainder were scraped.

Decoration: One of four rim sherds has V-shaped notches along the lip.

Form:

Rim: The four rim sherds have everted and rolled (n=2), everted (n=1), and indeterminate (n=1) rim profiles.

Lip: All rim sherds have rounded lips.

Body: Only restricted jar forms are represented.

Base: No data.

Thickness: 4–6 mm (13.3%), 6–8 mm (80.0%), Indeterminate 6.7%).

Size: No data.

Comments: Cob impressed pottery occurs as a minority type in sherd assemblages from both late prehistoric and protohistoric sites within the northern North Carolina Piedmont, including the Lower Saratown (31Rk1), Wall (31Or11), and Mitchum (31Ch452) sites. Although most sherds came from historic features, their association with the Occaneechi occupation at the Fredricks site is uncertain.

Complicated Stamped Sherds

Sample Size: N=15.

Distribution: 15—Occaneechi Features, 0—Feature 30.

Paste:

Method of Manufacture: Coiling with use of paddle-and-anvil technique.

Temper: Twelve sherds are tempered with fine sand and three contain fine crushed quartz.

Texture: Even and compact.

Hardness: 2.5–3.5.

Color: Exterior surface color ranges from dark brown (7.5YR 4/4) to very pale brown (10YR 8/4).

Surface Finish (Exterior): Eleven sherds possess curvilinear stamp motifs while four have rectilinear stamps. No specific design elements are discernible.

Surface Finish (Interior): All sherds interiors are smoothed.

Decoration: None.

Form:

Rim: The single rim sherd was everted.

Lip: Rounded.

Body: Restricted jars?

Base: No data.

Thickness: 4–6 mm (33.3%), 6–8 mm (66.7%).

Size: No data.

Comments: Complicated stamping is a rare method of surface treatment within the Eno River drainage and occurs elsewhere (e.g., the Mitchum [31Ch452], early Upper Saratown [31Sk1], and Upper Saratown [31Sk1a] sites) as a minority treatment within Historic period contexts (Davis 1987; Wilson 1983). Whether these sherds are of a single type or represent two or more different types is uncertain; however, their association with the Historic period occupation at the Fredricks site appears likely.

DISCUSSION

One primary goal of the pottery analysis was to construct a vessel assemblage model for the Fredricks site. This was accomplished by a careful examination of attribute similarities and differences among ceramic types, sherd and vessel frequency distributions, the physical condition of ceramic remains, contextual associations, and general spatial distributions. Consideration of these dimensions of variability permitted the recognition of three ceramic groups: 1) the dominant constituents of the ceramic assemblage, thought to reflect the pottery-making tradition of the Occaneechi; 2) other contemporary pottery that was significantly divergent in form and technology, and most likely produced by non-Occaneechi potters; and 3) the ceramic remains of an earlier Late Woodland settlement within the general site vicinity. These groups are briefly summarized below.

The primary constituents of the Occaneechi ceramic assemblage have been formally designated Fredricks Plain and Fredricks Check Stamped. These two ceramic types comprise over 70% of identifiable sherds (excluding Dan River Net Impressed) from features associated with all structures within the village, as well as from burial pit fill within the cemetery (Table 6). In addition, these two types are represented by 28 of the 35 whole vessels and vessel sections that were recovered at the site. Aside from minor differences in decoration and vessel morphology, Fredricks Plain and Fredricks Check Stamped are technologically identical to one another; however, there is reasonable evidence in terms of interior vessel condition to suggest that these two types were functionally distinct. As stated earlier, check stamped jars (both large and small) appear to have been used primarily as cooking vessels while plain vessels probably functioned more as storage containers.

With the exception of Dan River Net Impressed, the other pottery recovered at the Fredricks site also can be attributed largely to an historic occupational context. Simple stamped, cord marked, and complicated stamped ceramics are probably associated exclusively with this later occupation while at least some brushed and cob impressed sherds also are associated with the site's Late Woodland component. These ceramic remains, because of their divergence from Fredricks Plain and Fredricks Check Stamped with respect to decoration, technology, and vessel morphology, are argued to be the products of non-Occaneechi potters. Though some of these artifacts may represent trade vessels, an explanation involving ethnic diversity at the site is most plausible, particularly since at least two large storage jars are represented, and inter-marriage among different Siouan groups appears to have been common during this period (see Lefler 1967). Spatially, this pottery occurred in greatest numbers within pits associated with Structures 1, 5, and 9, all located on the northeast side of the village (Table 6). To what degree this distribution may reflect residence patterns is unknown.

Finally, all Dan River Net Impressed pottery and at least some other pottery can be attributed to a Late Woodland occupation at the site. This occupation is represented by Feature 30, which contained (excluding indeterminate sherds) 87.7% Dan River Net Impressed, 6.2% Brushed, 4.9% Plain, and 1.2% Cob Impressed pottery. Although Dan River Net Impressed pottery also was present in other features, particularly those in the northeastern half of the site, most of these sherds were heavily eroded and did not represent any reconstructable vessel sections. In fact, both Dan River Net Impressed vessels identified at the site were simply large rim sherds that were recovered from Feature 30 and Feature 8 (interpreted as a tree disturbance).

Table 6. Distribution of Pottery by Feature and Burial Clusters.

Feature/Burial Cluster	Fredricks Plain		Fredricks Check Stamped		Simple Stamped		Cord Marked		Dan River Net Impressed		Brushed		Cob Impressed		Complicated Stamped		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Cemetery	295	37.44%	310	39.34%	36	4.57%	26	3.30%	95	12.06%	21	2.66%	5	0.63%	0	0.00%	788	100.00%
Structure 1 (Fea. 9)	19	33.33%	10	17.54%	1	1.75%	1	1.75%	20	35.09%	6	10.53%	0	0.00%	0	0.00%	57	100.00%
Structures 3,8 (Fea. 10,12,13)	44	40.74%	39	36.11%	2	1.85%	0	0.00%	12	11.11%	11	10.19%	0	0.00%	0	0.00%	108	100.00%
Structures 4,6 (Fea. 28,29)	77	20.59%	169	45.19%	18	4.81%	7	1.87%	89	23.80%	12	3.21%	2	0.53%	0	0.00%	374	100.00%
Structure 5 (Fea. 23,24,33,41)	201	46.42%	5	22.86%	7	16.40%	1	0.23%	14	5.54%	23	5.77%	0	0.46%	0	2.31%	433	100.00%
Structure 9 (Fea. 17,18,19,20)	106	21.29%	286	57.43%	48	9.64%	0	0.00%	22	4.42%	36	7.23%	0	0.00%	0	0.00%	498	100.00%
Structure 11 (Fea. 56)	58	37.66%	88	57.14%	2	1.30%	0	0.00%	1	0.65%	5	3.25%	0	0.00%	0	0.00%	154	100.00%
Structure 12 (Fea. 51,59,61)	58	32.22%	92	51.11%	7	3.89%	8	4.44%	10	5.56%	4	2.22%	0	0.00%	1	0.56%	180	100.00%
Feature Group 1 (Fea. 42,44,45,47)	133	35.09%	202	53.30%	10	2.64%	2	0.53%	17	4.49%	6	1.58%	5	1.32%	4	1.06%	379	100.00%
Feature Group 2 (Fea. 46,53,57)	148	21.99%	485	72.07%	2	0.30%	31	4.61%	7	1.04%	0	0.00%	0	0.00%	0	0.00%	673	100.00%
Total	1139		1780		197		76		297		126		14		15		3644	100.00%

CONCLUSIONS

In conclusion, the large sample of pottery recovered from undisturbed contexts during the four excavation seasons at the Fredricks site, and encompassing the entire village, has permitted a much clearer understanding of the site's ceramic vessel assemblage than would have been possible based on more limited investigations. The 1986 excavation was particularly important in this respect since almost half of the entire ceramic sample (and vessel sample) was generated by this work.

At least two important areas of ceramic study remain for future investigation. First, more detailed analyses into vessel function are clearly needed to evaluate apparent differences between Fredricks Plain and Fredricks Check Stamped. Second, the remainder of the plowzone sherd samples need to be analyzed in order to explore additional questions regarding ceramic spatial patterning and village structure. Both areas of research promise to offer further insights into the lifeways of the Fredricks site's inhabitants.

CHAPTER 4

HISTORIC ARTIFACTS

by
Linda F. Carnes

INTRODUCTION

This chapter discusses the Euroamerican artifacts recovered during the 1986 field season at the Fredricks site. These artifacts were recovered from 18 pit features and burials (i.e., undisturbed contexts), as well as from plowzone in 62 10×10-ft excavation units and the site's surface (i.e., disturbed contexts). Of the 5,324 historic artifacts recovered, only 3,872 (or 73%) were subjected to detailed analysis; the remainder, including brick/burnt clay fragments, unidentifiable iron fragments, slag, cinders, and nineteenth-century ceramics that post-date the site's Indian occupation, were simply counted and catalogued. Of the analyzed artifacts, 84.0% (n=3,268) came from undisturbed feature contexts, 15.6% (n=593) came from plowzone, and 0.4% (n=11) from general surface collection.

All artifacts were analyzed in a manner comparable to earlier analyses of historic artifacts from the Fredricks site (see Dickens et al. 1987). Following artifact identification and quantification, a modified version of South's (1977) functional classification for historic artifacts was used to organize the assemblage for comparative purposes. Table 7 summarizes the analyzed historic artifact assemblage from the 1986 season by functional group and provenience category.

Associated artifacts from the two human burials (Fea. 50/Bu. 12 and Fea. 54/Bu. 14) were not removed to the laboratory. Both of these burials were cleaned, measured, drawn, photographed, and then backfilled. As a consequence, laboratory analysis of these items was based on field drawings and photographs. Historic artifacts recovered from pitfill contexts of the two burials were analyzed and are included on Table 7, while burial associations are not listed.

As with artifact collections from previous field seasons, artifacts classified as Personal items (e.g., glass beads, bells, and tobacco pipes) comprised most (83%) of the sample. Correspondingly, the Arms/Ammunition artifact group (predominately lead shot, lead sprue, and gunflints) was the second largest category, representing 9% of the assemblage. The Food Preparation/Consumption artifact group (mostly glass container fragments) had 169 items, or 4%. Each of the other artifact categories comprised less than 1% of the total assemblage. Aside from the Food Preparation/Consumption and the Arms/Ammunition groups, all other artifact groups were similarly distributed between disturbed and undisturbed

Table 7. Analyzed Euroamerican Artifacts from the 1986 Excavations at the Fredricks Site.

Context	Architecture	Arms	Clothing	Furniture	Food Prep.	Personal	Const. Tool	Misc. Hardw.	Other By-Products	Metal Resource	Indet.	Total
Fea. 31	—	2	—	—	2	25	—	—	—	—	2	31
Fea. 42	—	6	—	—	—	349	—	—	—	—	2	357
Fea. 44	—	16	—	—	3	345	—	—	—	8	3	375
Fea. 45	1	50	3	—	2	290	—	4	—	—	3	353
Fea. 46	—	10	—	—	3	67	—	—	—	—	5	85
Fea. 47	—	3	—	—	—	137	—	1	—	—	2	143
Fea. 48	1	18	—	—	—	110	—	1	—	—	2	132
Fea. 49	—	2	1	—	—	56	—	—	—	—	—	59
Fea.50/Bu.12*	—	—	—	—	—	9	—	—	—	—	—	9
Fea. 51	—	16	—	—	—	168	—	3	—	—	1	188
Fea. 53	2	44	1	1	24	362	1	—	—	—	6	441
Fea.54/Bu.14*	—	1	—	—	—	437	—	2	—	—	—	440
Fea. 55	—	2	—	—	—	31	—	—	—	—	—	33
Fea. 56	—	7	—	—	1	87	—	—	—	—	4	99
Fea. 57	—	2	—	—	3	45	—	—	—	—	—	50
Fea. 58	—	—	—	—	—	20	—	—	—	—	—	20
Fea. 59	—	40	—	—	2	268	—	4	1	—	3	318
Fea. 61	—	5	—	—	—	124	—	—	—	—	5	134
Sub-Total	4	224	5	1	40	2930	1	15	1	8	38	3267
Plowzone	22	131	6	2	127	266	2	28	4	—	5	593
Surface	—	5	—	—	1	5	—	—	—	—	—	11
Total	26	360	11	3	168	3201	3	43	5	8	43	3871

*Artifacts from burial fill, not grave associations.

contexts. To what extent these two sub-assemblages are probably contemporaneous will be discussed below.

Previous analyses of historic artifacts from the Fredricks site have demonstrated the importance of context in formulating behavioral interpretations (Dickens et al. 1987). It was shown that artifacts found as burial associations were whole (or nearly whole) objects which had been selected from personal property and intentionally placed in the grave as offerings. Conversely, it also was noted that historic artifacts recovered from pitfill contexts (e.g., burials, features, postholes) represented items that had been discarded or abandoned (reflecting intentional deposition) or lost (reflecting unintentional deposition). Generally, the whole items found in pitfill contexts were small (e.g., glass beads, lead shot, or gunflints) and thus easily lost. Broken and unrejuvenated pieces (e.g., bottle fragments, tool parts, or pipe remnants) typically represented discarded or abandoned objects.

In both previous and present analyses, additional variables related to artifact frequency, distribution, and context also have been considered. Availability of trade goods, prevalence of certain types of items, and personal selection of specific trade materials by the Occaneechi inhabitants were important considerations. In view of these variables, the following discussion summarizes the 1986 historic artifact assemblage from the Fredricks site. Comparisons are made between this sample and samples from the 1983–85 excavations.

BURIALS AND POSSIBLE BURIALS

During the 1986 excavations, two burials and two other possible burial pits were discovered. In accordance with property owner's wishes, the two burials were carefully excavated, cleaned, and documented, but not removed from the ground. Although both burials contained historic trade items as associations, their location and pit orientation differed from other burials previously excavated at this site.

Burial 12 (Feature 50) was located near the palisade line at the southern end of the site. Excavation revealed a shaft-and-chamber pit containing the remains of a small child or infant. Nine glass trade beads were recovered from pitfill. Associated artifacts included twelve brass bells, one lead bale seal, and possible fabric remnants. Cane matting and shell beads also were associated with this burial. The bells were found in the leg or knee area of the child, similar to Burials 7 and 10 within the cemetery. The bells, made of sheet brass, were of a flush-edged type with a flush loop and iron pebble. The lead bale seal was stamped with an unintelligible mark. Only one other bale seal has been recovered from the site.

Burial 14 (Feature 54) also was located in the southwestern area of the site near a palisade entrance. This burial also was identified as a shaft-

and-chamber burial type and contained the remains of a subadult approximately twelve years old. One piece of lead shot, one mirror fragment, two bone-handled knife fragments (Figure 28a), and 436 glass beads were recovered from pitfill and from cleaning around the skeletal remains. Of the glass beads, 96% were white, a color pattern exhibited in all other burials found at the site. Historic artifacts occurring as burial associations consisted of nine pewter buttons, one brass buckle frame, 21 brass rings, and several hundred white glass beads. The pewter buttons, similar to South's Type 31 (Hume 1982:91), were cast with eyelet and disc molded as a single piece. Similar buttons were recovered from Burial 1. The buttons and the buckle were found in the waist and hip areas of the burial. Of particular interest were the several brass rings that adorned this child. Nine rings were observed on each hand (i.e., three rings on three fingers). Three additional rings were found near the right arm. Only one other brass ring was found elsewhere at the site. Hume (1982:265) describes this style of ring as "the most common type, a simple band, convex on the outside and flat inside, which occurs on eighteenth-century sites but which is itself undatable." Numerous white glass beads (Kidd's type IIa) were observed near the right hip and may represent the remains of a beaded garment or sash.

Unlike other burials at the site, neither of these burials appeared to contain "burial bundles" or clusters of artifacts. This may suggest cultural or status differences for these two individuals. In addition, these burials also contained fewer and less variety of grave goods than most of the previously excavated burials within the cemetery. The higher incidence of ornamental objects, however, is similar to other subadult burials at the site (see Ward 1987).

Two possible burial pits (Features 31 and 49) were excavated but contained no skeletal remains. Feature 31 was a deep, rectangular pit located in the northwest quadrant of the village. Excavation of the pitfill produced 31 historic artifacts, including one piece of lead shot, a gunflint, two dark green bottle glass fragments, 24 glass beads, one kaolin pipe stem fragment, and two unidentifiable iron pieces. None of these artifacts appear to represent burial associations.

Feature 49 was a small shaft-and-chamber pit located in the southern portion of the site. Fifty-nine historic artifacts, including one lead shot, one gunflint, one bottle glass fragment, 55 glass beads, and one kaolin pipe stem fragment, were recovered from pitfill. A dark organic stain, suggesting a decomposed burial, was observed at the bottom of the pit. A single brass thimble also was found at pit bottom and may have been associated with the deceased individual. This thimble is rather large and measures 17.6 mm in diameter (Figure 28g). The presence of a small hole in the top indicates that it may have been worn as a dangle. A smaller brass thimble was recovered during plowzone excavation. These two specimens are the only thimbles that were found at the site. While their presence is

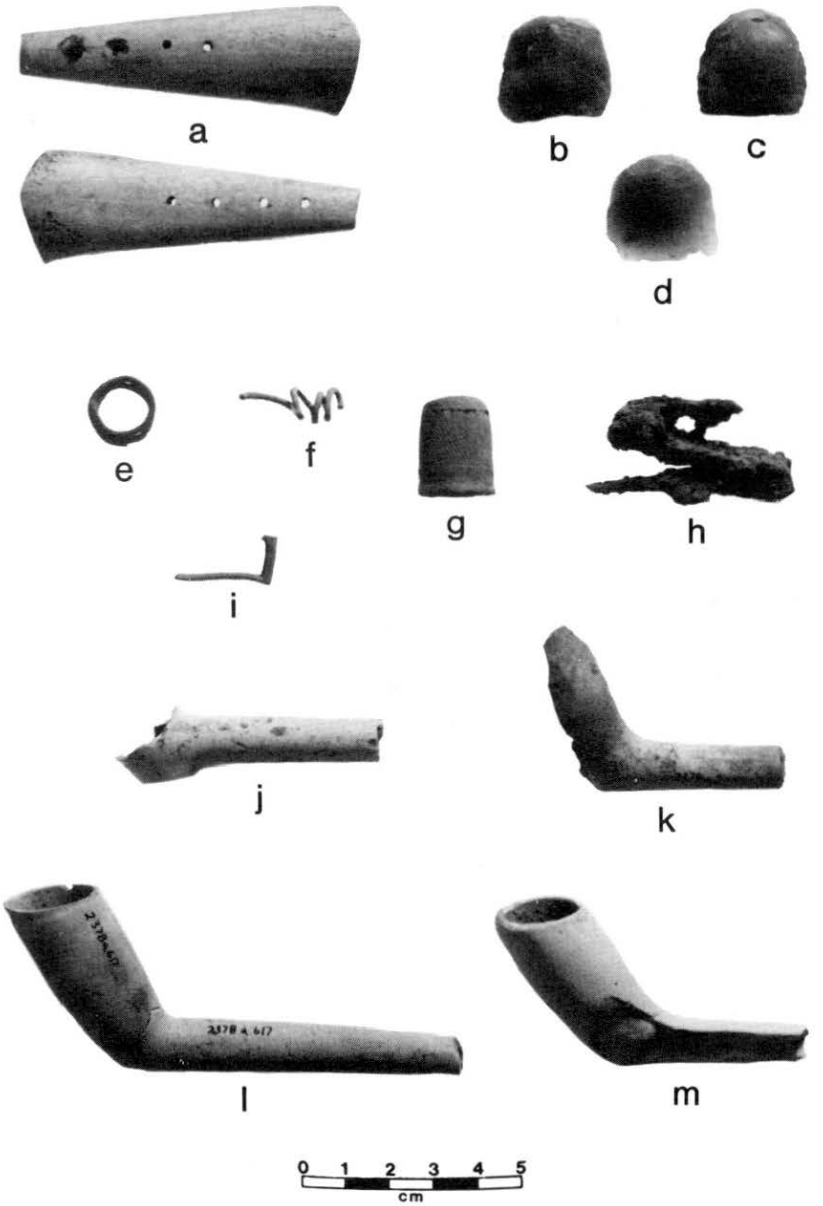


Figure 28.

Small Euroamerican Artifacts.

noteworthy, it is not surprising since thimbles were often listed in trade good inventories of the Contact period. Kent (1984), Brain (1979), and Good (1972) report thimbles from other native sites of this period.

FEATURES

Fourteen other pit features contained Euroamerican trade items in their fill (Table 7). These features are discussed in greater detail in Chapter 2 and are only treated here in terms of their historic artifact components. As mentioned above, artifacts found in pitfill context represent either intentional (discard or abandonment) or unintentional (loss) modes of deposition. It was noted in earlier analyses that historic artifacts recovered from pitfill contexts were usually either broken, reworked, or small. Not unexpectedly, this pattern also was reflected by the 1986 historic artifact sample.

Features 42, 44, 45, 53, and 59 contained the greatest variety and frequency of historic artifacts. Four features (Features 47, 48, 51, and 61) contained a sizeable amount (e.g., 100–200 items) while the remaining five features (Features 46, 55, 56, 57, and 58) contained less than 100 historic artifacts. Feature 58, with only 20 glass beads, had the fewest historic items.

Feature 42 contained three pieces of lead shot, three broken European gunflints, three kaolin pipe fragments, 347 beads, and two indeterminate metal pieces. Most (91.3%) glass beads were white; the remainder were blue, black, and red. Two bone beads also were found in this feature and are similar to those recovered during previous field seasons.

Feature 44 contained 11 pieces of lead shot, three lead sprue fragments, two European gunflints, three dark green bottle glass fragments, one sheet brass bell remnant (with top crushed), eight strips of cut sheet brass scrap, one kaolin pipe bowl fragment, 343 glass beads, and three indeterminate pieces of metal. Seventy-nine percent of the glass beads were white.

Artifacts found in Feature 45 consisted of one wrought iron nail, 47 pieces of lead shot, two sprue fragments, one European gunflint, three brass buckle frame fragments (Figure 28i), two dark green bottle glass fragments, two brass wire coils (Figure 28e), two iron knife fragments, two cut sheet brass pieces, five kaolin pipe remnants (Figure 28k), 280 glass beads and three indeterminate metal items. Beads were mostly white (72%); however, several (22%) opaque black and red beads also were found.

Historic trade goods from Feature 46 included six lead shot, four pieces of lead sprue, three dark green bottle glass fragments, two broken kaolin pipestems, 65 glass beads (77% white), and five indeterminate pieces of metal.

Feature 47 had two lead shot, one sprue fragment, one crushed brass ring band, one cut sheet brass fragment, 136 beads (80% white), and two indeterminate iron scraps. One bone bead also was recovered from this

feature. Interestingly, Feature 47 and Feature 55 were the only two features lacking kaolin pipe fragments, while all features contained glass trade beads.

Historic artifacts found in Feature 48 consisted of one wrought iron nail, 16 pieces of lead shot, a single sprue fragment, one cut sheet brass piece (roughly triangular in shape), two kaolin pipestem fragments, 108 glass beads (68% white), and two indeterminate metal items. Again, black and red beads were more frequent in this feature, comprising 30% of all beads.

Items of European origin from Feature 51 were 13 lead shot, one sprue fragment, one gunflint, three bone knife handle pieces with iron rivets, two kaolin pipe remnants, 166 glass beads (72% white), and one indeterminate iron fragment. In addition, one gunflint of aboriginal manufacture was found in this pit.

Compared with other features excavated in 1986, Feature 53 contained the most variety and number of historic artifacts. A "recent" .22 caliber brass cartridge was recovered from the top of this feature and suggests disturbance from deep-plowing in this area of the site. A spatulate-tip wrought iron nail also was found in the top of this feature, but its date of origin could associate it with the seventeenth century occupation of the site. Excavation of Feature 53 pitfill yielded 36 lead shot, three pieces of lead sprue, three gunflints (one European and two aboriginal), one pair of broken iron scissors, one small iron tack (rose-head type), one iron axe (Figure 29a), one piece of dark green bottle glass, 23 fragments of a metal container (with a rolled rim), 350 glass beads, 11 kaolin pipe pieces (Figure 28j), one nearly whole pipe (Figure 28l), and six indeterminate metal items. Of the glass beads, 88% were white, 5% were blue, 4% were black, and 3% were red. The reconstucted whole kaolin pipe represents a long-bowl, elbow type commonly found on Colonial and Late Contact period sites that date from 1680 to 1820 (Hume 1982:303). One kaolin pipe fragment with a broad flattened heel (similar to the artifact shown in Figure 28j) was stamped with a maker's mark and was the only marked pipe fragment recovered at the site. The initials P and W were stamped sideways at the juncture of the bowl and stem. Although these initials were very common, the sideways positioning of them provides a distinctive attribute for identification. Atkinson (1986:117) shows a similar pipe with the same initials and placement that was manufactured in Stoke-Under-Ham, Somerset County, England between 1680 and 1730. Based on stylistic attributes and ethnohistorical records, it is likely that all kaolin pipes found at the site are of British origin (either directly via English traders or indirectly via other Indians agents). In addition, the broken-bladed axe found in this feature also resembles British trade axes recovered from Burials 3 and 5.

Feature 55 pitfill contained only 33 historic artifacts. These artifacts consisted of 31 glass trade beads and two pieces of lead shot.

Feature 56 contained four lead shot, one piece of lead sprue, one unused spall-type gunflint (Figure 28c), one iron frizzen spring (Figure 28h), one

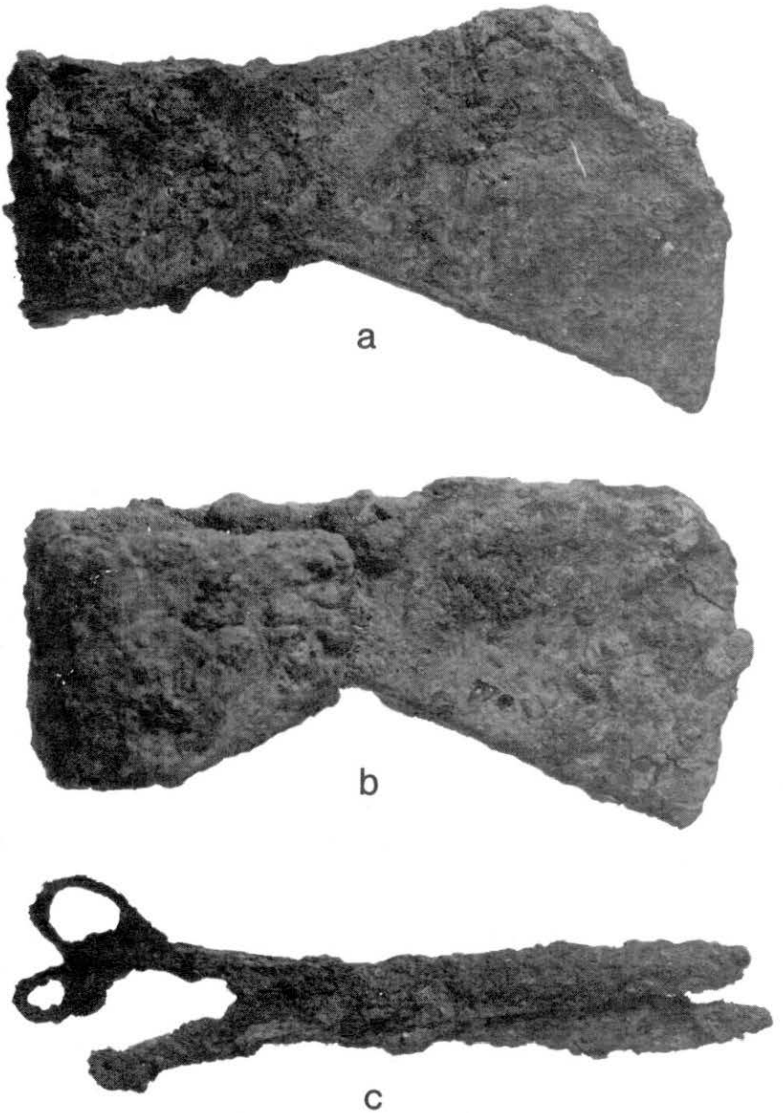


Figure 29.

Iron Axes and Scissors.

dark green bottle glass fragment, four kaolin pipe fragments, 83 glass beads (54% white), and four unidentifiable iron fragments.

Historic artifacts recovered from Feature 57 consisted of one lead shot, one European gunflint, three dark green glass fragments, and 45 glass beads (51% white).

Feature 58, as previously discussed, contained only 20 glass beads (75% white).

Numerous trade goods were excavated from Feature 59 and include: 31 lead shot, three lead sprue pieces, six spall-type gunflints (Figure 28b), two dark green bottle glass fragments, four knife parts (blades and handle fragments), one piece of brass wire, 263 beads, and five kaolin pipe bowl fragments. Twenty bone beads were found in this feature, more than in any other feature. Glass beads were 68% white, 17% red, 10% black, and 5% blue.

Excavation of Feature 61 pitfill yielded two lead shot, three gunflints (two European and one aboriginal), one brass wire coil (possibly used for ornamentation) (Figure 28f), 121 glass beads (87% white), two kaolin pipe fragments (one shown in Figure 28m), and five indeterminate iron fragments. Of special interest were three "fancy" striped glass beads of compound construction (Kidd's type IIb). These beads have a broad manufacturing range of 1680 to 1836 (Brain 1979:104) and have been found, though few in number, elsewhere at the site.

In summary, a total of 3,268 historic artifacts were recovered from undisturbed feature contexts. Over 89% of these artifacts, including mostly glass trade beads, were categorized as Personal items. The second most abundant artifact group, representing nearly 7% of the total, was Arms/Ammunition and was comprised of lead shot, sprue and gunflints. All other artifact groups make up the remaining 4% of the total. Overall, no stylistic or temporal differences were discernible between historic artifact assemblages from feature contexts of the 1985 and 1986 seasons. The only marked difference noted for a particular artifact type was an increase in gunflints from 69 (including nine from features) in 1985 to 112 (including 24 from features) in 1986.

PLOWZONE AND SURFACE

A total of 593 (or 28.9%) of all Euroamerican artifacts from plowzone were analyzed. Eleven other historic artifacts were recovered from the surface. As mentioned earlier, many of the historic artifacts from disturbed contexts were not analyzed because of their apparent "recent" origin (e.g., glass, ceramics, tractor parts, shotgun shells, and nails) or because of their bulk quantity as by-products of later activities on the site (e.g., coal, slag, brick, and mortar). Those items which appeared to be a product of the Occaneechi occupation at the site are discussed below.

As with previous analyses, the Personal artifact group was the most abundant and represented 45% (n=266) of the total. The Arms/Ammunition and Food Preparation/Consumption groups were comparable in quantity with 22% and 21%, respectively. Architecture and Miscellaneous Hardware artifact groups comprised 4% and 5% of the sample, respectively. All other groups were represented by less than 10 artifacts each. No artifacts relating to the Horticultural Tool (e.g., hoes and spades) category were found. Some of these group percentages are lower than those from the 1985 analysis of plowzone artifacts, reflecting a more careful pre-analysis selection of the 1986 historic assemblage.

The Architecture artifact group was represented by two wrought iron nails, 19 flat glass fragments (possibly pane or mirror fragments), and one large iron spike. The Arms/Ammunition group contained eight lead balls (.39 to .69 caliber), 27 lead shot, one possible fireflint, 88 gunflints (26 aboriginal and 62 European) (Figure 28d), and six gunparts. Of the gunparts, three were iron frizzens, two were iron lock plates, one was a brass trigger guard tang, and one was a brass "butterfly" sight. The sight, trigger guard fragment, and two of the frizzens appear to be from late-eighteenth century to early-nineteenth century British-made muskets (Hamilton 1960, 1980). Historic artifacts in the Clothing group included one pair of scissors (Figure 29c), one brass shoe buckle, four brass buttons, and one thimble. The shoe buckle had a three-prong tang and dates to the early eighteenth century (Hume 1982:85). The buttons were identified using South's typology (Hume 1982:90–91) and date to the 1837 to 1865 period. The whole brass thimble was the second one to come from the site, but was smaller than the specimen from Feature 49. The iron scissors were similar in style to those recovered in previous seasons from burial contexts (Burials 1 and 3). Stylistic changes for scissors, however, were not radical during this period, indicating that these scissors may date either to the Occaneechi or a later Colonial period occupation at this site.

The Furniture group was represented by three glass (oil?) lamp parts (one chimney and two basal fragments). The Food Preparation/ Consumption category of historic artifacts contained 103 dark green wine bottle fragments, nine miscellaneous glass container fragments, one leaded-glass decanter stopper, and ten cut-glass tumbler fragments. Also included were one brass kettle lug and a latten spoon handle finial. The discovery of an identical kettle lug at Jamestown, Virginia (Cotter 1957:31) suggests that this artifact may date to the mid-to-late-1600s. In addition, the latten spoon finial, a style referred to as "trifid" or "Puritan," dates from the late 1600s to 1710 (Cotter 1957:34, Hume 1982:183). It seems likely that this spoon is associated with the historic Indian occupation as other spoons were retrieved from undisturbed contexts in previous years (e.g., Burials 1 and 8).

The Personal artifact group consisted of 68 glass trade beads, two bone beads, 187 Euroamerican pipe fragments, two pewter pipestems, two brass

bells, one iron Jews harp, one ring band, and one brass dangle ornament. The dangle was made of cut sheet brass, rolled into a conical shape. The bells also were of sheet brass construction. One whole bell (of a "saturn" or flanged-edged type) had a manufacturer's mark shaped like an omega. Unfortunately, no date or maker identification was found to match this mark. The two pewter pipestems were roughly square in cross-section and appear to be cast in a crude mold form. Pewter pipe bowls and stems were recovered by previous excavations at the site. Of the historic clay tobacco pipes, all were kaolin except one unglazed stub-stemmed type of probable Moravian origin (circa 1770s).

For chronological purposes, a deposition date for plowzone artifacts was calculated from datable pipestem fragments using Binford's regression formula (1962). From plowzone context, 98 pipestems were measured and produced a date of 1683.58. To test contemporaneity of plowzone specimens to those recovered from undisturbed contexts, 26 pipestems from feature/burial excavation also were measured. These produced a very similar date of 1684.61. As a final comparison between the two contexts, all datable pipestems from all four field seasons were combined. From plowzone, there were 170 specimens which yielded a date of 1682.01; from feature/burial contexts, there were 72 pipistems which produced a date of 1678.19. These results indicate that most kaolin pipes at the site are associated with the Occaneechi occupation.

Only a single iron axe (Figure 29b) was included in the Construction Tool artifact group. It closely resembles the axes recovered from Feature 53 and Burials 3 and 5 (excavated before 1986). Historic artifacts classified as Miscellaneous Hardware category consisted of one lead bale seal, two fragments of an ember tong, two iron horseshoes, 15 case knife parts (blades, handles, and bolsters), three iron bar fragments, and five possible tool remnants (all wrought). Lead bale seals, ember tongs, and knives also have been found in undisturbed contexts at the site during previous excavations; consequently, it is reasonable to conclude that the majority of these artifacts probably date to the historic Indian occupation.

Euroamerican items recovered from surface collections, and which are probably associated with the native occupation, include five lead shot, one dark green bottle glass fragment, three kaolin pipe fragments, and two glass trade beads.

CONCLUSIONS

The variety and frequency of historic trade items excavated during 1986 were similar to previously excavated artifact samples. As in the 1985 analysis, a slight decrease in utilitarian objects and an increase in arms-related artifacts (mostly gunflints and shot) were noted. The Food Preparation/

Consumption artifact group was less represented in the analysis, a circumstance which was largely a product of pre-analysis sorting. In the Personal artifact group, glass beads were again the most abundant artifact. White beads were most common, followed by black, blue, and red (redwood) beads. Although fewer "fancy" beads were found, 36 bone beads were recovered, more than in any previous year. Temporally, the lack of cane beads and wound beads, and the overall small size of all beads found, indicate a late-seventeenth to early-eighteenth century date for the site. Other datable historic artifacts from the 1986 excavations (e.g., a kaolin pipe, a latten spoon, and a kettle part) support a 1680 to 1720 date for the native component at the Fredricks site.

CHAPTER 5

LITHIC ARTIFACTS

by
I. Randolph Daniel, Jr.

INTRODUCTION

Previous analysis of the Fredricks site lithic assemblage has focused on characterizing its technological/functional nature in relation to that of four other Late Prehistoric to Historic period sites (Wall, 31Or11; Mitchum, 31Ch452; Early Upper Saratown, 31Sk1; Upper Saratown, 31Sk1a). For comparative purposes, an additional Late Woodland assemblage from Forbush Creek (31Yd1) also was included (see McManus 1985). Moreover, specific research questions were addressed that considered potential change in the nature and structure of lithic technologies through time (Tippitt and Daniel 1987).

The results of this analysis revealed that the assemblages of the sites could be characterized by: 1) the use of predominantly local raw materials; 2) the use of small triangular projectile points; 3) a tool kit dominated by small flake tools; 4) tools made on flakes as opposed to bifacial preforms; 5) very few formalized tools constructed for a long use-life; and 6) relatively few ground-stone tools. Moreover, it was concluded that the introduction of metal tools probably did not drastically alter the production and use of aboriginal stone tools and weapons. "While the introduction of European metal tools and weapons certainly had an impact on the Indian cultures of the North Carolina Piedmont, many of these items appear to have been integrated into the aboriginal social and political systems rather than replacing elements of the existing technology" (Tippitt and Daniel 1987:236).

The analysis reported here is a continuation of the research outlined above. Eighteen features from the 1986 excavations contained lithic remains and are included in this analysis. As in previous studies of the Fredricks site lithic assemblage, 23 attributes were considered in the analysis and include blank category, working edge category, raw material type, tool condition, artifact size, and a series of measurements made on complete tools and projectile points. The debitage and tools from each excavation provenience were sorted first by reduction stage, then by working edge, raw material, and size. Artifact type definitions derived from the initial attribute analysis have been reported elsewhere (see Tippitt and Daniel 1987).

ASSEMBLAGE DESCRIPTION

Debitage

All stages of the manufacturing sequence are represented in the debitage. The distribution of debitage by reduction stage is presented in Table 8. Although all classes are present, small interior flakes comprise the vast majority of debitage.

Table 8. Lithic Artifacts from 1986 Feature Excavations at the Fredricks Site.

Artifact Type	n	%
Projectile Point (Archaic)	2	0.43%
Projectile Point (Small Triangular)	23	4.93%
Projectile Point (Fragment)	1	0.21%
Biface	8	1.71%
Perforator	2	0.43%
Scraper	1	0.21%
Utilized/Retouched Flake	7	1.50%
Core	6	1.28%
Hammerstone	7	1.50%
Chopper	3	0.64%
Chipped-Stone Disk	1	0.21%
Ground-Stone Disk	6	1.28%
Pitted Cobble	1	0.21%
Mano	1	0.21%
Anvil	1	0.21%
Nutting Stone	1	0.21%
Grinding Stone Fragment	3	0.64%
Ground-Stone (Indeterminate)	8	1.71%
Stone Pipe	1	0.21%
Flake		
Primary	10	2.14%
Secondary	41	8.78%
Interior	329	70.45%
Shatter	4	0.86%
Total	467	100.00%

Chipped-Stone Tools (Figures 30–31)

The chipped-stone tool assemblage contains a variety of tool classes including small triangular projectile points, perforators, retouched flakes, scrapers, large choppers, and chipped-stone disks (Table 9).

Five small flakes and one quartz pebble showed evidence of either retouch or use along portions of at least one edge. With the exception of the pebble,

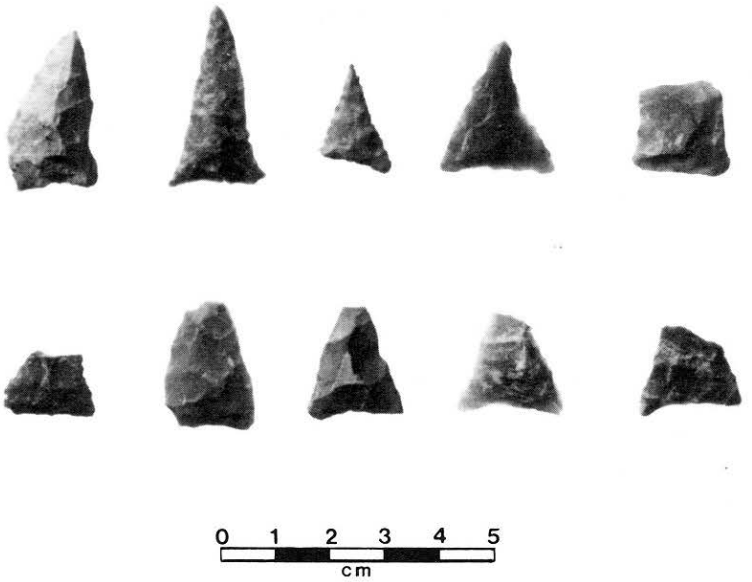


Figure 30.

Triangular Projectile Points.

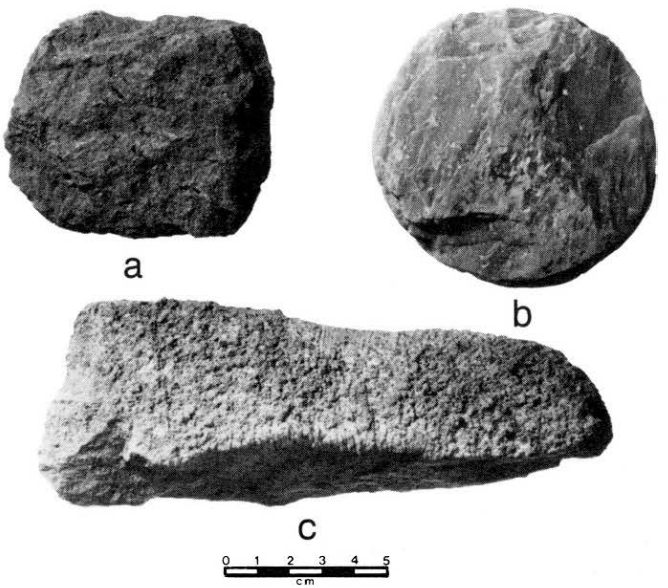


Figure 31.

Large Chipped-Stone Artifacts.

Table 9. Distribution of Lithic Artifacts from the 1986 Excavation by Context.

Artifact Type	Fea. 31	Fea. 42	Fea. 44	Fea. 45	Fea. 46	Fea. 47	Fea. 48	Fea. 49	Fea. 50	Fea. 51	Fea. 53	Fea. 54	Fea. 55	Fea. 56	Fea. 57	Fea. 58	Fea. 59	Fea. 61
PPt. (Archaic)	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—
PPt. (Sm. Triangular)	2	—	1	2	1	2	3	1	—	4	2	—	—	2	—	1	2	—
PPt. (Frags.)	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Biface	—	1	—	1	—	—	—	—	—	3	—	—	—	2	—	—	1	—
Perforator	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—
Scraper	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Util./Ret. Flake	—	—	—	—	—	—	2	—	—	—	1	—	—	—	—	—	3	1
Core	—	—	—	—	—	—	1	—	—	1	2	—	—	—	—	—	2	—
Hammerstone	—	—	—	1	1	—	—	—	—	1	3	—	—	—	—	—	1	—
Chopper	—	—	—	—	—	2	—	—	—	—	1	—	—	—	—	—	—	—
Chipped-Stone Disk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Ground-Stone Disk	—	—	—	1	—	1	1	—	—	—	—	—	—	3	—	—	—	—
Pitted Cobble	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Mano	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Anvil	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nutting Stone	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Grinding Stone Frag.	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—
Ground-Stone Indet.	—	—	—	1	—	—	—	—	—	4	—	—	—	1	—	—	2	—
Stone Pipe	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Flake Primary	2	—	—	3	—	2	—	—	—	—	—	—	1	—	—	—	1	1
Secondary	—	—	2	8	1	5	7	—	—	4	5	—	1	2	—	—	5	1
Interior	6	17	23	38	15	27	35	4	2	36	12	11	6	41	4	4	38	10
Shatter	—	—	—	1	—	—	2	—	—	—	1	—	—	—	—	—	—	—
Total	10	18	27	56	21	40	53	5	2	54	29	11	8	53	4	5	57	14

a flake morphology is evident on these specimens. One quartz end scraper, made on a medium-sized flake, also is present in the assemblage. It retains a striking platform and displays regularized retouch along the distal (working) edge and some slight retouch along both lateral edges. This end scraper was recovered from Feature 51 and is of particular interest since it refits onto two pieces of a quartz core that were recovered from Feature 53. These retouched/utilized tools apparently were used in scraping and cutting activities.

Of the two perforators present in the lithic artifact sample, one was manufactured from a long, narrow, and heavily patinated flake. The retouch displayed on this specimen is bifacial and is confined to one end to form a point. The second perforator appears to have been recycled from a small triangular projectile point. The long and narrow shape of the first specimen, as well as the fact that the second was manufactured on a projectile point, indicate that these were hafted tools.

Other chipped-stone tools include three large (70-170 mm in length) choppers. Two were made from schist and were roughly chipped along the edges into a square shape (Figure 31a). Another was made from an unidentified raw material and is long and wedge-shaped (Figure 31c). Only the bit end of this latter tool displays flaking where it is roughly bifacially chipped. Grinding, however, is very noticable along both lateral edges and covers an area about 30 mm in length at the approximate center of the tool. This modification of both lateral edges was presumably for hafting. The shape and edge characteristics of these large chipped-stone tools suggest that they were used in heavy duty tasks such as digging or chopping.

One large (89 mm in diameter) chipped-stone disk, similar in form to those recovered from earlier excavations, also is present (Figure 31b). It was made from an unidentified stone and roughly chipped into a circular shape. Some light grinding also is evident on its edges. As with the other chipped-stone disks recovered from the site, its function(s) remains unknown.

Finally, eight bifaces of varying size, shape, and thickness also are present. They exhibit flake removal scars on both surfaces and appear to be either tools that broke during manufacture or bifaces that could not be thinned and were discarded.

Projectile Points (Figure 30)

Twenty-three small triangular projectile points and point fragments were recovered from features excavated during 1986. Eleven of these are sufficiently complete to identify their blade and base configurations and are summarized in Table 10. Straight blades and straight or incurvate bases account for the majority of point forms. This pattern is consistent with the results of the earlier analysis. Moreover, these points appear to have been made by bifacially retouching small to medium-sized flakes as op-

Table 10. Distribution of Triangular Projectile Point Forms.

Projectile Point Form	n	%
Straight Blade, Straight Base	3	13.04%
Straight Blade, Incurvate Base	6	26.09%
Excurvate Blade, Straight Base	1	4.35%
Incurvate Blade, Incurvate Base	1	4.35%
Unidentified	12	52.17%
Total	23	100.00%

posed to the use of a bifacial preform, which also is consistent with the results described in the previous analysis.

Two Archaic projectile points—one Kirk Corner Notched and one Kirk Stemmed—and one unidentifiable projectile point fragment also were recovered from two features. Archaic period projectile points were recovered from earlier plowzone excavations as well (see Tippitt and Daniel 1987:223).

Ground-Stone Tools (Figure 32)

Several types of ground-stone tools also were recovered, including six ground-stone disks that are similar in size and shape to the chipped-stone disk described above (Figure 32c-e). These artifacts range in size from 30-50 mm in diameter and are relatively thin and flat in cross-section. One specimen, however, is much thicker and more plano-convex in cross-section, and somewhat resembles a small chunkey stone. Still another specimen is half-moon shaped. It is uncertain whether this item was originally manufactured into this shape or represents a broken disk that was reworked into this form. Only two ground-stone disks could be identified as to raw material; both were made from schist. The function(s) of these artifacts remain unknown. Several other ground-stone fragments of unidentifiable types also are present in the artifact sample.

Single examples of a mano, pitted cobble, anvil, and nutting stone are also represented in the assemblage from the 1986 excavation (Figure 32a-b). The mano, made of igneous rock, is roughly rectangular (80×67 mm) in shape, relatively thick (37 mm), and triangular to trapezoidal in cross-section. The top and bottom faces of this tool were smoothed by abrasion and grinding. The pitted cobble is a flat and roughly circular (86×78 mm) piece of granite that possesses a single circular depression (approximately 20 mm in diameter) in the center of one face and what appears to be the beginning of another depression on the reverse side. Furthermore, both surfaces appear slightly pitted and roughened. The nutting stone is a large (210×112 mm) flat piece of schist with several circular depressions, similar in nature to the pitted cobble depressions described above, on both sides

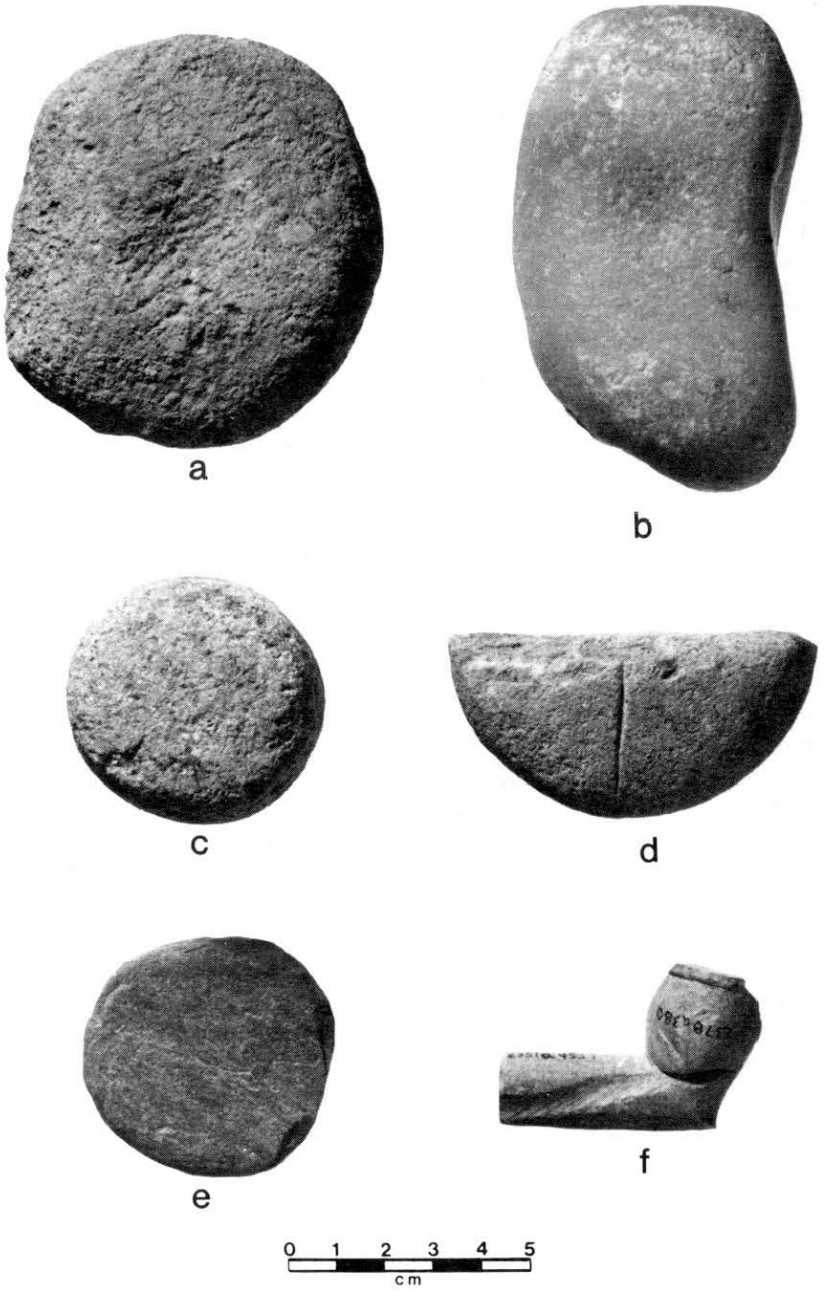


Figure 32.

Large Ground-Stone Artifacts.

One surface contains approximately 11 irregularly-spaced depressions ranging from 10–25 mm in diameter. The reverse side exhibits about ten irregularly spaced depressions ranging between 10 and 20 mm in diameter. The traditional interpretation of pitted cobbles and nutting stones is that they are a product of nut processing. Finally, a portion of a broken corner of an anvil also was recovered. It is made of metavolcanic rock, has ground edges, is crushed and pitted on one surface.

Other Stone Tools (Figure 32)

The lithic assemblage also contains hammerstones and cores that were used in the production of other stone tools. The hammerstones consist of one granite, one igneous, and five quartz cobbles. All specimens exhibit varying amounts of battering along their edges. In addition to battering, possible evidence of other tool functions is displayed on two items. One quartz specimen exhibits two depressions, one on each face, that are similar in nature to those of the nutting stone described above. The igneous hammerstone displays a distinctive smoothed band of grinding along a portion of its edge. This may reflect use as a mano.

All cores are made of quartz. Four are actually small chunks from which a few flakes have been removed. The remaining two are larger conjoining pieces from Feature 53 that the quartz endscraper (described above) refitted onto.

Finally, a single fragment of a ground-stone pipe bowl was recovered from feature context (Figure 32f). It also refits with a ground-stone pipe stem recovered from the plowzone of an adjacent square. The pipe is unfinished and appears to have been broken during manufacture. The break occurred at a point where the bowl joins the stem. The pipe bowl had not been completely hollowed out nor had an air hole been drilled through the stem. The stem is tubular in shape, approximately 50 mm in length, and 16 mm in diameter. The bowl is circular in plan view and what appears to be a slight lip is present near the top of the bowl.

ASSEMBLAGE CHARACTERISTICS

The Fredricks site lithic assemblage recovered from the features of the 1986 excavations contains a range of artifact types similar to that identified from the 1983–85 excavations. This includes a small-tool kit characterized by small triangular projectile points, perforators, retouched and utilized flakes, and scrapers. These primarily represent expedient tools manufactured on flakes. These items make up the generalized cutting and scraping tools in the assemblage.

The large-tool kit represented in this analysis contains tools that were made from cobbles and larger masses of raw material, and includes a vari-

ety of ground-stone and chipped-stone specimens. Hammerstones, anvils, nutting stones, manos, pitted cobbles, and choppers characterize this large-tool kit and represent the functions of tool production, food production, and chopping or digging. A few ground-stone fragments and several whole disks (both ground and chipped) of indeterminate function also are present.

Two types of tools—manos and nutting stones—were not identified in the earlier analyses of the Fredricks site; however, this does not significantly alter the nature of the lithic assemblage since the functional equivalents (e.g., polished cobbles and pitted cobbles) of these types have been previously identified from the earlier excavations (see Tippitt and Daniel 1987).

In addition, a single non-utilitarian ground-stone tool type—the unfinished stone pipe—also was identified in this season's feature excavation. Although ceramic pipes were recovered from the Fredricks site, this is the only evidence for the manufacture and use of stone pipes.

CONCLUSIONS

In summary, the results of the present lithic assemblage analysis support the conclusions of the earlier Fredricks site analysis. Basically, a similar range of technological and functional types were recovered from the 1986 excavations that were previously identified from the earlier excavations.

The Fredricks site lithic assemblage is primarily composed of small flake tools, the majority of which are cutting or scraping tools. A few larger chipped-stone tools also are present and presumably were made for more robust activities such as digging or chopping. Moreover, most of the chipped-stone implements were made of local raw materials and are not highly formalized tools manufactured for a long use-life. Other stone tools, including hammerstones and cores, were probably utilized in the production of other stone artifacts. The remaining portion of the assemblage is composed of ground-stone items. Some of these appear to have been used for food processing activities; however, many are of indeterminate function.

Based on an intersite comparison of lithic assemblages from five other Late Prehistoric to Historic period sites, a basic similarity was identified in the organization of lithic technologies (Tippitt and Daniel 1987). To restate the original conclusions, there seems to be little evidence to support the idea of significant changes in the production and use of aboriginal stone tool technologies at the Fredricks site due to the introduction of European metal tools and weapons. This apparent continuity in lithic technology from the Late Prehistoric to Historic periods is somewhat unexpected. It remains to be seen if this pattern persists when additional Late Prehistoric and Historic period sites are investigated in other drainages within the study area.

CHAPTER 6

FAUNAL REMAINS

by
Mary Ann Holm

INTRODUCTION

All of the area within the palisaded village of the Fredricks site has now been excavated except for a small portion in the southwest that was covered with large trees. Eleven domestic structures and all of their associated features have been exposed. Since 1983, a total of 74,126 fragments of animal bone from the Fredricks site has been recovered and analyzed. These fragments represent all of the faunal remains from undisturbed contexts within the palisaded village.

To date, the faunal remains from the 1983/84 (assemblages from these two years of excavation were combined), 1985, and 1986 excavations have been analyzed and compared as separate assemblages. It has not yet been possible to combine the results of analysis of the three assemblages and to recalculate the minimum number of individuals (MNI) for each of the species with the entire site taken into consideration. However, the fact that virtually all of the village has been excavated provides an excellent opportunity to study not only the subsistence practices of the inhabitants of the Fredricks site, but also the patterns of refuse disposal, food distribution, and butchering practices.

Analysis of the 1983/84 and 1985 assemblages was directed toward determining the basic pattern of faunal utilization of the inhabitants of the Fredricks site and, through a comparison of this pattern with that observed for the protohistoric Wall site, determining whether contact with Europeans affected the utilization of faunal resources by the inhabitants of the historic site (Holm 1986). The following report presents the results of the analysis of the faunal remains recovered in the 1986 excavations of the Fredricks site and a comparison of this assemblage with those recovered during the 1983, 1984, and 1985 excavations.

SAMPLING AND ANALYTIC PROCEDURES

The 1986 assemblage from the Fredricks site was sampled and analyzed using procedures identical to those used for the assemblages from the 1983, 1984, and 1985 field seasons. A detailed discussion of these procedures can be found in the report on the 1983/84 assemblage (Holm 1985). The 1986 assemblage consisted of 25,832 fragments. Only faunal remains from undisturbed contexts were analyzed. These remains were recovered from

the fill of 16 pits. One of these was a burial (Burial 14), two were probable burial pits containing no human bone, one was an irregular trench, and 12 were storage pits or soil recovery facilities. The fill from these features was waterscreened through a series of ½-inch, ¼-inch, and 1/16-inch mesh screens. All of the faunal remains recovered in the ½-inch (6,202 fragments) and ¼-inch (18,277 fragments) screens were examined. Only identifiable fragments were sorted from the material recovered in the 1/16-inch screen (1,353 fragments).

Minimum numbers of individuals were calculated on the basis of paired elements. In order to facilitate comparison with the faunal assemblages recovered from the Fredricks site in earlier excavations, MNI was calculated from the 1986 assemblage as a whole without taking the excavation units into account.

RESULTS OF ANALYSIS

Twenty-two species, represented by a minimum of 107 individuals, were identified in the 1986 assemblage from the Fredricks site (Table 11). Of the individuals identified, 59% were mammals, 14% were birds, 11% were reptiles, 6% were amphibians, and 10% were fish.

Mammals

No domesticated mammals were represented in the faunal remains from the 1986 assemblage. The earlier assemblages recovered from this site yielded only one fragment identified as horse and one identified as pig. It is thus apparent that European-introduced animals were not contributing significantly to the diet of the inhabitants of the Fredricks site.

White-tailed deer was the most common mammal represented, with a minimum of 21 individuals accounting for approximately 20% of the individuals identified. Eleven deer mandibles in the assemblage were complete enough to determine the approximate age of death using Severinghaus's (1949) method based on tooth development and wear. One individual was between the ages of 9 and 11 months and two were between 13 and 17 months old. One individual was 2½ years old, two were 3½ years old, two were 4½ years old, and three were 5½ years old. From the assemblages recovered between 1983 and 1986, it has been possible to determine the age at death for 21 of the deer identified (Table 12). This is only a small percentage of the total number of deer from the site and may not be representative of the actual age distribution of the deer. However, as the majority of the deer that could be aged were neither very young nor very old, it is likely that drives or surrounds were used in hunting the deer rather than stalking (Waselkov 1977:120).

Table 11. Faunal Remains from the Fredricks Site.

Species	Frag.	% Frag.	Wt.(g)	% Wt.	MNI	% MNI
Odocoileus virginianus, Whitetailed Deer	1917	7.42	13053.10	50.68	23	21.50
Didelphis marsupialis, Opossum	2	.01	4.60	.02	1	.93
Sciurus carolinensis, Gray Squirrel	8	.03	15.50	.06	1	.93
Sciurus sp.	310	1.20	94.10	.36	6	5.61
Procyon lotor, Raccoon	26	.10	26.50	.10	2	1.87
Peromyscus leucopus, White-footed mouse	354	1.37	4.60	.02	18	16.82
Ursus americanus, Black bear	78	.30	961.20	3.73	2	1.87
Mephitis mephitis, Striped Skunk	2	.01	17.10	.07	1	.93
Sigmodon hispidus, Hispid Cotton	72	.28	1.90	.01	6	5.61
Sylvilagus sp.	10	.04	4.20	.02	1	.93
Vulpes fulva, Red Fox	1	.00	.10	.00	1	.93
Rodent (indeterminate)	6	.02	.20	.00	1	.93
Unidentified Mammal	10117	39.16	7295.90	28.33	—	—
Meleagris gallapavo, Wild Turkey	532	2.06	1421.40	5.52	14	13.08
Ectopistes migratorius, Passenger Pigeon	14	.05	1.90	.01	2	1.87
Unidentified Bird	993	3.84	469.20	1.82	—	—
Terrapene carolina, Box Turtle	717	2.78	722.30	2.80	11	10.28
Chelydra serpentina, Snapping Turtle	4	.02	10.40	.04	1	.93
Unidentified Turtle	1011	3.91	309.50	1.20	—	—
Unidentified Snake	74	.29	5.60	.02	—	—
Bufo sp., Toad	13	.05	.40	.00	1	.93
Rana sp., Frog	35	.14	.62	.00	2	1.87
Scaphiopus holbrooki, Spadefoot Toad	31	.12	.50	.00	1	.93
Toad/Frog	17	.06	.70	.00	2	1.87

Table 11. Continued.

Species	Frag.	% Frag.	Wt.(g)	% Wt.	MNI	% MNI
Cyprinidae, Minnow	1	.00	.01	.00	1	.93
Ictalurus sp., Catfish	8	.03	.70	.00	6	5.61
Lepisosteus sp., Gar	101	.39	3.10	.01	1	.93
Centrarchidae, Sunfish	62	.24	1.40	.00	2	1.87
Unidentified Fish	201	.79	5.70	.02	—	—
Sub-Total (Identified to Class)	16717	64.71	24432.41	94.86	—	—
Sub-Total (Unidentified)	9115	35.28	1322.70	5.14	—	—
Total	25832	99.99	25755.11	100.00	107	99.96

Table 12. Age of Deer from the Fredricks Site.

Age	1983/84	1985	1986	Total n	Total %
9 to 11 months	—	1	1	2	9.5
13 to 17 months	—	1	2	3	14.3
17 to 20 months	—	1	—	1	4.8
2½ years	—	1	—	1	4.8
3½ years	—	1	2	3	14.3
4½ years	1	1	2	4	19.0
5½ years	1	—	3	4	19.0
6½ years	—	1	—	1	4.8
7½ years	1	—	—	1	4.8
8½ to 9½ years	1	—	—	1	4.8
Total	4	7	10	21	100.1

There were only eight deer innominates in the 1986 assemblage that were complete enough to allow the use of Edwards, Marchinton, and Smith's (1982) method for determining the sex of deer. A minimum of five individuals were represented by these innominates, four of which were males and one of which was a female. In the 1983/84 assemblage there were no innominates sufficiently preserved to allow the use of this criterion. In the 1985 assemblage, three females and four males were identified. Thus, of the 12 individuals for which sex could be determined, eight were males and four were females. As this is such a small percentage of the total number of deer represented in the assemblage, it is not possible to draw any conclusions as to whether or not the inhabitants of the Fredricks site were preferentially hunting male rather than female deer.

The only large mammal identified in the 1986 assemblage other than deer was black bear, which was represented by a minimum of two individuals. The 78 fragments identified as bear yielded only two that were useful for determining age. Marks and Erickson (1966) indicate that the distal epiphyses of bear metacarpals fuse during the second year and that complete fusion of the epiphyses of the radii and ulnae occurs between five and six years in females and by seven years in males. The one fused metacarpal and one fused ulna in the assemblage indicate that at least one of the individuals represented in the assemblage was between five and seven years old.

A total of 559 fragments of bear bones has been identified from the Fredricks site to date. These remains represent a minimum of four individuals distributed in the fill of 16 features. Guilday, Parmalee, and Tanner (1962:65–66) have noted that bear bones may not be abundant in prehistoric sites in the East because of the practice of bear ceremonialism and the

attendant special treatment given to bear bones. They hypothesize that the introduction of firearms and the fur trade caused an increase in bear hunting and thus an increase in the number of bear bones identified in historic as opposed to prehistoric sites. Bear was second only to deer in terms of meat yield at the Fredricks site. Coupled with the fact that the bear bones were scattered in 16 pits, this indicates that bears and their remains may not have received special treatment from the inhabitants of the Fredricks site.

Lawson (Lefler 1967:122) noted that among the Indians he visited, the paws were considered to be the most edible part of the bear. It is interesting to note that 68.5% of all the bear bones identified from the Fredricks site were burned and that the majority of these burned fragments were foot bones. Only 25.4% of all the deer remains were burned and those fragments that were burned represent elements from all portions of the deer.

Small mammals accounted for nearly 36% of the individuals identified in the 1986 assemblage from the Fredricks site. No rabbit remains were represented in the 1983/84 or 1985 assemblages and only ten fragments of rabbit bones, representing one individual, were identified in the 1986 assemblage. Rabbit was the third most numerous mammal represented at the nearby protohistoric Wall site. This distribution is indicative of change in the environment or subsistence habits of the aboriginals between the time of occupation of the Wall site and that of the Fredricks site.

White-footed deer mouse was second only to deer in terms of the number of individuals identified in the 1986 assemblage. Eighteen individuals were identified, 15 of which were recovered from a single feature (Feature 42). Remains of other small mammals (such as cotton rats) and amphibians also were found in the fill of this feature. These remains probably represent animals that became trapped in the pits before they were completely filled with refuse. As the remains of these small animals were found in all three zones of fill, it can be hypothesized that the pit was partially filled and then left standing open on as many as three occasions. Whyte (1986:4–9) has found that small animals tend to become trapped in open pits most often in late spring, summer, and early fall. The large number of small animals represented in the fill of Feature 42 indicates that this pit may have been filled with refuse between spring and fall, rather than in the winter.

No mammals were identified in the 1986 assemblage that had not been represented in the assemblages from earlier field seasons. The remains of fox squirrel, shrew, horse, pig, and mountain lion were the only mammalian species identified earlier that were not represented in the 1986 assemblage.

Birds

The only birds identified in the 1986 assemblage were turkey and passenger pigeon. Together, these species accounted for approximately 14%

of the individuals in the assemblage. Sparrow, plover, bobwhite, red-bellied woodpecker, and lesser scaup are the species of bird represented in earlier assemblages from the Fredricks site that were not identified in the 1986 assemblage.

All of the remains of passenger pigeon, representing two individuals, were found in Zone 1 of Feature 14. As passenger pigeon is a migratory bird, this indicates that this particular fill zone represents refuse deposited in the pit during the fall.

Turkey accounted for over 12% of the individuals in the assemblage and was second only to deer among animals represented that would have been important food resources for the inhabitants of the Fredricks site. Based upon the presence of spurs, all 14 of the turkeys identified in the 1986 assemblage were males. Thirty-three percent of the turkeys identified from all of the faunal remains from the Fredricks site were males. As only approximately 19% of turkeys in the wild are males (Gwynn 1964), it is evident that the inhabitants of the Fredricks site were selecting males over females.

Reptiles and Amphibians

As in the earlier assemblages, box turtle was the most numerous of the reptiles in the 1986 faunal remains. Eleven individuals were identified. It is likely, based upon the presence of a large number of carapace and plastron fragments, that this severely under represents the actual number of box turtles in the assemblage. A single snapping turtle and the remains of an unidentified snake also were identified. In the 1983/84 and 1985 assemblages, painted turtle, mud turtle, and musk turtle also were represented among the faunal remains.

One spadefoot toad, two indeterminate frogs, and one indeterminate toad were present in the 1986 assemblage. This inventory is very similar to the representation of amphibians in earlier assemblages from the Fredricks site. The remains of the amphibians from the 1986 assemblage were found in Features 42, 44, and 55 and indicate that these features may have been left open and not immediately filled with refuse.

Fish

Catfish, minnow, sucker, and gar accounted for approximately nine percent of the individuals in the 1986 assemblage. This is a marked decrease compared to the representation of fish in the earlier assemblages. Approximately 32% of the individuals in the 1985 assemblage were fish and approximately 52% of the individuals in the 1983/84 assemblage were fish.

Cut and Worked Bone

As with the assemblages recovered during earlier excavations of the Fredricks site, only a very small percentage of the bones recovered in 1986 were worked or exhibited cut marks. Worked bone consisted of a fragment of a deer radius beamer, two awls made from long bones of unidentified mammals, one perforated raptor talon, and a small fragment of perforated bird bone. Cut marks were observed on one indeterminate mammal long bone, 10 fragments of deer bones, and one bear cervical vertebra. The cut marks on the deer bones were located on fragments of two antlers, one ramus, three scapulae, one lumbar vertebra, one thoracic vertebra, one cervical vertebra, one sacrum, and one astragalus.

DISCUSSION AND CONCLUSIONS

An attempt was made to determine the relative importance of the contribution made by each species identified in the 1986 assemblage to the diet of the inhabitants of the Fredricks site. Calculations of available meat were based on estimates by Cleland (1966), Smith (1975), and White (1953). The results of these calculations are presented in Table 13. The most important animals, in terms of estimated meat yield, were deer (75.8% of the available meat), bear (16.3%), turkey (4.6%), and raccoon (1.2%). Each of the other species provided 0.5% or less of the available meat. Deer, bear, and turkey were all important (in terms of meat yield) in the previous assemblages from the Fredricks site. However, catfish was considerably more important in both of the earlier assemblages.

A Simpson's diversity index was computed for the 1983/84, 1985, and 1986 faunal assemblages from the Fredricks site. The 1986 value was 0.88 with a maximum of 0.96. The 1985 value was 0.83 with a maximum of 0.95, and the 1983/84 value was 0.73 with a maximum of 0.97. The 1985 and 1986 assemblages are much more similar to one another than either is to the 1983/84 assemblage. In the 1983/84 assemblage a minimum of 142 individuals representing 35 species was identified. In the 1985 assemblage 21 species were represented by 112 individuals, and in the 1986 assemblage 22 species were represented by 107 individuals. The fact that the 1985 and 1986 assemblages exhibited higher diversity but fewer species identified indicates that they display greater equitability of representation of species than does the 1983/84 assemblage. However, despite the fact that it is far smaller than the other two assemblages, the 1983/84 assemblage is richer (both in terms of the number of individuals and the number of species identified).

The differences in diversity and equitability of representation exhibited by the three assemblages may be explained by the contexts from which the assemblages were recovered. Nearly 88% of the faunal remains recovered

Table 13. Estimated Meat Yield in Pounds.

Species	Estimated Meat Yield Per Individual (lbs.)	lbs.	%
White-tailed Deer	85.0	1955.0	75.79
Opossum	8.5	8.5	.33
Gray Squirrel	1.0	1.0	.04
Squirrel sp.	1.2	7.2	.28
Raccoon	15.0	30.0	1.16
White-footed Deer Mouse	*	—	—
Black Bear	210.0	420.0	16.28
Red Fox	4.0	4.0	.16
Rodent (indet.)	*	—	—
Striped Skunk	5.0	5.0	.19
Hispid Cotton Rat	0.2	1.2	.05
Rabbit	1.8	1.8	.07
Total Mammal	—	2433.7	94.35
Turkey	8.5	119.0	4.61
Passenger Pigeon	0.7	1.4	.05
Total Bird	—	120.4	4.66
Frog	*	—	—
Toad	*	—	—
Spadefoot Toad	*	—	—
Total Amphibian	—	—	—
Box Turtle	0.3	3.3	.13
Snapping Turtle	10.0	10.0	.39
Snakes	0.2	0.2	.01
Total Reptile	—	13.5	.53
Catfish	1.5	9.0	.35
Sunfish	1.0	2.0	.08
Gar	1.0	1.0	.04
Minnow	*	—	—
Total Fish	—	12.0	.47
Total	—	2579.6	100.01

in the 1983/84 excavations were retrieved from the fill of burial pits. Only 4.6% of the remains from the 1985 assemblage and only 0.10% of the remains from the 1986 assemblage were recovered from burial fill. The burials excavated in 1983 and 1984 were located in the cemetery outside of the palisade along the northeast side of the village. Most of these burial pits exhibited a distinct upper layer of fill containing large quantities of faunal

remains and other refuse. It has been suggested (Ward and Davis 1986:38) that this refuse represents the remains of ritual death feasting. If this is the case, it does not seem illogical that a wider variety of species would have been utilized during these feasting rituals than would have been used for everyday subsistence.

In spite of the fact that the inhabitants of the Fredricks site were heavily involved in trade with Europeans, there is no evidence that European-introduced animals were of any importance in their diet. The inhabitants of the site relied most heavily on deer, bear, turkey, catfish, and raccoon. In this respect, it seems that the inhabitants of the historic Fredricks site relied on a pattern of faunal exploitation very similar to that employed prehistorically.

It is quite likely that a large portion of the refuse generated by the inhabitants of the Fredricks site was disposed of in the nearby Eno River rather than in pits within the palisaded village. When the results of the 1983/84, 1985, and 1986 assemblages are combined, however, all of the faunal remains originally deposited in the village will have been accounted for. This situation provides excellent conditions for establishing hypotheses concerning patterns of refuse disposal and food distribution that can then be tested at other sites for which only samples of the faunal remains have been recovered.

CHAPTER 7

PLANT REMAINS

by
Kristen Johnson Gremillion

INTRODUCTION

Four seasons of excavation at the Fredricks site have resulted in the collection, analysis, and interpretation of a sample of plant remains drawn from most of the site's exposed features. The data on plant use at Fredricks have been drawn from all areas of the site and from all represented feature types. Although only a small precentage of soil excavated at the Fredricks site was processed by flotation, a systematic sampling procedure was implemented in order to provide a reasonably representative subsample of deposits containing plant remains.

This report presents the findings of the 1986 field season and also summarizes the paleoethnobotany of the Fredricks site to date. Each season has added data needed to answer the research questions formulated at the outset of the Siouan Project. These include the following: what was the overall pattern of plant use of Fredricks site inhabitants during its brief period of occupancy? Specifically, what kinds of plant foods were used, and in what proportions? What European-introduced plant species found a place in the aboriginal subsistence system?

Other questions have proved more elusive, but are being explored with some success as data accumulate. These are related to changes in aboriginal subsistence that may have been stimulated by contact with Europeans, particularly through the medium of trade. The influence of trade was apparently felt both through introduction of artifacts and, more indirectly, in the effects of the European quest for hides and furs. European economic pursuits may have encouraged changes in aboriginal scheduling of subsistence activities both intentionally or unintentionally, as was the case for the Huron of the Northeast (Hunt 1967). Even more difficult to assess using archaeological evidence are the effects that population decrease on either a regional or local level may have had on the organization of subsistence activities, including agriculture and collection of non-cultigens such as acorns and hickory nuts.

Answering such complex questions about change will require at minimum additional data from precontact sites. However, the excavations at Fredricks have been complete enough to allow for construction of a descriptive account of plant use at that site. In addition, these data, in conjunction with ethnohistoric sources, have made possible a tentative reconstruction of the Fredricks site group's scheduling of subsistence activities (see Gremillion

1986). At the same time new questions have arisen about the extent of trade specialization at the site and the sources of food remains found in archaeological deposits there. Whether or not Fredricks site inhabitants grew and collected all or most of the plant foods represented archaeologically is a question that may be unanswerable on the basis of present evidence.

Nevertheless, a number of questions about plant use at this site have been answered, and this report will summarize those findings. The present assessment of the data includes revisions of some of the seed identifications made in previous years (Gremillion 1986, 1987) and brings up to date absolute quantities of various types of plant food remains, as well as relative measures of their occurrence. The relevance of these paleoethnobotanical data to more complex questions about European contact, culture change, and plant use also will be discussed.

METHODS

Flotation samples from 16 features at the Fredricks site were analyzed. The data were drawn from one burial pit (Burial 14), two probable burial pits, and 13 pits. Soil samples were drawn from all feature zones in 10 liter bucket-measured quantities. Additional 10 liter samples were taken from fill zones containing abundant visible charcoal. All samples were processed in the field using a device similar to the SMAP machine described by Watson (1976). Light fractions were collected in a U.S. Standard geological sieve with mesh openings of 0.71 mm, and heavy fractions were captured in a 1/16 in mesh screen inside the flotation tank. Each fraction was then dried in the field and transported back to the laboratory for cataloguing and analysis. In addition, several seeds were sorted from waterscreened material and will be mentioned where appropriate but neither included in site totals nor subjected to quantification.

Procedures for analysis approximated those reported in Yarnell (1974). Each sample was weighed and sifted through a series of U.S. Standard geological sieves with mesh sizes ranging from 6.35 mm to 0.21 mm. Material retained in the 2.00 mm and larger screens was sorted completely and weighed (for heavy fractions, only carbonized plant remains in this size category were sorted completely). Material passing through the 2.00 mm screen was searched only for seeds, cultigen remains, and carbonized plant remains not found in the largest size category. Total plant remains quantities in the 1.41 mm, 1.00 mm, and 0.71 mm screens were estimated on the basis of their representation in the fully sorted (2.00 mm and greater) size class. These extrapolated values appear in Table 14; extrapolated weights for plant food remains are itemized in Table 15.

Most of the flotation samples were analyzed completely. However, three heavy fractions contained large quantities of fired clay, rock, soil and other

inorganic material. Since the heavy fractions were not separated into charcoal and non-charcoal components using chemicals or a second washing, these heavy fractions would have been unwieldy and time-consuming to sort by hand. Therefore, in these cases a 50% sample was obtained using a riffle-type sample splitter. Samples treated in this way are indicated in Table 14.

Two primary methods of quantification of plant remains data for comparative purposes were used, namely percentage (by number for seeds and by weight for other types of plant food remains) and ubiquity. Percentage by weight is flawed as a comparative tool for assessing relative importance of various types of plant foods because of differences in durability, preservability, method of deposition and food-to-waste ratio between these food types. However, percentage by weight (Table 16) does give a rough measure of quantities of plant food remains and can be useful for comparing remains classes with similar preservability (such as hickory shell and walnut shell). Less preservable types of plant remains such as small seeds and acorn shell may appear to be poorly represented on the basis of percentage by weight alone. Ubiquity (as the precentage of features in which a plant taxon is represented) has the advantage as a comparative measure of considering only frequency of occurrence without ranking by quantity and is useful for comparing plant remains classes with different physical characteristics and/or types of remains manipulated differently by people. Densities of plant remains, plant food remains, and seeds in feature fill are given in Table 17 as a quick reference to the concentration of plant remains in different features and feature types.

Seeds are reported by number (Table 18) and weighed as an aggregate for each feature (Table 15). Heavy, durable propagules like nuts and peach pits, which usually occur as fragments, were weighed but not itemized by number. Cultigen remains (common bean, maize kernels and cupules, and cucurbit rind) are itemized by weight as well as number, except for cucurbit seeds, which were weighed together with other seeds. Seed quantities also are expressed as percentage of total identified seeds. Interpretation of the importance of plant foods represented by whole seeds depends upon number of seeds per fruit, durability and method of preparation as well as on relative or absolute quantities.

RESULTS

Flotation samples analyzed from the 1986 excavations represent the processing of 500 liters of feature fill. A total of 504.62 g of plant remains was recovered from these samples, including 396.52 g of wood and stem charcoal and 88.06 g of plant food remains. Carbonized fragments of root or rhizome, one unidentified bud, one pedicel or peduncle and other unidentified fragments also were found in the flotation samples (Table 14).

Table 14. Plant Remains from Flotation Samples (weights in grams).

Feature Type Feature No.	Soil Volume (liters)	Plant Remains	Wood/ Stem	Unknown	Other Type	 Wt.(g)	Plant Food Remains
Burials/Probable Burials							
Fea.31	30	12.04	10.58	0.29	—	—	1.17
Fea.49	20	15.18	13.34	1.18	—	—	0.66
Fea.54/Bu.14	20	16.88	16.33	0.22	—	—	0.33
Subtotal	70	44.10	40.25	1.69	—	—	2.16
Pits and Basins							
Fea.42	40	14.41	11.84	1.16			1.41
Fea.44	60	140.30	86.50	2.49	Unid. bud	x[1]	51.31
Fea.45	20	15.04	11.25	0.82	Root/rhizome	0.08	2.89
Fea.46	20	17.85	16.07	0.46	—	—	1.32
Fea.47	30	38.08	34.46	0.56	Root/rhizome	0.01	3.05
Fea.51	30	32.04	28.65	1.41	Root/rhizome	x	1.98
Fea.53[2]	90	136.19	113.09	6.96	Root/rhizome	0.02	16.12
Fea.55	10	0.38	0.25	0.04	Root/rhizome	0.02	0.07
Fea.56[3]	60	35.76	29.43	1.97	—	—	4.36
Fea.57	10	1.47	1.30	0.12	—	—	0.05
Fea.58	20	5.40	3.08	0.45	—	—	1.87
Fea.59	30	22.72	19.64	1.73	Pedicel/peduncle	0.01	1.34
Fea.61	10	0.88	0.71	0.04	—	—	0.13
Subtotal	430	460.52	356.27	18.21	—	0.14	85.90
Total	500	504.62	396.52	19.90		0.14	88.06

[1]x = <0.005 g.
[2]Includes one heavy fraction sampled at 50%.
[3]Includes two heavy fractions sampled at 50%.

Table 15. Plant Food Remains from Flotation Samples (weights in grams).

Feature Type Feature No.	Hickory Shell	Acorn Shell	Acorn Meat	Walnut Shell	Juglandaceae Shell	Peach Pit	Maize Kernels	Maize Cupules and Glumes	Seeds	*Cucurbita* Rind	Common Bean	Total Plant Food Remains
Burials/Probable Burials												
Fea.31	1.00	0.04	—	—	—	—	0.01	—	0.12	—	—	1.17
Fea.49	0.19	0.15	—	—	—	0.07	0.15	0.07	0.03	x	—	0.66
Fea.54/Bu.14	0.14	0.14	—	—	—	—	0.01	0.04	—	—	—	0.33
Subtotal	1.33	0.33	—	—	—	0.07	0.17	0.11	0.15	x	—	2.16
Pits and Basins												
Fea.42	1.04	0.14	—	0.02	—	—	0.02	0.17	0.02	—	—	1.41
Fea.44	50.02	0.01	—	—	0.02	0.19	0.72	0.23	0.12	—	—	51.3
Fea.45	2.78	0.02	—	—	—	—	0.02	0.05	0.02	—	—	2.89
Fea.46	0.85	0.03	—	—	—	0.16	—	0.23	0.05	—	—	1.32
Fea.47	2.47	x	—	—	—	—	0.12	0.42	0.04	—	—	3.05
Fea.51	1.42	0.05	—	0.01	—	0.09	0.24	0.16	0.01	—	—	1.98
Fea.53	8.59	0.53	4.42	0.51	0.11	0.47	0.75	0.30	0.43	—	0.01	16.12
Fea.55	—	0.03	—	—	0.04	—	—	—	—	—	—	0.07
Fea.56	3.70	0.03	—	0.07	—	0.20	0.05	0.31	0.20	—	—	4.36
Fea.57	—	—	—	—	0.05	—	—	—	—	—	—	0.05
Fea.58	1.68	0.05	—	0.08	—	—	x	0.03	0.03	—	—	1.87
Fea.59	0.96	0.09	—	—	0.05	—	0.11	0.10	0.03	—	—	1.34
Fea.61	0.12	—	—	—	—	—	x	0.01	x	—	—	0.13
Subtotal	73.63	0.98	4.42	0.69	0.27	1.11	2.03	1.81	0.95	—	0.01	85.90
Total	74.96	1.31	4.42	0.69	0.27	1.18	2.20	1.92	1.10	x	0.01	88.06

Table 16. Percentage of Plant Food Remains from the Fredricks Site.

Feature Type Feature No.	Plant Food Remains (g)	Hickory Shell	Acorn Shell	Acorn Meat	Walnut Shell	Juglandaceae Shell	Peach Pit	Total Maize	Seeds	*Cucurbita* Rind	Common Bean
Burials/Probable Burials											
Fea.31	1.17	85.5	3.4	—	—	—	—	3.4	10.3	—	—
Fea.49	0.66	28.8	22.7	—	—	—	10.6	33.3	4.5	tr[1]	—
Fea.54/Bu.14	0.33	42.4	42.4	—	—	—	—	15.2	—	—	—
Subtotal	2.16	61.6	15.3	—	—	—	3.2	13.0	6.9	tr	—
Pits and Basins											
Fea.42	1.41	73.8	12.3	—	1.4	—	—	13.5	1.4	—	—
Fea.44	51.31	97.5	tr	—	—	tr	0.4	1.9	0.2	—	—
Fea.45	2.89	96.2	0.7	—	—	—	—	2.4	0.7	—	—
Fea.46	1.32	64.4	2.3	—	—	—	12.1	17.4	3.8	—	—
Fea.47	3.05	81.0	tr	—	—	—	—	17.7	1.3	—	—
Fea.51	1.98	71.7	2.5	—	0.5	—	4.5	20.2	0.5	—	—
Fea.53	16.12	53.3	3.3	27.4	3.2	0.7	2.9	6.5	2.7	—	0.1
Fea.55	0.07	—	42.9	—	—	57.1	—	—	—	—	—
Fea.56	4.36	84.9	0.7	—	1.6	—	4.6	3.7	4.6	—	—
Fea.57	0.05	—	—	—	—	100.0	—	—	—	—	—
Fea.58	1.87	89.8	2.7	—	4.3	—	—	1.6	1.6	—	—
Fea.59	1.34	71.6	6.7	—	—	3.7	—	15.7	2.2	—	—
Fea.61	0.13	92.3	—	—	—	—	—	7.7	tr	—	—
Subtotal	85.90	85.7	1.1	5.1	0.8	0.3	1.3	4.5	1.1	tr	tr
Total	88.06	85.1	1.5	5.0	0.8	0.3	1.3	4.7	1.2	tr	tr

[1]tr = trace (<0.05%)

Table 17. Densities of Plant Remains in Features.

Feature Type Feature No.	Liters of Fill	Plant Remains/ Liter	Plant Food Remains/Liter	Seeds/ Liter
Burials/Probable Burials				
Fea.31	30	0.40	0.04	0.20
Fea.49	20	0.26	0.03	1.85
Fea.54/Bu.14	20	0.84	0.02	0.20
Subtotal	70	0.63	0.03	0.67
Pits and Basins				
Fea.42	40	0.36	0.04	0.42
Fea.44	60	2.34	0.86	0.60
Fea.45	20	0.75	0.14	0.50
Fea.46	20	0.90	0.07	0.90
Fea.47	30	1.27	0.10	1.27
Fea.51	30	1.07	0.07	0.97
Fea.53	90	1.51	0.18	1.40
Fea.55	10	0.04	0.01	0.00
Fea.56	60	0.60	0.07	0.38
Fea.57	10	0.15	x	0.00
Fea.58	20	0.27	0.09	0.70
Fea.59	30	0.76	0.04	0.53
Fea.61	10	0.09	0.01	0.20
Subtotal	430	1.07	0.20	0.77
Total	500	1.01	0.18	0.75

In general, analysis of plant remains from the 1986 season at Fredricks confirmed earlier interpretations of plant use at the site. The following discussion will, for the most part, depend upon the cumulative findings of four field seasons. This comprehensive data set is more useful as a basis for interpretation of plant use since its division into sets by date of excavation is an artificial one imposed by researchers and has no direct relevance to the activities of site occupants. However, several types of plant remains not recovered in previous years deserve special mention.

The most important of these is watermelon (*Citrullus vulgaris* Schrader ex Ecklon and Zeyher). One watermelon seed was found in a flotation sample from Feature 45 (Table 18) and an additional seed was sorted from a waterscreened sample from Zone 2 of Feature 47. Like peach, watermelon was introduced to North America by Europeans. It was apparently first grown in North America by Spanish colonists in the coastal Southeast as early as the late 16th century. Watermelon seems to have reached the Atlantic coast colonies somewhat later by way of the West Indies (Blake 1981:194). Unlike peach, which originated in Asia, watermelon is thought

Table 18. Seed and Fruit Counts from the Fredricks Site.

Taxon	Fea. 31	Fea. 49	Bu. 14	Fea. 42	Fea. 44	Fea. 45	Fea. 46	Fea. 47	Fea. 51	Fea. 53	Fea. 56	Fea. 58	Fea. 59	Fea. 61	Total
Cultigens															
Maize cupules/glumes	—	12	3	13	15	4	7	23	10	14	6	3	7	1	118
Maize kernels	1	6	1	4	10	1	—	4	11	13	4	2	3	—	60
Common bean	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
Watermelon	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1
Fleshy Fruits															
Persimmon	2	—	—	—	2	—	—	—	—	—	1	1	1	—	7
Maypops	2	1	—	—	—	—	—	1	—	19	—	1	1	—	25
Bramble	1	—	—	—	—	—	—	1	—	1	1	2	—	—	6
Grape	—	—	—	—	—	—	—	1	2	11	1	2	1	—	18
Sumac	—	4	—	—	—	1	—	—	—	3	—	—	—	—	8
Hawthorn	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Huckleberry	—	—	—	—	2	—	—	—	—	7	1	—	—	—	10
Strawberry	—	—	—	—	—	1	2	—	—	—	—	—	—	—	2
Groundcherry	—	1	—	—	—	—	—	—	—	—	1	1	—	—	3
Elderberry	—	—	—	—	—	—	—	—	—	2	1	—	—	—	3
Vaccinium	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
Grains/Weeds															
Knotweed	—	—	—	—	—	—	2	—	—	—	—	—	—	—	2
Amaranth	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Unid. legume	—	4	—	—	—	—	1	—	—	—	1	—	—	—	6
Unid. grass	—	—	—	—	1	—	—	—	—	2	—	1	—	—	4

Table 18. Continued.

Taxon	Fea. 31	Fea. 49	Bu. 14	Fea. 42	Fea. 44	Fea. 45	Fea. 46	Fea. 47	Fea. 51	Fea. 53	Fea. 56	Fea. 58	Fea. 59	Fea. 61	Total
Greens															
Poke	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
Miscellaneous															
Bearsfoot	—	—	—	—	1	—	—	—	1	2	—	—	—	—	4
Bedstraw	—	—	—	—	1	1	1	1	1	35	—	—	1	1	42
Tupelogum	—	—	—	—	4	—	1	2	—	—	1	—	—	—	8
Nightshade family	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Unknown	—	9	—	—	—	1	3	5	3	14	5	1	1	—	42
Total	6	37	4	17	36	10	18	38	29	126	23	14	16	2	376

to be native to Africa. Its adoption by postcontact Native American groups of the Eastern Woodlands was no doubt facilitated by the aboriginal practice of cultivation of New World cucurbits. The only other occurrence of watermelon from North Carolina is from Upper Saratown (31Sk1a), a site roughly contemporaneous with Fredricks on the Dan River in Stokes County, from which a single seed was reported (Wilson 1977). It is difficult to assess the extent of use of watermelon at Fredricks. Because of its thin rind and the fact that the fruit would not have been dried for storage or cooked for consumption, watermelon remains are likely to be underrepresented archaeologically relative to the frequency of its use.

Other plant taxa not recovered during previous seasons at Fredricks are strawberry (*Fragaria virginiana* Duchesne) and amaranth (*Amaranthus* sp.). Strawberry seeds are minute and have not been recovered frequently from Eastern archaeological sites. Strawberry plants probably grew near the village in old fields and woods edges, which are the species' preferred habitat today (Radford et al. 1968:533). The food value of this species is somewhat limited by the size of the fruits, but strawberry could have been a useful diet supplement or "snack food" in the spring and early summer, when most other fruit-producing species are still maturing.

Species of amaranth are common weeds in fields and disturbed ground. Although cultivated varieties were developed in Mesoamerica and are still used there today, amaranth is seldom reported from North American sites. The presence of a single seed in Feature 51 at Fredricks is best explained by the plants having grown near the site and their seeds having been carried into a fire by wind or, unintentionally, by people. Although amaranth could have been used as spring greens, the seeds would have been present in the fall.

Most types of plant food remains recovered during 1986 had been recovered in previous seasons at the site and occurred in similar proportions. Hickory (*Carya* sp.) nutshell was the most abundant nutshell type by weight at 97.1%, followed by acorn (*Quercus* sp., 1.7%), walnut (*Juglans nigra* L., 0.9%), and Juglandaceae (the family including both walnut and hickory, 0.3%) (Table 19). In addition, acorn meat was found in Feature 53, including one whole carbonized acorn.

Comparison of weights of the inedible portion of different nut types (the shell) may, however, be misleading because of different ratios of "meat" (that is, the edible portion comprised of embryo and cotyledons) to shell. The difference in meat-to-shell ratio between acorn and hickory in particular can be quite large. Studies have shown that a given quantity of acorn shell can represent anywhere from 5 to 200 times as much food as an equal quantity of hickory nutshell (Lopinot 1983). If the total quantity of acorn shell is multiplied by 50 (a factor suggested for general use by Yarnell and Black [1985]) and divided by the quantity of hickory shell, an estimated ratio of acorn to hickory meat of 0.87 is obtained. In other words, the

Table 19. Absolute and Relative Quantities of Nutshell.

Nutshell Type	1986 Excavation Season (grams)	(percent)	1983–86 Excavation Seasons (grams)	(percent)
Hickory	74.96	97.1	155.25	95.0
Acorn	1.31	1.7	5.19	3.2
Walnut	0.69	0.9	2.65	1.6
Juglandaceae	0.27	0.3	0.27	0.2
Total	77.23	100.0	163.36	100.0

representation of edible quantities of acorn and hickory is similar for the 1986 sample.

Site totals to date, however, yield an acorn-to-hickory ratio of 1.67, although percentages of nutshell types are similar to those for the 1986 season alone (Table 19). Despite the difficulties of interpretation involved, it can be stated confidently that acorn and hickory were used extensively by the Fredricks site people, with a possible bias in favor of acorn. Walnut was of only minor importance, perhaps because of the comparatively high effort required in processing it compared to hickory (Talalay et al. 1984) and/or its scattered distribution in the Piedmont (Radford et al. 1968).

Ubiquity values for 1983–1986 seasons (as percentage of features in which a taxon is represented) rank hickory first and acorn third (after maize) (Table 20). The values are, however, quite close and probably also reflect acorn shell's lower preservability. A ranking of nutshell occurrences by ubiquity results in the same relative order as ranking by weight (hickory first, acorn second, and walnut third). Considering acorn's high meat-to-shell ratio and lower shell preservability relative to hickory, the interpretation that acorn was perhaps a larger dietary component than hickory nuts at Fredricks and probably of approximately equal importance is a reasonable one. Walnut was only a minor food.

The relative subsistence importance of these three nut types is fairly easy to determine because we have some knowledge of the meat-to-shell ratios of two of the genera and also an understanding of preservation factors that might influence representation of nutshell types. Trying to compare nuts to cultigens or different types of cultigens to each other, on the other hand, is subject to considerable difficulties. Hickory nutshell is dense and durable and likely to be preserved through carbonization, unlike more fragile remains such as *Cucurbita* rind. Maize cupules and rachis fragments are fairly dense, whereas the kernels are starchy and less durable. Common bean is more likely to be prepared by boiling than by parching or roasting, so the seeds are less likely to become carbonized. The three Mesoamerican cultigens found at the Fredricks site (maize, *Zea mays* L.; pepo squash, *Cucurbita pepo* L.; and common bean, *Phaseolus vulgaris* L.) therefore produce archaeological remains that can be difficult to interpret.

Table 20. Ubiquity of Plant Taxa from the Fredricks Site as Percentage of Features.[1]

Taxon	No. of Features	%	Rank
Cultigens			
Maize	45	86.5	2
Common bean	10	19.2	10
Pepo	7	13.5	12
Watermelon	1	1.9	18
Tree Crops			
Peach	25	48.1	4
Nuts			
Hickory	48	92.3	1
Acorn	40	76.9	3
Walnut	18	34.6	6
Fleshy Fruits			
Persimmon	14	26.9	8
Maypops	13	25.0	9
Bramble	10	19.2	10
Grape	20	38.5	5
Sumac	9	17.3	11
Hawthorn	3	5.8	16
Huckleberry	5	9.6	14
Strawberry	2	3.8	17
Groundcherry	9	17.3	11
Elderberry	3	5.8	16
Vaccinium sp.	5	9.6	14
Nightshade	5	9.6	14
Viburnum? sp.	2	3.8	17
Grains/Weeds			
Knotweed	4	7.7	15
Amaranth	1	1.9	18
Chenopod	3	5.8	16
Unid. legume	6	11.5	13
Unid. grass	7	13.5	12
Greens			
Poke	4	7.7	15
Miscellaneous			
Lespedeza? sp.	1	1.9	18
Wood sorrel	1	1.9	18
Unid. "A"	1	1.9	18
Bedstraw	15	28.8	7
Bearsfoot	4	7.7	15
Desmodium? sp.	1	1.9	18
Spurge	1	1.9	18
Morning glory	1	1.9	18

Table 20. Continued.

Taxon	No. of Features	%	Rank
Triosteum sp.	2	3.8	17
Tupelogum	3	5.8	16
Nightshade fam.	5	9.6	14

[1]Includes seed counts from all flotation samples analyzed from the 1983–1986 seasons except Feature 30.

However, of the three Mesoamerican cultigens, maize was certainly the most important. Although the percentage of maize remains is quite low compared to most other types of plant foods from the 1986 season at 4.7% (Table 16), maize cupules and kernels are still much more abundant than common bean cotyledons or cucurbit rind (both less than 0.05%). Cucurbit seed weights are included in totals for all seeds, but are neither numerous nor heavy and would not affect this ranking. Maize quantities are higher for site totals (Table 21) at 28.4% of plant food remains for all feature types, compared to less than 0.05% for *Cucurbita* rind and 0.3% for common bean.

The relative prominence of maize remains by weight can be accounted for in part by the fact that the maize cob (botanically, the rachis) and cupules are durable and useful as fuel, contributing to the likelihood of their carbonization. However, kernels alone still comprise 2.5% of plant food remains and make up more than half of the total maize recovered in the 1986 sample. Site seed and fruit totals strengthen the interpretation that maize was the most important of the Mesoamerican cultigens at Fredricks, since maize kernels comprise 53.8% of total identified seeds and fruits (Table 22). Thus maize far outranks any other seed type found at the site, with grape a distant second at 7.7%. The best way to compare plant food remains of different types, such as seeds and nutshell, is to consider ubiquity. Site totals for Fredricks (Table 20) indicate that maize remains occurred in 86.5% of features sampled and was exceeded only by hickory, which occurred in 92.3% of features. In comparison, common bean and pepo squash rank tenth and twelfth, respectively.

The importance of maize to the Fredricks site population as a staple is confirmed using several methods of comparison and quantification. What quantities of common bean and pepo squash were used by this group is impossible to tell. Lawson (in Lefler 1967:82–3; 182) refers to several types of legumes and squashes grown by Indians in the Coastal Plain and Piedmont, so presumably both were of some dietary importance during the Historic period. Preservation and depositional factors have probably resulted in the underrepresentation of these cultigens relative to their actual

Table 21. Percentage of Plant Food Remains from the Fredricks Site, 1983–1986.

Feature Type	Liters	No. of Features	Total Plant Food Remains	Hickory Shell	Acorn Shell	Walnut Shell	Acorn Meat	Juglandaceae Shell	Peach Pit	*Cucurbita* Rind	Maize	Seeds	Common Bean
Burial Pits/Probable Burial Pits													
Weight (grams)			27.65	18.80	0.50	0.63	0.05	—	1.28	0.02	5.46	0.75	0.16
Percent			100.0	68.0	1.8	2.3	0.2	—	4.6	0.1	19.7	2.7	0.6
Totals	687	16											
Mixed-Fill Pits and Basins													
Weight (grams)			138.17	104.27	4.30	1.99	6.03	0.27	5.06	x	12.53	3.47	0.25
Percent			100.1	75.5	3.1	1.4	4.4	0.2	3.7	tr	9.1	2.5	0.2
Totals	905.5	30											
Wall Trenches													
Weight (grams)			1.98	1.69	0.10	—	—	—	0.13	—	0.05	0.01	—
Percent			100.1	85.4	5.1	—	—	—	6.6	—	2.5	0.5	—
Totals	40	2											
Charcoal—Filled Pits													
Weight (grams)			11.54	0.22	—	—	—	—	—	—	11.32	—	—
Percent			100.0	1.9	—	—	—	—	—	—	98.1	—	—
Totals	35	3											
Fire Pit													
Weight (grams)			77.40	30.27	0.29	0.03	—	—	2.22	—	43.59	0.56	0.44
Percent			100.0	39.1	0.4	tr	—	—	2.9	—	56.3	0.7	0.6
Totals	140	1											
All Features													
Weight (grams)			256.74	155.25	5.19	2.65	6.08	0.27	8.69	0.02	72.95	4.79	0.85
Percent			100.0	60.5	2.0	1.0	2.4	0.1	3.4	tr	28.4	1.9	0.3
Totals	1807.5	52											

Table 22. Percentage of Seeds and Fruits from the Fredricks Site, 1983–1986.

Taxon	Total Number	Percent of Total Identified Seeds	Rank
Cultigens			
Maize kernels	540	53.8	1
Common bean	16	1.6	9
Pepo	4	0.4	17
Watermelon	1	0.1	20
Fleshy Fruits			
Persimmon	37	3.7	5
Maypops	64	6.4	3
Bramble	16	1.6	8
Grape	77	7.7	2
Sumac	15	1.5	9
Hawthorn	3	0.3	18
Huckleberry	13	1.3	11
Strawberry	3	0.3	18
Groundcherry	35	3.5	6
Elderberry	4	0.4	17
Vaccinium sp.	10	1.0	13
Nightshade	8	0.8	15
Viburnum? sp.	2	0.2	19
Grains/Weeds			
Knotweed	10	1.0	13
Amaranth	1	0.1	20
Chenopod	19	1.9	19
Unid. legume	11	1.1	12
Unid. grass	13	1.3	11
Greens			
Poke	9	0.9	14
Miscellaneous			
Lespedeza? sp.	1	0.1	20
Wood sorrel	1	0.1	20
Unid. "A"	1	0.1	20
Bedstraw	56	5.6	4
Bearsfoot	5	0.5	16
Desmodium? sp.	1	0.1	20
Spurge	1	0.1	20
Morning glory	2	0.2	19
Triosteum sp.	2	0.2	19
Tupelogum	14	1.4	10
Nightshade fam.	9	0.9	14
Total	1004	100.2[1]	

[1]Total percentage may vary due to rounding error.

importance. Although maize was more important than common bean or pepo squash (probably used in quantities similar to acorn and hickory nuts), the magnitude of difference in importance is impossible to assess.

Only two Old World domesticates, watermelon and peach (*Prunus persica* L.) were found at Fredricks. Watermelon is discussed above along with other taxa first discovered in the 1986 sample. Like peach, watermelon is somewhat weedy, being capable of colonizing highly disturbed habitats. Watermelon occurs today as a waif in waste places (Radford et al. 1968:999); although it can germinate successfully without human aid, it requires some husbandry in order to maintain a population. Watermelon has growing requirements similar to those for other cucurbits, and was probably easily incorporated into the aboriginal gardening system. Peach is frequently found today as an escape from cultivation (Radford et al. 1968:566). Native to Asia, the peach was first imported into the New World by the Spanish as a mission crop in the sixteenth century (Sheldon 1978). The English brought peach pits to the Massachussetts Bay Colony as early as 1669 (Hedrick 1972:463). In part because of its weedy properties, peach may have been dispersed somewhat independently of direct aboriginal/European contact. A number of European observers (Salley 1911; Hedrick 1972:463) noted peach trees growing "wild" in the Southeast. However, they may not have recognized signs of limited husbandry.

Although peach trees can grow and produce fruit without human intervention, they were probably tended to some extent at the Fredricks site, at least through removal of plants competing for light and nutrients and perhaps through planting as well. Fredricks site inhabitants may have tended, planted, or otherwise protected native fruit trees such as persimmon before contact, although there is no direct evidence for such practices. Peach trees produce fruit in 3 to 5 years after germination (Sheldon 1978) and relatively little investment of time or energy would have yielded large amounts of palatable fruit (reported by Lawson to have been dried and made into cakes for later consumption [Lefler 1967:217]). The stony endocarp, or pit, of the peach fruit is quite amenable to carbonization and comprised 1.3% of plant food remains in the 1986 sample (Table 16) and 3.4% of the total plant food remains from the site (Table 21). Although it was probably an important fruit crop, peach was a dietary supplement and not a staple. Considering the weight and durability of the pit, greater representation would be expected if peach were as important as a food such as hickory nut. Preparation of the fruit by drying also should make peach pit overrepresented relative to some other types of plant food remains. However, peach pit ranks high by ubiquity (ranking fourth at 48.1% of features, Table 20), which indicates that it was probably important relative to other (wild or semi-cultigen) fleshy fruit types. High preservability probably increases the contrast in representation between peach and other fleshy fruits.

The indigenous fleshy fruits recovered from the Fredricks site are mostly heliophilic species or genera that favor disturbed ground or edges between wooded and open areas. All of them generally produce greater quantities of fruit in these kinds of habitats than in closed-canopy situations. Taxa found at Fredricks such as bramble (*Rubus* sp.), sumac (*Rhus* sp.), strawberry, elderberry (*Sambucus canadensis* L.), hawthorn (*Crataegus* sp.), persimmon (*Diospyros virginiana* L.), blueberry (*Vaccinium* sp.), viburnum (*Viburnum* sp.), and grape (*Vitis* sp.) all indicate some degree of forest opening (Yarnell 1982:5) because of their preference for gaps in the forest canopy. Thus there is strong evidence for a symbiotic relationship between humans and these taxa, probably something on the order of Rindos' (1984) incidental or specialized domestication, in which humans increase habitat areas for useful plants and disperse their seeds incidentally to consumption of the fruits.

For some taxa there is a stronger case for prehistoric domesticatory relationships. Maypops (*Passiflora incarnata* L.) has been considered a quasi-cultigen because of its close association with humans in eastern North America prehistorically (Yarnell 1987). Even tree fruits such as persimmon have had similar long-standing relationships with human groups. It is possible that some management of fruit trees such as persimmon was practiced prehistorically and helped facilitate the adoption of peach as a tree crop. The quantities of persimmon seeds found at Fredricks (Table 22) indicate that use of this species was common, although its seed's durability may skew its apparent importance relative to other fruit types. However, no direct evidence for management of fruit trees has been found. An expected morphological criterion for domestication of edible fruits is increased fruit size, a change that cannot be studied at most open sites using archaeological evidence since fleshy fruit parts are ususally destroyed when burned. Management of some kind does seem likely given the long-standing relationship between populations of humans and persimmon trees in the East, but may have been somewhat casual by European criteria.

Numbers of fleshy fruit seeds recovered during the 1986 season appear in Table 18. Of fleshy fruits, grape comprises the greates percentage of total identified seeds and fruits (7.7%), followed by maypops (6.4%) and persimmon (3.7%). Persimmon has from three to eight seeds per fruit and grape one to four, whereas maypops has many. Although "minimum number of individuals" or some similar measure has not been calculated for seed and fruit types, number of seeds per fruit is a factor that should be considered. Therefore, maypops may be overrepresented relative to persimmon and grape. However, calculation of ubiquity ranks these fruit types similarly (Table 20) with maypops and persimmon reversed in rank order (but with very similar values). Thus it appears that grape, persimmon, and maypops were the most commonly used indigenous fleshy fruits at Fredricks. Other taxa that rank relatively high in numbers and ubiquity include

bramble, groundcherry (*Physalis* sp.), and sumac. Other taxa that occurred in smaller quantities at Fredricks include viburnum, nightshade (*Solanum* sp.), blueberry, elderberry, strawberry, huckleberry (*Gaylussacia* sp.), and hawthorn.

Grain or weed seeds found at Fredricks include knotweed (*Polygonum* sp.), amaranth (discussed above), and chenopod (*Chenopodium* sp., found in previous seasons). All three of these genera include species that have been cultivated in North America prehistorically (although cultigen amaranth has not been recovered north or east of the Ozarks). The numbers of seeds of these taxa are quite low, and all occur as weeds today on disturbed ground. Thus there is no reason to assume that they were cultivated (or used) at Fredricks. The same can be said of poke (*Phytolacca americana* L.), another weed used prehistorically as a source of greens (Yarnell 1982).

Several seed types are included in the "Miscellaneous" category. Most occurred in small numbers and probably represent incidental inclusions in cultural deposits. *Lespedeza* sp., wood sorrel (*Oxalis* sp.), unidentified Type B (listed in previous reports as possible henbit, *Lamium* sp.), bearsfoot (*Polymnia uvedalia* L.), beggars lice (*Desmodium* sp.), spurge (*Euphorbia* sp.), morning glory (*Ipomoea* sp.), and Nightshade family (*Solanaceae*), have been discussed in Gremillion (1986, 1987). Horse gentian (*Triosteum* sp.) seeds have been identified in the 1985 samples since publication of Gremillion (1986). This is an herbaceous genus in the Honeysuckle family (Caprifoliaceae) that grows in woods and openings on neutral or basic soils. *T. perfoliatum* L. was used as a coffee substitute by Germans in Pennsylvania (Hedrick 1972:576) but its use by aboriginal groups, if any, is not known. Bedstraw (*Galium* sp.) was used as a coffee substitute and as bedding in northern Europe (Hedrick 1972:285; Uphof 1968:236). Aboriginally some bedstraw species have ethnographically documented medicinal uses among some North American groups (Moerman 1986). It is not known how bedstraw was used at Fredricks, but it was found in relatively large quantities there (5.6% of total identified seeds, ubiquity 28.8% of features). Use of the vegetative parts of the plant as bedding would explain the presence of large numbers of seeds of this genus, which usually grows in wooded rather than open habitats.

Summary of Plant Food Remains

The paleoethnobotanical data from the 1986 field season at Fredricks support previous interpretations of plant use at the site (see Gremillion 1986). Maize was the most important crop, and common bean and pepo squash also were grown. Hickory and acorn seem to have been staples, although their contribution to the diet relative to that of maize has not been assessed. Since there was presumably a long tradition of human use

of nut-producing trees in the Piedmont as elsewhere in the East, nut trees were possibly managed in some way, if only indirectly through protection and culling of competing species. In addition to the tropical Mesoamerican cultigens, the Fredricks site people had close relationships with various herbaceous and woody fruit-producing taxa growing in anthropogenic habitats. Management of such species probably spanned a continuum from toleration and unintentional habitat enrichment to protection and perhaps propogation as well. The only Old World domesticates grown at Fredricks, peach and watermelon, were both fleshy fruit crops.

Excavations to date have revealed no evidence of cultivation or consumption of indigenous starchy or oily grains such as sumpweed, maygrass, chenopod, or knotweed. The only occurrences of such grains at Fredricks are in such small quantities that there is no compelling reason to assume that they are anything other than weed seeds. In many parts of the East, grains like chenopod and maygrass declined from a utilization peak during Woodland times as maize became more important (Yarnell and Black 1985, Asch and Asch 1985, Fritz 1986). However, except for sumpweed, these grain crops (possibly only quasi-cultigens) continued to be used in Historic times in the East, at least at Cherokee sites in the Little Tennessee River valley (Chapman and Shea 1981).

Although indigenous grains are poorly represented at Fredricks, maygrass was found in large quantities at the Mitchum site on the Haw River, an Historic period site occupied slightly earlier than Fredricks (Gremillion 1987). Paleoethnobotanical data from prehistoric sites in the Piedmont will be needed to determine whether cultivation of these indegenous grain-producers was ever a Piedmont tradition as it was elsewhere in the Eastern Woodlands. Perhaps the Mitchum site maygrass represents the persistence of such a tradition into historic times. The Fredricks site people, if they ever had similar traditions (an important question since ethnic relationships between groups occupying sites like Mitchum and Fredricks are unclear), either abandoned them for reasons as yet unknown or carried them out in localities away from the village on the Eno represented by the Fredricks site. In any case, only further excavation can help answer these important questions about Historic period aboriginal subsistence.

DISCUSSION

In general, the kinds of research questions and relevant data to be discussed here focus on the possible interaction of aboriginal subsistence traits like scheduling and patch use with European activities, especially trade. Because of the lack of sufficient paleoethnobotanical data from prehistoric sites in the Piedmont, assessment of change from prehistoric to historic times is somewhat speculative. However, two probable aspects of the influence of the European cultural presence on aboriginal subsistence patterns

can be discussed on the basis of present evidence. These are 1) more or less indirect influences on subsistence activity patterning conditioned by native involvement in European trade networks and 2) more direct effects of European contact on plant use in the form of introduced Old World species and their incorporation into aboriginal subsistence systems.

If the Fredricks site population, or part of it, was active in the deerskin trade with Europeans, it is reasonable to assume that other subsistence activities would have been adjusted in some way to accomodate this new strategy. Unfortunately, sufficient evidence from prehistoric sites in the area is not available with which to directly compare the Fredricks site paleoethnobotanical evidence. However, a picture of the seasonal round of subsistence activities at Fredricks can be drawn using ethnohistoric and archaeological evidence.

Observations on the scheduling of activities by European travelers are not available for the immediate vicinity of Fredricks site but do exist for nearby parts of the Piedmont and Coastal Plain as well as coastal and piedmont Virginia. Such accounts indicate that movement of groups in the fall to hunting grounds was a common pattern in postcontact times. Strachey (Major 1849:75–76) reports movement of coastal Algonquin groups into the interior to hunt deer during which times women and children accompanied the men. Similarly, Lawson (in Lefler ed. 1967:215), probably speaking of coastal North Carolina, describes the movement of groups at leaf-fall to hunt specifically for hides to trade. The precise timing of transport of hides can only be guessed at without further research into contemporary sources. Aboriginal groups like that occupying Fredricks lived in a frontier region that had not yet been settled by the English. Trade contacts probably took place in the aboriginal villages, with English traders and adventurers transporting hides back to the North Carolina coast or to Virginia for transport overseas (Robinson 1979). However, Adair (Williams 1930:436), writing late in the eighteenth century and generalizing about Southeastern groups, reports that in early May Indian traders set off for English settlements. Presumably the exchange of goods would be put off until spring, when enough hides had been collected and travel was easier.

What evidence is there for such a winter/spring hunting pattern at Fredricks? Assessment of seasonality of activities using paleoethnobotanical remains is complicated by the fact that most temperate flowering plants fruit in the fall rather than in the winter or early spring. The absence or rarity of spring-ripening seeds may merely indicate scarcity of these species rather than a lack of human activity at the site during these times of year. Thus, at the Fredricks site, it is not surprising that nearly all the food plants represented by seeds were collected in late summer and early fall. Exceptions such as strawberry (which flowers and fruits between March and June), bedstraw (which produces fruit anywhere between April and August), and bramble (which fruits in May and July) indicate that there could have

been human activity that resulted in deposition of these remains as early as March. However, ripening patterns generally extend over several months, which makes it impossible to determine the timing of human deposition activities with any precision. The only conclusion to be drawn is that although all or part of the Fredricks site population may have been elsewhere during winter and spring, there is no strong paleoethnobotanical evidence that they were.

Thus, seed data provide no evidence either for or against the hypothesis that the Fredricks site people hunted for marketable hides during the winter. There is so far no evidence for increased harvesting of deer in the faunal record. Based on a comparison of the nearby Protohistoric Wall site (occupied ca. A.D. 1550) with Fredricks, quantities of deer bones (based on MNI as well as raw counts) are not significantly greater at the later site (Holm 1987). Abundant and diverse trade goods at Fredricks (Carnes 1987), as well as ethnohistoric mentions of the Occaneechi as trade specialists in their island home in southern Virginia before their move to the village on the Eno (Dickens et al. 1986) and the location of Fredricks near a major trading path (Simpkins 1984), indicate that the Fredricks site people were quite active in exchange with the English. A plausible explanation for the lack of evidence of increased deer hunting based upon faunal evidence is that the Fredricks site traders acted as middlemen acquiring hides from other aboriginal groups (Holm 1987), a pattern which was common elsewhere in the interior Southeast (Waselkov 1986). A similar degree of trade specialization occurred among groups such as the Huron in the Northeast (Hunt 1967).

The paleoethnobotanical evidence is inconclusive on this point. It is possible that the Fredricks site people acquired their plant foods through trade, reserving most of their time and energy for deerskin trade rather than gardening and collecting. However, the diversity of plant foods found at the site indicates that all or most plant foods were grown or collected locally. Lawson's contemporary account of nearby groups (Lefler 1967) also supports this interpretation. It is more likely that trade activity would have modified scheduling of such activities as acorn and hickory collection, which would have taken place in mid- to late fall. On the other hand, a sexual division of labor that allowed women to harvest nuts and crops, gather fruits, and maintain gardens would have allowed men to specialize in trade without disruption of most traditional plant exploitation activities.

Considerable shifts in scheduling of seasonal activities might not have been needed to allow the Fredricks site people to devote time and energy to trade with Europeans, if scheduling conflicts between trade and traditional subsistence activities did not occur. Maize remained a staple crop based on comparisons of plant remains assemblages from Fredricks and from the Wall site (Gremillion 1987). The difference between relative quantities of acorn and hickory is greater at Fredricks than at Wall, but quantities of nut remains indicate that acorn was probably about as important

as hickory at both sites. Thus, changes in seasonal subsistence activity patterning, if in fact it occurred among the Fredricks site population and similar groups as a result of contact, apparently did not alter diet composition a great deal. It would have at least been possible to incorporate trade activities into an existing seasonal round without rescheduling or abandoning activities such as planting and harvesting of maize and other Fall crops and collecting nuts and fruits.

Similarly, responses to spatial variation in the form of environmental and vegetational patchiness could have continued in much the same way as in precontact times. Managed patches such as gardens and fields were important sources of plant foods, as well as unmanaged or mininally managed woodlands and forest edges containing fruit and nut trees and herbaceous fruit-producing taxa. At the time of the Fredricks site occupation, the Piedmont was not yet settled by Europeans. Thus, modification of the local vegetational mosaic had probably not increased much beyond the effects that aboriginal settlement had already had, unless fire drives for deer became more frequent and/or more intense.

Although it seems probable that trade relationships with Europeans required modifications of precontact subsistence scheduling, there is as yet no archaeological evidence to support this conclusion for the Fredricks site. There is likewise no indication that different kinds of vegetational patches were exploited; gardens and/or fields, woods, and woods edges all seem to have been sources of plant foods for the Fredricks site population. Despite their trade relationships with Europeans, the Fredricks site people used a variety of plant foods from different types of vegetational patches.

Most of the plants used were ones with a long history of association with human populations in the Eastern Woodlands. Some, like oak, hickory and most of the fleshy fruits are native to Eastern North America. The most important cultigen, maize, was a Mesoamerican import as were beans and presumably pepo squash. However, only two Old World species were found at the site. Both peach and watermelon were presumably easy to grow and productive in in the Southeast. Presumably the effort involved in managing these introductions was minimal, and probably did not require abandonment of other subsistence activities. There is no evidence at Fredricks of Old World cereal crops; eiher the English made no attempt to introduce them, or the local groups did not adopt them, preferring to plant maize. Watermelon and peach, both somewhat weedy, could have been adopted as cultigens with little or no effort on the part of the English, who seem to have made little effort to "improve" Indian agriculture through introduction of European crops, unlike the Spanish elsewhere in the Southeast (H. Smith 1956). Direct effects of European contact on the Fredricks site in the form of introduced plant species were minimal.

Our knowledge of the ethnobotany of the Fredricks site and the subsistence patterns of the people who lived there has increased greatly. We know of only two European introductions that found their way into the aboriginal subsistence system, and that these probably required little effort to exploit and did not displace other indigenous fleshy fruits. It also has been established that maize was as important at Fredricks as might be expected from contemporary European accounts and data from other sites in the Southeast, whereas indigenous starchy and oily grains were apparently not used. Harvesting of acorn and hickory, collecting of fruits, and management of gardens where annual crops (and perhaps tree crops as well) were grown, combined to provide a nutritionally diverse plant food resource base that depended on a variety of activities. Although data from precontact sites such as Wall have been used to generate hypotheses about possible differences between earlier and later sites, e.g. the behavioral correlates of the differences in relative quantities of acorn and hickory between the two sites, more prehistoric data are needed before questions about change can be properly addressed. Until then, however, collection and interpretation of plant remains from the Fredricks site has been invaluable for reconstructing the subsistence patterns of this Historic period village and suggesting directions for future research.

CHAPTER 8

SUMMARY AND CONCLUSIONS

by
H. Trawick Ward
and
R. P. Stephen Davis, Jr.

The primary objective of the 1986 fieldwork at the Fredricks site was to excavate the remainder of the village area encompassed by the palisade. These excavations were designed to provide a complete plan of the structures and facilities within the compound and to allow distributional studies of various artifact classes across the site. By studying the habitation area in conjunction with the cemetery complex located immediately outside the palisade, questions concerning intra-site settlement patterns, subsistence, mortuary behavior, and ethnicity can be addressed within the larger context of late seventeenth century culture change on the North Carolina Piedmont.

Although basic analyses of the data recovered during 1986 are complete, an overall synthesis of the project has not yet been accomplished. The following comments, therefore, are based on the recognition of broad patterns that will be brought into sharper focus as more detailed comparative studies are completed.

Relatively deep circular pits comprise the most popular feature type at the Fredricks site. These are followed in descending popularity by shallow basins and depressions, possible unused burial pits, and small cob-filled pits. Most of these facilities occur within a fairly wide band along the interior of the palisade and are associated with house structures.

The deeper pits are interpreted as storage facilities that were re-filled once they were no longer suited for storage or caching. In most cases, these re-filled pits contained very rich zones of domestic refuse, apparently resulting from cleaning activities around food preparation facilities. These fill zones were very similar in terms of soil color, texture, and content. These similarities and their distribution across the site suggest that a set of related community activities took place over a very short period of time. Perhaps the features were filled, or at least partially filled, in conjunction with an annual ritual such as the Busk ceremony.

The more shallow and irregular features are difficult to interpret; their morphology and fill characteristics offer few clues about their original functions. Similar facilities, however, are commonly found in village sites across the Southeast, and it has been suggested that they resulted from soil recovery activities—the mining of clay for various construction purposes (Schroedl 1980:30). This interpretation is favored here.

Based on fill characteristics and pit morphology, a few features probably were dug for burial purposes but either were never used or else no traces of human bone were preserved. A similar number of small cob-filled basins also were present. Such facilities are usually interpreted as hide-smoking or smudge pits (Binford 1967). Given the Occaneechis' dominant role in the deerskin trade, it is surprising that more of these features were not found. Their middleman role may not have required hide processing, or these activities may have taken place outside the village.

The discovery in 1986 of at least two additional burials located well away from the cemetery has important sociopolitical ramifications. Their segregation from the other burials and the fact that associated Euroamerican trade goods date them to roughly the same time period as the cemetery support the interpretation that different ethnic groups simultaneously occupied the site. The presence of a multi-ethnic occupation is further supported by the shaft-and-chamber form of the 1986 burials, which stands in sharp contrast to the straight-sided, rectangular pits previously excavated. These shaft-and-chamber burials also lacked the distinct upper layer of refuse-laden soil that characterized most of the cemetery burials. The apparent differences in mortuary practices suggested by the burial data might be expected if different ethnic groups were living together in the village.

It was stated in an earlier report that the cemetery burials and their attendant evidence of ritual death feasting might reflect northern influences (see Dickens et al. 1987). Certainly this pattern is not typical of the North Carolina Piedmont. On the other hand, the shaft-and-chamber pits found in 1986 are very similar to pit forms usually identified with Piedmont Siouan groups. The fact that they were located within the village rather than in a separate cemetery area also fits the Siouan mortuary pattern.

Almost half of the pottery sample from the Fredricks site was recovered during the 1986 field season. As a consequence, a much clearer picture of the site's ceramic assemblage has come to light. The majority of the potsherds, whole vessels, and reconstructed vessel sections recovered from pits and burials are thought to represent the ceramic tradition of the Occaneechis. These have been formally described as Fredricks Check Stamped and Fredricks Plain. Although generally different vessel functions have been suggested for these two ceramic types, both represent pottery that was uniformly well made. Other contemporary ceramics that fall outside the range of variability expected for the Occaneechi pottery, including those with simple stamped, cord marked, and complicated stamped surfaces, may reflect ethnic diversity within the village. Once the remaining plowzone sherd samples are analyzed, additional questions of ethnic diversity and social differentiation within the village can be explored further through the study of intrasite spatial patterns.

A wide range of historic trade artifacts have been recovered from all contexts at the Fredricks site. Personal items such as glass beads, bells, and

tobacco pipes comprise the overwhelming majority of the sample. The second largest category is represented by arms-related artifacts including gunflints, lead shot, and lead sprue. Other items such as knives, sissors, hoes, and axes also have been inventoried. From the list of Euroamerican artifacts, one gets the impression that nothing was denied the Occaneechi. The trade list is even more impressive in light of the fact that many items such as clothing and blankets are not preserved in the archaeological record.

Given the accessibility of trade goods, it is somewhat surprising that the introduction of metal implements apparently did not significantly alter the use of stone tools. The Fredricks site lithic assemblage is characterized by small flake tools used for cutting and scraping and is very similar to late prehistoric and protohistoric assemblages from other Piedmont sites. Large chipped-stone and ground-stone implements also were used for a variety of different tasks, including stone tool fabrication, food processing, and digging.

After all the subsistence data have been analyzed, there is still no evidence that European-introduced animals or plants were important in the Occaneechis' diet. Of more than 70,000 animal bones that have been identified and analyzed, European species are represented by only two bones, one each of pig and horse. Likewise, evidence of only two species of plant remains with an Old World ancestory have been recovered. Peach and watermellon were the only plants used by the inhabitants of the Fredricks site that were not native to the American continent.

The size of the village compound, the number of houses contained within it, and the population estimates predicted at the end of the 1985 field season all seem to be accurate in light of the completed excavation (Figure 33). The palisade enclosed a little over a quarter of an acre on which at least 11 domestic structures were built. At any given time, probably no more than 50–75 people inhabited the village compound, and the occupation probably lasted no longer than five years. The size of the village and the population estimates support demographic models suggested by the ethnohistoric documents and contrast markedly with late prehistoric and early historic occupations on which there is adequate archaeological data for comparison.

There is no doubt that disease, slavery, and the deerskin trade had a tremendous impact on the Occaneechi and other Indian tribes living in the North Carolina Piedmont during the Historic period. Massive depopulation, social and political fragmentation, and heightened hostilities swept across the landscape in reverberating waves of disruption as English traders and settlers crept southward from Virginia and northward from South Carolina. By 1730, most of the remaining tribal remnants had vacated their North Carolina homelands in search of peace and security with relatives and even former enemies now living in South Carolina, Virginia, and New York.

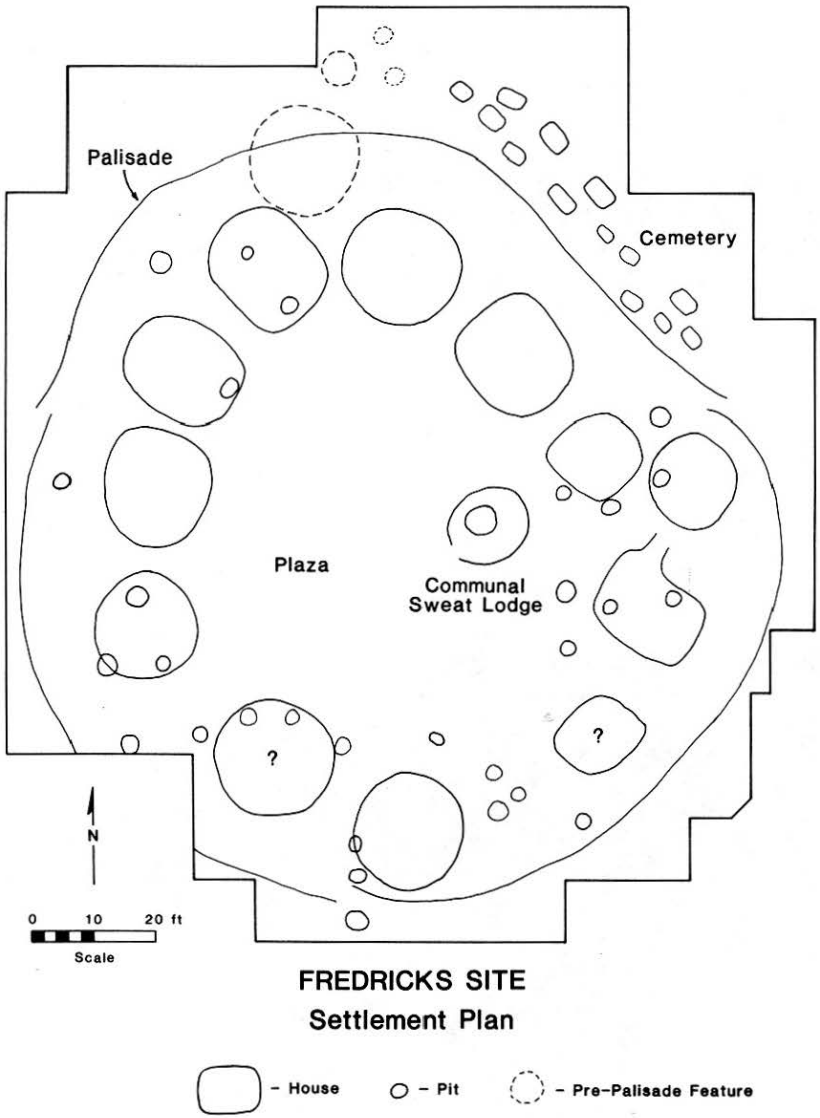


Figure 33.

Settlement Plan of the Occaneechi Village.

On the surface, the history of the Piedmont Indians during the Contact period is a history of abrupt and devastating changes. However, upon closer inspection, the story becomes much more complex. The archaeological record of the Occaneechi documents rapid culture change, but it also reveals a picture of remarkable stability. People did die violent deaths and did so in increasing numbers; strangers were forced to become friends and to live together; and the White man's weapons and tools were grafted onto the native technology. Yet the basic necessities of life, the game that was hunted and the crops that were planted, remained unchanged. Knives and guns were no doubt prized possessions, but stone tools continued to be manufactured and the bow and arrow remained a deadly weapon. Copper kettles were available but they did not replace the clay pot. And although some of the dead were buried in cemeteries, in pits dug with metal tools, they still began their journey to the Other World in the security of traditional beliefs and rituals.

The current phase of the Fredricks site research is now complete; however, there are other avenues that should be explored through additional investigations. The question of the existence of other contemporary village compounds in the immediate vicinity has obvious and crucial significance not only in terms of clarifying the social and political standing of Occaneechi Town but also in regards to the larger questions of culture change and stability mentioned above. In addition, inter-regional comparisons will be necessary in order to draw into sharp focus a complete picture of Indian life on the Piedmont during this most critical era.

REFERENCES CITED

Asch, David L. and Nancy B. Asch
1986 Prehistoric Plant Cultivation in West-Central Illinois. In *Prehistoric Food Production in North America,* edited by Richard I. Ford, pp. 149–204. Anthropological Papers No. 75, Museum of Anthropology, University of Michigan, Ann Arbor.

Atkinson, D.R.
1986 English West Country Pipes of circa 1680–1730. In *Historic Clay Tobacco Pipe Studies, Volume 3,* edited by Byron Sudbury. Published by Byron Sudbury, Ponca City, OK.

Binford, Lewis R.
1962 A New Method of Calculating Dates from Kaolin Pipe Stem Samples. *Southeastern Archaeological Conference Newsletter* 9(1):19–21.

1967 Smudge Pits and Hide Smoking: The Use of Analogy in Archaeological Reasoning. *American Antiquity* 32:1–12.

Blake, Leonard W.
1981 Early Acceptance of Watermelon by Indians of the United States. *Ethnobiology* 1:193–199.

Brain, Jeffrey P.
1979 *Tunica Treasure.* Papers of the Peabody Museum of Archaeology and Ethnology No. 71. Harvard University, Cambridge, MA.

Carnes, Linda F.
1987 Euroamerican Artifacts from the Fredricks, Wall, and Mitchum Sites. In *The Siouan Project: Seasons I and II,* edited by Roy S. Dickens, Jr., H. Trawick Ward and R. P. Stephen Davis, Jr., pp. 141–166. Monograph Series No. 1, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Chapman, Jefferson and Andrea B. Shea
1981 The Archaeobotanical Record: Early Archaic Period to Contact in the Lower Little Tennessee River Valley. *Tennessee Anthropologist* 6:61–84.

Cleland, Charles E.
1966 *The Prehistoric Animal Ecology of the Upper Great Lakes Region.* Anthropological Papers No. 29, Museum of Anthropology, University of Michigan, Ann Arbor.

Coe, Joffre L.
1952 The Cultural Sequence of the Carolina Piedmont. In *Archaeology of the Eastern United States,* edited by James B. Griffin, pp. 301–311. University of Chicago Press, Chicago.

Coe, Joffre L. and Ernest Lewis
1952 Dan River Series Statement. *Prehistoric Pottery of the Eastern United States,* edited by James B. Griffin, Museum of Anthropology, University of Michigan, Ann Arbor.

Cotter, John
1962 *New Discoveries at Jamestown.* National Park Service, Washington, D.C.

Davis, R. P. Stephen, Jr.
1987 Pottery from the Fredricks, Wall, and Mitchum Sites. In *The Siouan Project: Seasons I and II,* edited by Roy S. Dickens, Jr., H. Trawick Ward, and R. P. Stephen Davis, Jr., pp. 185–216. Monograph Series No. 1, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Davis, R. P. Stephen, Jr. and H. Trawick Ward
1987 A Comparison of Plowzone and In Situ Site Structure at the Fredricks Site, A Siouan Village in Piedmont North Carolina. Paper presented at the 44th Annual Meeting of the Southeastern Archaeological Conference, Charleston.

Dickens, Roy S., Jr., H. Trawick Ward and R. P. Stephen Davis, Jr.
1984 *The Historic Occaneechi: An Archaeological Investigation of Culture Change. Preliminary Report of 1984 Investigations,* Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1985 *The Historic Occaneechi: An Archaeological Investigation of Culture Change. Preliminary Report of 1985 Investigations,* Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1986 The Siouan Project: An Investigation of Culture Change on the North Carolina Piedmont. Research proposal submitted to the National Science Foundation. Ms. on file, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Dickens, Roy S., Jr., H. Trawick Ward and R. P. Stephen Davis, Jr. (editors)
1986 *The Historic Occaneechi: An Archaeological Investigation of Culture Change. Final Report of 1985 Investigations,* Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1987 *The Siouan Project: Seasons I and II.* Monograph Series No. 1. Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Edwards, J. K., R. L. Marchinton, and G. F. Smith
1982 Pelvic Girdle Criteria of White-tailed Deer. *Journal of Wildlife Management* 46:544–547.

Fritz, Gayle J.
1986 *Prehistoric Ozark Agriculture, The University of Arkansas Rockshelter Collections.* Unpublished Ph.D. dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Good, Mary Elizabeth
1972 *Guebert Site: An 18th Century Historic Kaskaskia Indian Village Site.* Memoir No. 2, Central States Archaeological Society.

Gremillion, Kristen Johnson
1986 Plant Remains. In *The Historic Occaneechi: An Archaeological Investigation of Culture Change, Final Report of 1985 Investigations,* edited by Roy S. Dickens, Jr., H. Trawick Ward and R. P. Stephen Davis, Jr., pp. 91–129. Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1987 Plant Remains from the Fredricks, Wall and Mitchum Sites. In *The Siouan Project: Seasons I and II,* edited by Roy S. Dickens, Jr., H. Trawick Ward and R. P. Stephen Davis, Jr., pp. 259–278. Monograph Series No. 1, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Guilday, John E., Paul W. Parmalee, and Donald P. Tanner
1962 Aboriginal Butchering Techniques at the Eschelman Site (36La12), Lancaster, Pennsylvania. *Pennsylvania Archaeologist* 32(2):59–83.

Gwynn, John V.
1964 Virginia Upland Game Investigations: Restoration of the Wild Turkey. Annual Report, Virginia Pittman-Robertson Project (W-40-11).

Hamilton, T. M. (editor)
1960 Indian Trade Guns. *Missouri Archaeologist 22.* University of Missouri, Columbia.

1980 *Colonial Frontier Guns.* The Fur Press, Chadron, NE.

Hedrick, U. P. (editor)
1972 *Sturtevant's Edible Plants of the World.* Dover Publications, New York.

Holm, Mary Ann
1986 Faunal Remains. In *The Historic Occaneechi: An Archaeological Investigation of Culture Change, Final Report of 1985 Investigations,* edited by Roy S. Dickens, Jr., H. Trawick Ward, and R. P. Stephen Davis, Jr., pp. 130–142. Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1987 Faunal Remains from the Wall and Fredricks Sites. In *The Siouan Project: Seasons I and II,* edited by Roy S. Dickens, Jr., H. Trawick Ward and R. P. Stephen Davis, Jr., pp. 237–258. Monograph Series No. 1, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Hume, Ivor Noel
1982 *A Guide to Artifacts of Colonial America.* Alfred A. Knopf, New York.

Hunt, George T.
1967 *The Wars of the Iroquois: A Study in Intertribal Trade Relations.* University of Wisconsin, Milwaukee.

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

Lefler, Hugh T. (editor)
1967 *A New Voyage to Carolina.* University of North Carolina Press, Chapel Hill.

Lewis, Ernest
1951 *The Sara Indians, 1540–1768: An Ethno-Archaeological Study.* Unpublished Master's thesis. Department of Sociology and Anthropology, University of North Carolina, Chapel Hill.

Lopinot, Neal H.
1983 Analysis of Flotation Sample Materials from the Late Archaic Horizon. In *The 1983 Excavations at the Cahokia Interpretive Center Tract, St. Clair County, Illinois,* edited by Michael S. Nassaney, Neal H. Lopinot, Brian M. Butler, and Richard W. Jefferies, pp. 77–108. Research Paper No. 37, Center for Archaeological Investigations, Southern Illinois University, Carbondale.

McManus, Jane M.
1985 *An Analysis of the Lithic Artifact Assemblage from the Forbush Creek Site (31Ydl), Yadkin County, North Carolina.* Honor's thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

Major, R. H. (editor)
1849 *The Historie of Travaile into Virginia Britannia, by William Strachey.* Hakluyt Society, London.

Marks, S. A., and A. W. Erickson
1966 Age Determination in the Black Bear. *Journal of Wildlife Management* 30(2):389–410.

Miller, Carl F.
1962 *Archaeology of the John H. Kerr Reservoir Basin, Roanoke River, Virginia-North Carolina.* Bureau of American Ethnology Bulletin 182, Washington.

Moerman, Daniel E.
1986 Medicinal Plants of Native America. *Research Reports in Ethnobotany, Contribution 2.* Technical Reports No. 19, Museum of Anthropology, University of Michigan, Ann Arbor.

Petherick, Gary L.
1987 Architecture and Features at the Fredricks, Wall, and Mitchum Sites. In *The Siouan Project: Seasons I and II,* edited by Roy S. Dickens, Jr., H. Trawick Ward and R. P. Stephen Davis, Jr., pp. 29–80. Monograph Series No. 1, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Radford, Albert E., Harry E. Ahles, and C. Ritchie Bell
1968 *A Manual of the Vascular Flora of the Carolinas.* University of North Carolina Press, Chapel Hill.

Rindos, David
1984 *The Origins of Agriculture: An Evolutionary Perspective.* Academic Press, New York.

Robinson, W. Stitt
1979 *The Southern Colonial Frontier, 1607–1763.* University of New Mexico Press, Albuquerque.

Salley, Alexander S. (editor)
1911 *Narratives of Early Carolina, 1650–1708.* Charles Scribner's Sons, New York.

Schroedl, Gerald F.
1980 Structure and Village Pattern at the Historic Overhill Cherokee Towns of Chota and Tanasee. Paper presented at the 37th Annual Meeting of the Southeastern Archaeological Conference, New Orleans.

Severinghaus, C. W.
1949 Tooth Development and Wear as Criteria of Age in White-tailed Deer. *Journal of Wildlife Management* 13(2):195–216.

Simpkins, Daniel L.
1984 Some Spatial Configurations of Late Archaeological Components in the Carolina-Virginia Piedmont. Paper presented at the Annual Meeting of the Society for Historical Archaeology, Williamsburg.

Smith, Bruce D.
1975 Toward a More Accurate Estimation of Meat Yield of Animal Species at Archaeological Sites. In *Archaeolozoological Studies,* edited by A. T. Clason, pp. 99–106. North Holland, Amsterdam.

South, Stanley
1977 *Method and Theory in Historical Archaeology.* Academic Press, New York.

Talalay, Laurie, Donald R. Keller, and Patrick J. Munson
1984 Hickory Nuts, Walnuts, Butternuts and Hazelnuts: Observations and Experiments Relevant to Their Aboriginal Exploitation in Eastern North America. In *Experiments and Observations on Aboriginal Wild Plant Food Utilization in Eastern North America,* edited by Patrick J. Munson, pp. 338–359. Prehistory Research Series 6, Indiana Historical Society, Indianapolis.

Tippitt, V. Ann and I. Randolph Daniel, Jr.
1987 Lithic Artifacts from the Fredricks, Wall, and Mitchum Sites. In *The Siouan Project: Seasons I and II,* edited by Roy S. Dickens, Jr., H. Trawick Ward, and R. P. Stephen Davis, Jr., pp. 217–236. Monograph Series No. 1, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Uphof, J. C.
1968 *Dictionary of Economic Plants (Second Edition).* Wheldon and Wesley, Ltd., Codicote, Hertfordshire, England.

Ward, H. Trawick
1987 Mortuary Patterns at the Fredricks, Wall, and Mitchum Sites. In *The Siouan Project: Seasons I and II,* edited by Roy S. Dickens, Jr., H. Trawick Ward and R. P. Stephen Davis, Jr., pp. 81–110. Monograph Series No. 1, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Ward, H. Trawick, and R. P. Stephen Davis, Jr.
1986 *The Historic Occaneechi: An Archaeological Investigation of Culture Change, Preliminary Report of 1986 Investigations,* Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

Waselkov, Gregory A.
1977 *Prehistoric Dan River Hunting Strategies.* Unpublished Master's thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

1986 Seventeenth Century Middleman Trade in the Colonial Southeast. Paper presented at the Annual Meeting of the Southeastern Archaeological Conference, Nashville.

Watson, Patty Jo
1976 In Pursuit of Prehistoric Subsistence: A Comparative Account of Some Contemporary Flotation Techniques. *Midcontinental Journal of Archaeology* 1:77–100.

White, T. E.
1953 A Method for Calculating the Dietary Percentage of Various Food Animals Utilized by Aboriginal Peoples. *American Antiquity* 18:396–398.

Whyte, Thomas R.
1986 A Middle Woodland Fishery of the Lower Chesapeake Bay. Paper presented at the 51st annual meeting of the Society for American Archaeology, New Orleans, April 1986.

Williams, Samuel C. (editor)
1930 *Adair's History of the American Indians.* Watauga Press, Johnson City, TN.

Wilson, Jack H., Jr.
1977 *Feature Fill, Plant Utilization and Disposal Among the Historic Sara Indians.* Unpublished Master's thesis, University of North Carolina, Chapel Hill.

1983 *A Study of Late Prehistoric, Protohistoric, and Historic Indians of the Carolina and Virginia Piedmont: Structure, Process, and Ecology.* Unpublished Ph.D. dissertation, Department of Anthropology, University of North Carolina, Chapel Hill.

Yarnell, Richard A.
1974 Plant Foods and Cultivation of the Salts Cavers. In *Archaeology or the Mammoth Cave Area,* edited by Patty Jo Watson, pp. 113–122. Academic Press, New York.

1982 Problems of Interpretation of Archaeological Plant Remains of the Eastern Woodlands. *Southeastern Archaeology* 1:1–7.

1987 Prehistoric Plant Foods and Husbandry in Eastern North America. *Missouri Archaeologist* (in press).

Yarnell, Richard A. and M. Jean Black
1985 Temporal Trends Indicated by a Survey of Archaic and Woodland Plant Food Remains from Southeastern North America. *Southeastern Archaeology* 4:93–106.