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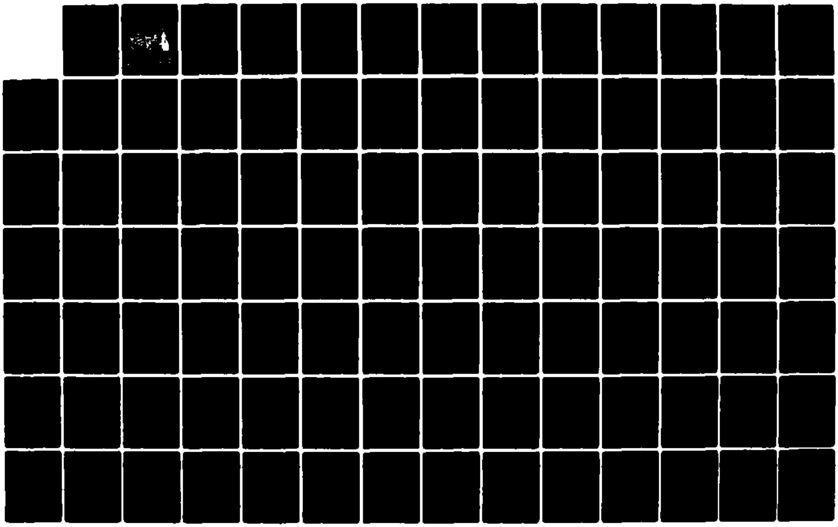

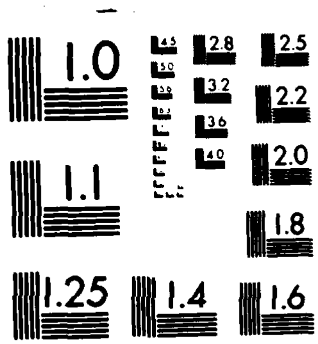

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ARCHAEOLOGICAL INVESTIGATIONS AT THE EAST ABERDEEN SITE (22 Mo 819)

Janet E. Rafferty, B. Lea Baker, and
Jack D. Elliott, Jr.

Appendix by Marlesa A. Gray

Department of Anthropology
Mississippi State University
1980

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16. Abstracts
The East Aberdeen site, in Monroe Co., Mississippi, was located on two topographic high spots near the Tombigbee River, with the culture-bearing deposit composed of dark brown sandy earth one to three meters in depth. Early, Middle, and Late Archaic and Miller II and III components were identified, with the Late Archaic Benton phase component being the most extensive and significant. One Benton level yielded a radiocarbon date of ca. 3500 B.C. The main resource used throughout the prehistoric period was hickory nuts; deer, turkey, and turtle were the most common animal remains. The site was used as a base camp during Benton times and as a transitory camp during the other periods. The site, then known as Martin's Bluff, was again used beginning in 1830, as documented by an historic records search and archaeological work. It was a ferry and steamboat landing, with a store, warehouses, wheat mill, and residences, until 1873, when it declined due to contruction of a bridge across the river. The site saw a resurgence during the 1920s when a sawmill was built nearby. The archaeological work produced data on residences, diet, and shifting site use during the period.

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ARCHAEOLOGICAL INVESTIGATIONS AT THE EAST ABERDEEN SITE (22Mo819), TOMBIGBEE RIVER MULTI-RESOURCE DISTRICT, ALABAMA AND MISSISSIPPI

by

Janet E. Rafferty,

B. Lea Baker,

and

Jack D. Elliott, Jr.

with an appendix by Marlesa A. Gray

A report on work undertaken in cooperation with
the Heritage Conservation and Recreation Service
and the U.S. Army Corps of Engineers-Mobile District
in fulfillment of Contract Number C5629(78)

Department of Anthropology
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1980

ABSTRACT

Archaeological work was conducted at the East Aberdeen site (22Mo819), near Aberdeen in Monroe County, Mississippi, to mitigate the impact of Tennessee-Tombigbee Waterway construction. The site was located on two topographic high spots, one adjacent to the Tombigbee River and one several hundred meters east. The culture-bearing deposits were composed of dark brown sandy earth and yellowish sand underlain by sterile white sand. The dark stratum varied from one to three meters in maximum depth. Methods of data recovery used at the site include controlled surface collection of about 7500 m^2 of site area, the excavation of six 2x2 m and one 4x4 m test units and two 4x5 m excavation units, and box-scraping, stripping, and slope-cuts.

The prehistoric components present at the site included Early Archaic, with Big Sandy I, Kirk, Greenbrier, and Dalton projectile points; Middle Archaic; Late Archaic, marked by Benton projectile points; and Miller II and III. One Benton level yielded a radiocarbon age of about 3500 B.C. The site was apparently used as a transitory camp in Early Archaic and early Middle Archaic times. In late Middle Archaic and Late Archaic times it became a base camp where large quantities of fired clay lumps, sandstone, debitage, and a variety of tools were deposited, as well as clay-lined hearths, a possible clay floor, and one burial. In this period the site was used in the fall for hickory nut gathering and processing, as well as for deer, turkey, turtle, and small mammal hunting. In the Miller II-III period it reverted to a transitory camp, with the main activity continuing to be hickory nut procurement.

The site was also occupied during the historic period, when it was known as Martin's Bluff. An historic records search that preceded the archaeological fieldwork revealed that the site was probably first used in about 1830 as a river crossing. It soon became a ferry and steamboat landing tying the farmers and settlers on the east bank of the river with Aberdeen on the west bank and with Mobile, Alabama, to which cotton was shipped and from which goods were received. In the period from 1830 to 1873 it came to contain a store, wheat mill, warehouse, and residences. The construction of a bridge across the Tombigbee at the site in 1873 caused the decline of Martin's Bluff. This lasted until the 1920s, when a resurgence occurred as the result of construction of a nearby sawmill. The archaeological evidence on the historic period mainly reflected the residential use of the site during the nineteenth and twentieth centuries, including house locations, periods of occupation, house construction, and diet; the store, warehouses, and mill were not identified. Thus, the archaeological data complemented well the historic documents search, which provided information on the commercial activities that occurred at the site.

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ACKNOWLEDGMENTS

As is the case with all archaeological projects, this work could not have been completed without the special talents and assistance of a great many diverse individuals and we take this opportunity to extend our appreciation to them.

The investigations were funded by the U. S. Army Corps of Engineers-Mobile and were carried out under contract with Interagency Archeological Services-Atlanta. Dr. Stephanie Rodeffer, serving as the Contracting Officer's Authorized Representative, made regular visits to the site to monitor our progress and spent many long hours conferring with us and assisting us with project planning and implementation. Special thanks are also extended to John Bennett, U. S. Army Corps of Engineers Resident Engineer for the Aberdeen section of the waterway, and members of his office for their cooperation and continuing interest in the project. We also wish to thank Colonel Charlie Blalock, District Engineer, U. S. Army Corps of Engineers-Mobile, for his special interest in our work and his visits to the site.

Mississippi State University assisted us with the administration of the project and the Department of Anthropology provided us with necessary equipment, facilities, and administrative aid.

In the field and laboratory we depended upon the able assistance of our supervisory personnel and their specialized talents. James D. Burnett, Field and Laboratory Supervisor, oversaw day-to-day operations as well as serving as our draftsman. Jack D. Elliott, Jr. brought his historic expertise to the project and served as a Field and Laboratory Assistant. Katherine Dinnel, Field Assistant, took charge of the field laboratory and the many different data recording forms we used. Cathy Crane, Laboratory Assistant, worked in flotation activities and analyzed the floral contents of our flotation samples. Craig Vechorik and Austin Green, Laboratory Assistants, provided leadership and organization as well as conducting the analysis of the lithic materials. G. Gerald Berry conducted the analysis of bone.

We also thank David Pettry of the Agronomy Department at Mississippi State University and Frank Leonhardy who both visited the site and provided us with valuable information on its natural and cultural stratigraphy.

The crew members of the East Aberdeen project were diverse. We thank the students of Mississippi State University's 1978 Summer Archaeological Field School, the high school volunteers, and the regular workers who contributed to the success of the field work and the laboratory activities.

The communities of Aberdeen and Hamilton, Mississippi, extended a most appreciated welcome to us. We are very pleased with the opportunity we have had to share our work with the numerous visitors to the site and with the groups which have requested additional information concerning the project and archaeology along the waterway. In particular, we acknowledge the assistance of Granite Construction Company and Walter Lann, who went far out of their ways to help us in procuring needed services and equipment.

Finally, we thank our colleagues at Mississippi State University for reviewing this report and our special appreciation goes to Hope Barrowes, Roberta Avila, Kathy Beasley, David Stampley, Jane Sandoval, and Barbara Seegraves, all of whom worked on the typing of the manuscript.

Janet E. Rafferty

Janet E. Rafferty
Principal Investigator

I. INTRODUCTION

LOCATION:

The East Aberdeen site was located on the east bank of the Tombigbee River in the northeast ¼ of the northwest ¼ of Section 27, Township 14 South, Range 19 West, Monroe County, Mississippi (Fig. 1). The UTM coordinates of the center of the site were Easting 37/43/305 and Northing 3/59/295. The site lay within the Tombigbee River Multi-Resource District and was slightly southwest of the Aberdeen Lock and Dam of the Tennessee-Tombigbee Waterway. It has been impacted by the relocation of a line of the St. Louis and San Francisco Railroad.

BACKGROUND:

The site was initially recorded in 1976 during an archaeological site survey conducted by James R. Atkinson, Department of Anthropology, Mississippi State University, under Contract Number DACW01-76-0189 with the U. S. Army Corps of Engineers, Mobile District. At that time two areas of the site were surface collected; the artifacts recovered are summarized in Table 1. A shovel test in the western part of the site indicated the presence of a midden deposit at least 1 m deep. The survey report concluded that the site was significant and strongly recommended further investigation of it. (Atkinson 1978a:87-88, 156-158; Elliott 1978a:80-86, 105)[1]

In 1976 the site was determined eligible for the National Register of Historic Places and in 1977 Nicholas H. Holmes, Jr. conducted a photographic survey at the site under contract number DACQ01-78-C-0036 with the U. S. Army Corps of Engineers, Mobile District. He photographed and described the historic architectural remains of Taylor's Store, Murff's Store, Pickle's Store, and the 1873 bridge supports. (Holmes 1978)

Two final pre-project examinations of the site in March 1978 yielded a small amount of additional surface materials (Table 1). Of special note was the recovery of McIntire and Guntersville Lanceolate projectile points, dating respectively to the Late Archaic and Late Woodland. Augering in the west part of the site indicated that the prehistoric midden deposit might extend to at least 2 m in depth. The second of these visits is described in more detail below.

In April 1978 Jack D. Elliott, Jr. contracted with Interagency Archeological Services-Atlanta under purchase order number C-5502 to conduct a literature search on the historic background of the site. The results have been separately published (Elliott 1979) and are also incorporated into this report.

[1]When citations apply to material contained in a single sentence, they are included within that sentence. Citations which apply to material contained in several sentences stand alone following the final sentence containing the referenced material.

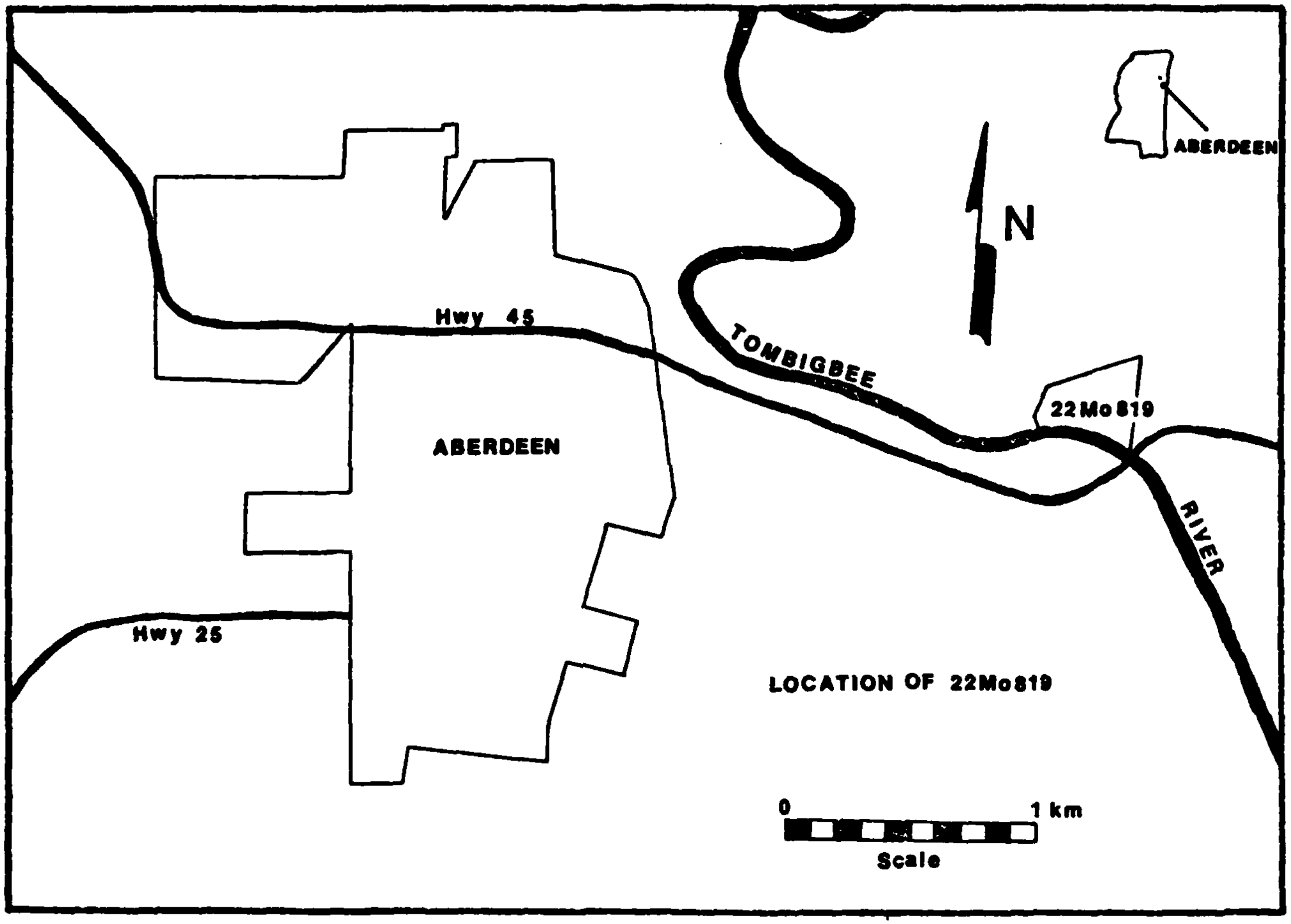

FIGURE 1. LOCATION OF THE EAST ABERDEEN SITE.

TABLE 1.
SUMMARY OF MATERIALS COLLECTED PRIOR TO ARCHAEOLOGICAL INVESTIGATIONS

Date and Location	Materials Collected
October 1976 - Behind Taylor's Store in west section of site and on rise in east section of the site.	1 Chert Pebble 4 Sandstone Chunks 2 Fire-Cracked Rocks 2 Utilized Chert Flakes 17 Undifferentiated Chert Flakes 2 Chert Bifaces 1 Sand Tempered Plain Sherd (Baldwin Plain) 1 Sand Tempered Fabric Impressed Sherd (Saltillo Fabric-Marked) 21 Grog Tempered Plain Sherds (Tishomingo Plain) 18 Grog Tempered Cord-Marked Sherds (Tishomingo Cord-Marked) 9 Historic Sherds (19th and 20th Century Manufacture) 2 Bottle Glass 2 Square Nails 2 Other Metal Objects
March 1978 - Behind Taylor's Store in west section of site.	1 Chert Guntersville Lanceolate Projectile Point 1 Chert McIntire Projectile Point 1 Unidentifiable Chert Projectile Point 1 Sand Tempered Unidentifiable Sherd 2 Grog Tempered Plain Sherds (Tishomingo Plain) 1 Grog Tempered Cord-Marked Sherd (Tishomingo Cord-Marked) 1 Grog Tempered Plain Strap Handle

Pre-project information gethered at the site indicated that it contained a deep prehistoric midden deposit representing Archaic and Woodland period occupations. Historic occupations dating to the nineteenth and twentieth centuries were documented in the literature regarding the site and evidenced in the materials collected from it. Additionally, the site was believed by the De Soto Commission to be the most likely point of Hernando De Soto's 1540 crossing of the Tombigbee River (United State De Soto Expedition Commission 1939:224).

RATIONALE FOR FIELD WORK:

East Aberdeen was one of the largest and deepest of the so-called midden mounds found along the central Tombigbee River. Its significance as such was only partly recognized before and during the field work by the principal investigators and by federal agency archaeologists. This was due to a number of factors, including the small amount of work done previously on similar sites and the distraction of dealing with the large important historic component that overlay the prehistoric deposits at East Aberdeen.

Because the historic activities at East Aberdeen were known to have been extensive and there was some existing information about their nature due to background research done prior to 1978 by Jack D. Elliott, Jr. (Elliott 1978a:80-86, 105), the historic components became the primary focus of interest in the scope of work for the testing phase of the project, which was written by personnel at Interagency Archeological Services-Atlanta. The scope contained a number of specific requirements for excavation of the historic deposits based on predictions about the kinds of information that should be present. For example, one twentieth century privy was to be excavated, as well as one complete mid-nineteenth century structure and associated outbuildings and features. In addition, if other historic structures were located during archival research or testing, one residence and at least one store with their associated outbuildings were to be excavated. (Interagency Archeological Services-Atlanta 1978a)

The Mississippi State University proposal (Mississippi State University 1978) written in reply to the scope and approved by Interagency Archeological Services-Atlanta was based on a mutual understanding that emphasis would be placed on the historic components during the testing phase. They were to be identified and localized using the results of a controlled surface collection and sub-surface testing, then explored using horizontal excavation. The ultimate goal was to produce data that could help answer questions posed in the general research design for historic sites in the multi-resource district (Interagency Archeological Services-Atlanta 1978). The proposal stated that if possible the historic features and structures specifically mentioned in the scope of work would be located and excavated. This requirement later had to be substantially modified when little evidence of historic features was found in the testing phase. The proposal also posed a series of ten research questions about the organization of the historic community and how it changed through time. These were derived directly from the historic research design mentioned above, especially from the section on intra-site patterning

(Interagency Archeological Services-Atlanta 1978b:3-5).

Before the sections of the scope of work and proposal that concerned the prehistoric deposits can be discussed, it is necessary to understand the status of midden mound excavations as of mid-1978. Prior to that time, four midden mounds--Kellogg mound, Kellogg village, Barnes mound, and Vaughn mound--in the area had been tested (Atkinson 1974; Blakeman 1975). These were referred to as ecotone base camps rather than midden mounds by Blakeman (1975:99). In addition, excavation at two midden mounds in Tishomingo County, the Brinkley midden (22Ts727) and the W. C. Mann site (22Ts565), had recently been started. It was generally felt that these sites were not all the same. The ones in the Tennessee River drainage produced large quantities of artifacts and were in the river floodplain (O'Hear 1978:4), while the ones in the central river valley had a lower artifact density, varied considerably in the numbers and kinds of features that were found in testing, and were located on terraces above the river (Rucker 1974 ; Atkinson 1974; Blakeman 1975). Despite these differences, the sites were frequently thought of and referred to as midden accumulations resulting from base camp occupations, the sites in the northern area because of their great artifact and feature density (O'Hear 1978: 4-5) and the more southerly sites because of the very dark deep soil and mounding that characterized them (Blakeman 1975:99; Atkinson 1978: 157). Because the latter sites had been tested by excavating a few small squares in them and their feature content varied, it was not clear what to expect at East Aberdeen, although the site was known to contain a thick dark culturally-altered deposit similar to that found at the tested sites.

In March 1978 East Aberdeen was visited by archaeologists from Mississippi State University, Interagency Archeological Services-Atlanta, and the U. S. Army Corps of Engineers, Mobile District. During this visit a number of hand-driven auger holes were excavated to obtain a better idea of the depth of the dark layer and its distribution over the site. It was confirmed that in the western part of the site the dark soil reached a depth of two or more meters in several places. However, few artifacts were noted in the dirt from the holes, which fostered the impression in some of those present that the prehistoric deposits would be unproductive and would not require a large amount of excavation. It was not clear to what extent these deposits had been disturbed by the historic occupations at the site.

The scope of work for East Aberdeen contained no specific requirements for the prehistoric material comparable to those for the historic components. The only mention in it of prehistoric deposits is a requirement that a systematic subsurface testing program be conducted to "define the historic and prehistoric boundaries of the site and provide controlled information on the depth and preservation of the aboriginal midden" (Interagency Archeological Services-Atlanta 1978a: 4). Since there was no further scope of work written to cover the excavation phase of the project, this stands as the only agency statement of goals for the investigation of the prehistoric deposits at the site.

The Mississippi State University proposal followed the scope, proposing the prehistoric deposits be tested by a combination of test units, slope-cuts, and auger holes. The aims of this work were stated in general terms based on existing knowledge of the components represented or likely to be present at the site. For example, for the Archaic period the proposal posed the following question: "How can the site add to our knowledge of the Archaic Period in the District, including both the period in general and, particularly, the early and middle phases of it, in terms of the following: settlement types and patterns; subsistence bases; types, locations, and numbers of activities represented?" (Mississippi State University 1978:5-6). A similar level of generality applied to the questions posed for the Gulf Formational and Woodland periods. Thus, the section of the proposal dealing with the prehistoric components emphasized problems to be investigated but did not pose specific hypotheses concerning each problem, since such hypotheses were not required by the scope. It was these broad archaeological problems that determined the kinds of field and laboratory methods that were discussed in the proposal and employed in the subsequent work.

In May 1978 contract number C5629(78) was signed between the Department of Anthropology, Mississippi State University and Interagency Archeological Services-Atlanta. Project funding was provided by the U. S. Army Corps of Engineers, Mobile District.

Field investigations began on June 1, 1978 and continued through September 29, 1978. They were conducted under the direction of B. Lea Baker with the aid of a field supervisor and two field assistants. Roughly the first 11 weeks were devoted to a multi-faceted testing program designed to explore and assess the horizontal and vertical cultural characteristics of the site. The remaining six weeks were spent conducting an excavation program which further explored the cultural components revealed by the testing program. During the first 10 weeks of field work, the Mississippi State University 1978 Archaeological Field School was conducted as part of the project; the crew consisted of eight university students and eight high school volunteers. After the field school concluded on August 12, work continued using paid crew, including local labor when necessary.

While the field school was in session, a field laboratory also operated. The majority of data analysis, however, was conducted in the Archaeological Laboratory of the Department of Anthropology on the Mississippi State University campus. Janet E. Rafferty directed the laboratory operation with the aid of two laboratory assistants and an average of three laboratory workers.

As field and lab work progressed, it became increasingly clear that the prehistoric deposits at East Aberdeen, ranging in age from Early Archaic to Late Woodland, were as important as the historic material. At the end of July 1978 Interagency Archeological Services-Atlanta engaged Frank Leonhardy to vist the site in order to assess the relative importance of soil formation processes and cultural activity in producing the characterictic thick dark deposits. His report (Leonhardy 1978) indicated that both cultural and natural processes had played a tole in their formation. While the dark zones might not properly be called midden according to the dictionary definition, "refuse or garbage heap," since they accumulated by natural as well as cultural processes, East Aberdeen and other similar sites have continued to be referred to as midden mounds (e.g., in U. S. Army Corps of Engineers, Mobile and Nashville and Interagency Archeological Services-Atlanta 1979:Tables 6, 8, and 9).

One result of the insights gained in testing was that the excavation phase of the project concentrated on uncovering more of the prehistoric deposits. This was done using two moderate-sized (4 x 5 m) block excavation units, eventually supplemented by limited bulldozer stripping. Even this resulted in less than 1% of the site being excavated. This small controlled sub-surface sample, plus the fact that excavation had to be done in arbitrary levels because natural zones were very difficult to identify, led to some interpretive difficulties that are described later in the report. Archaeologists conducting more recent midden mound excavations have grappled with the same problems and have used large blocks and stripping to excavate higher percentages of the sites, while continuing to rely on the use of arbitrary levels in excavation.

While it is unfortunate that more of the East Aberdeen site could not have been excavated, the work that was done there has resulted in considerable additions to our knowledge of large Archaic base camps in the central Tombigbee River valley. The paucity of historic features was also a disappointment, but despite this the documentary research and surf^ce collection data have contributed to the current understanding of small river ports and to methods for identifying poorly documented historic structures by using archaeological data.

II. ENVIRONMENTAL SETTING

INTRODUCTION:

The lack of available data concerning the past enviromental characteristics of the East Aberdeen site necessitates a consideration of a larger region, particularly for more remote periods. This applies to the following discussion of Holocene climatic changes, specifically those which marked the Altithermal and Neoglacial periods, and their effects on the environment of the Southeast. The types of vegetation and animal life which were present in the Southeast and, more specifically, in northeastern Mississippi during proto-historic times are examined next. A discussion of the modern environment of the site in terms of its geology, soils, vegetation, animal life, boundaries, and topography follows and, finally, the general nature of the site immediately prior to the archaeological investigations is briefly examined.

HOLOCENE CLIMATIC CHANGES:

Post-Glacial Warming/Drying: The Altithermal. There is considerable evidence to support the occurrence of a gradual post-Wisconsin warming in all of unglaciated North America, beginning at about 12,000 years ago. In the Southeast, evidence of warming occurs in Florida, Georgia, North Carolina, Illinois, and Louisiana; with the exception of Louisiana, these are regions which surround but are not on the Gulf coastal plain. (Wright 1976b)

In Florida and on the Georgia Atlantic coastal plain, highland vegetation seems to have consisted mainly of herbs and xeric shrubs with some oak from late Wisconsin times to 5000 to 6000 years ago (Watts 1976; Wright 1976a:586). If this vegetational mix was contolled by climate, it was probably due more to low precipitation than to high temperatures (Wright 1976a:586). Another possibility is that the lowered water table of this period, when the ocean level was still rising in relation to the land level, might have allowed rapid absorption of rainfall in the primarily sandy soils of the area and thus caused a local xeric environment (Watts 1971:686).

In northern Georgia and North Carolina spruce-dominated boreal forest existed until 11,000 to 12,000 B.P. and then it was gradually replaced by oak, hickory, and other deciduous trees by 9000 B.P. (Watts 1971). The deciduous forest persisted until about 5000 years ago. This does not necessarily indicate a drier than modern climate since small ponds in northern Georgia held more water during this time than they do today (Watts 1971:686).

A somewhat similar sequence of change occurred in south-central Illinois where oak and other hardwoods replaced spruce beginning 12,000 years ago. The hardwood forest was in turn infiltrated by prairie vegetation, creating a mosiac of woodland and prairie by 7000 B.P. The mosaic persisted for about 2000 years. (Grüger 1972; Wright 1976a:590).

Plant macro-fossils from a Tunica Hills terrace deposit in Louisiana, dating from 12,700 to 3500 B.P., appear to reflect a mixture of "cool-temperature deciduous forest species, occurring together with what are today typically boreal species" in the immediate post-glacial period (Delcourt and Delcourt 1977:231). The species present included oak, walnut, hickory, elm, yellow poplar, sugar maple, birch, alder, and spruce. By about 5300 B.P. the modern flora of southeast Louisiana and southwest Mississippi had been established.

Most of this evidence can be interpreted as indicating that the period from 8000 to 5000 B.P. was one of warmer temperature and/or drier conditions than either the preceding or following periods. This time period is usually referred to as the Altithermal or Hypsithermal (Wright 1976b).

Evidence of geological conditions, animal ranges and extinctions, and cultural changes further corroborate the existence and dating of the Altithermal in the Southeast. The Holocene geology of most parts of the Southeast has not been studied in detail but several general statements can be made. The modern ocean level was fairly well established by about 5000 years ago when the rising ocean level and isostatic rebound of the land balanced out. Before 5000 B.P. the courses of the major rivers of the Southeast and depositional patterns along them were so closely tied to changes in their gradients, caused by rising land and ocean levels, that they can tell us little about climatic change. (Flint 1971:326)

At the major archaeological site of Russell Cave, Alabama, frost action caused rapid roof collapse until about 9000 B.P. After that time, the main deposition inside the rock shelter was due to flooding and then to a slow rain of roof particles after the floor had been raised above flood level. (Griffin 1974) A similar sequence is apparent at Graham Cave in the Missouri Ozarks where the climate appears to have been moister at 9500 years ago than at present. It then became more arid and wind-deposited sediments built in the cave; this was followed by a change to modern conditions at about 5000 B.P. (Klippel 1971) These types of changes are consistent with the occurrence of a gradual warming trend following the withdrawal of the glaciers.

Knowledge of post-Pleistocene animal extinctions in the Southeast is unclear because dating of the major deposits of faunal remains is uncertain. Extinctions of some large Pleistocene mammals may have been delayed in the Southeast to as late as 5000 B.P. when most prairie-parkland environments were replaced by pine forests (Watts 1971:687). Changes in the sizes of animal ranges do provide some information. Bones found at the Stanfield-Worley Rockshelter indicate that the range of porcupines extended into northern Alabama during Dalton times, about 10,000 years ago (Parmalee 1963). The modern range of porcupines does not extend south of 38 degrees latitude (Burt and Grossenheider 1964). There is, however, evidence of porcupines in Alabama during the Late Archaic Period, perhaps indicating a withdrawal to the north in the interim (Barkalow 1961). The presence of this animal tends to indicate a climate somewhat cooler than modern and its absence indicates one at least as warm as the current one (Parmalee 1965).

Because cultural change can occur for many reasons, it is usually best to avoid inferring environmental change from the archaeological record alone. However, some correlation between climatic change and cultural change during the Holocene period is supported although the causes of the correlation are not always clear (Wendland and Bryson 1974). Archaeologists have sometimes used climatic change as an explanation for cultural change and have at the same time used the cultural changes to corroborate the climatic ones.

An example of this is found at the Eva site on the Tennessee River in western Tennessee. During the Eva phase, dating from 8000 to 6000 B.P., deer were heavily exploited and freshwater shellfish were used in moderate amounts. In the following Three Mile phase, dating to between 6000 and 4000 B.P., there was a considerable decrease in the use of deer and a corresponding increase in shellfish use. This change has been attributed to the Altithermal which is believed to have lowered the level of the river, making mussels more accessible. At the same time the prairie is believed to have expanded, causing a decrease in the areal deer habitat and therefore a decrease in the availability and use of deer. (Lewis and Lewis 1961)

Similarly, the comparatively light habitation of northwest Arkansas during Middle Archaic times, from 8000 to 5000 B.P., has been explained by and used as evidence for decreased moisture in the environment, which changed the distribution of oak-hickory forests in the area. A decrease in mast-bearing trees is held to have resulted in a decrease in human use of the area. (Morse 1969; Fehon 1975)

There is considerable evidence that the Altithermal affected the Southeast although it may have achieved its maximum effect on vegetation earlier in some areas than in others. There is little evidence of its direct effect on the Gulf coastal plain but by analogy with areas to the north and east, it can be argued that between 8000 and 5000 B.P. any prairie that existed probably expanded while the cypress-tupelo gum stands, which require an abundance of water, decreased in area. Whether these associations were present on the Gulf coastal plain in immediate post-glacial times, what their extents and distributions were, and exactly how they were affected by the Altithermal will not be known until considerable palynological research is completed in the area.

Neoglaciation. The period from 5000 B.P. to the present is called the Neoglacial because mountain glaciers in western North America have re-advanced during it (Wright 1976b). It has been a period of overall climatic cooling with several minor fluctuations apparent in the more detailed evidence available for the period. As many as seven fluctuations have been recognized during the last 2500 years. These short-term climatic episodes were probably too rapid to cause major changes in vegetation; rather, their main effect was apparently to cause slight shifts in ecotone boundaries. (Bryson and Wendland 1967:280-281)

The overall cooling trend has had more important effects than the fluctuations within it. Several Southeastern pollen cores, including those taken from Florida and southern Georgia, show an important vegetational change beginning about this time, i.e. the replacement of scrub-oak grasslands by southern pine forests. However, it is not clear whether this change was caused by the moister, cooler climate or was related to sea-level stabilization, with the resulting higher water table eliminating the xeric vegetation. (Watts 1971) At the same time, the large swamps of southern Georgia and Florida, including the Okefenokee and the Everglades, formed (Wright 1976a:586).

An important unanswered question is the location of the southern pine refugium during glacial and early post-glacial times. More pollen cores from the Southeast, particularly from the Gulf coastal plain which is a potential refuge area, could clarify this.

The sequence from the Eva site in Tennessee has also been used as evidence of the effects of climatic change on culture during this period. While the Three Mile phase, which coincides with the Altithermal, shows greater use of shellfish and reduced use of deer, the following Big Sandy phase is characterized by an abrupt cessation of the use of mussels. This has been attributed to the effects of increased precipitation at the beginning of the Neoglacial which caused the river level to rise and flood the mussel shoals. (Lewis and Lewis 1961:20)

Some of the minor climatic fluctuations that occurred during the Neoglacial may have affected culture even though they had little apparent effect on vegetation or animal life. Wendland and Bryson (1974) found correlations between three climatic changes occurring worldwide during the last 2500 years and three episodes of culture change. Both the climatic and the culture changes seem to have occurred more or less synchronously everywhere. The climatic changes in question centered around 2739 B.P. at the beginning of the sub-Atlantic episode when the climate began to cool slightly, 1680 B.P. at the end of the sub-Atlantic, and 850 B.P. The three episodes of culture change that correlate with the climatic changes dated to 2510 B.P., 1820 B.P., and 830 B.P. None of the three dates marking cultural change coincides very closely with major cultural changes in the Southeast so there remains considerable question as to the value the correlations posited have for explaining cultural change. The date of 2510 B.P. (560 B.C.) corresponds roughly to the beginning of the late Gulf Formational stage, 1820 B.P. (A.D. 130) corresponds with the middle Miller I period, and 830 B.P. (A.D. 1120) corresponds with the early part of the Mississippian period in the Tombigbee River Valley (Jenkins 1979a).

PROTO-HISTORIC VEGETATION AND ANIMAL LIFE:

Some information is available on the nature of vegetation and animal life in the Gulf coastal plain immediately prior to the beginning of European settlement. The forest of the area was oak-hickory and the dominant trees in the scattered remnants of climax and subclimax forest that have been recorded included post, white, black, blackjack, and scarlet oaks and shagbark, mockernut, and pignut hickories (Shelford 1963:57).

Beginning from bare earth, it takes 30 to 40 years for all the climax species to appear in the succession. Based on studies conducted in Missouri, North Carolina, and Georgia, the succession proceeds as follows. During the first four years grasses and woody shrubs such as sumac appear. Trees follow in about the fifth year, including in turn post oak and shagbark hickory by about the sixth year, black oak by about the twelfth year, and white oak by about the fifteenth year. Pines are often mixed in with the deciduous trees and pine stands can be maintained free of oak-hickory invasion by frequent fires. (Shelford 1963:56)

Aboriginal burning may have kept many areas of the Southeast from developing a climax forest in proto-historic times. Most of north-central and south Mississippi was occupied by the Choctaws who were efficient agriculturalists. They were able to raise enough corn for their own consumption and for use in trade. Their main crops were corn, beans, sweet potatoes, and sunflowers, all of which were planted in large fields; pumpkins were also grown in small gardens. (Swanton 1931) After 1750 the Choctaws adopted several non-native domesticates including garlic, leeks, and cabbage (Debo 1934:26). They cleared land for agricultural use by girdling trees and firing the underbrush around them (Swanton 1931:46). They also used burnoff and surround techniques to corral deer, with the fired areas being up to 12.5 km^2 in circumference (Hudson 1976). After 1750 they also raised pigs, chickens, and horses (Debo 1934:26).

Representative species of wildlife present in the proto-historic oak-hickory forests included turkey, ruffed grouse, hawks, owls, crows, wolf, bobcat, white-tailed deer, gray and red foxes, gray and fox squirrels, raccoon, skunk, opossum, cottontail rabbit, beaver, black bear, and various song birds such as warblers and sparrows. Of these, the black bear and wolf are rare or non-existent in northeastern Mississippi today; all of the other species still occur, although in some cases in greatly reduced numbers. (Shelford 1963)

In Missouri there were approximately five turkeys per 2.6 km^2 prior to white settlement. In the Ozark Plateau, one wolf per 26 km^2 was recorded in 1934. At that time the grey squirrel population was estimated at 22 per 2.6 km^2, raccoon at 6 to 9 per 2.6 km^2, skunk at 2 per 2.6 km^2, and opossum at 3 per 2.6 km^2 (Shelford 1963:59). There is little certainty as to how well these numbers may reflect aboriginal conditions since it is difficult to control for the effects that hunting may have had on animal populations before white settlement. However, the Choctaws are reported to have hunted pigeons, squirrels, deer, bears, raccoons, opossum, bobcats, otters, muskrats, beaver, and turkeys; deer and turkeys were probably the most important game animals (Swanton 1931; Hudson 1976:280).

MODERN ENVIRNMENT OF THE EAST ABERDEEN SITE:

Geology and Soils. The East Aberdeen site was located in the Tombigbee Sand Hills Ecosystem; the ecosystem was formed "by cutting of the Tombigbee River into the Tombigbee Sand member of the Eutaw formation, leaving a large terrace on the east side of the river and a bluff on the west side" (Miller et al. 1973:15). The Sand Hills are composed of a series of sands of Upper Cretaceous origin, the bulk of which is orange glauconitic sand (Stepenson and Monroe 1940:65). Beds of white sand also occur within the orange matrix as do layers of ferriginous sandstone and pebbles. The pebbles are mainly chert and jasper with some agate, chalcedony, and other siliceous rocks also occurring. One of the larest pebble beds in existence stretches across northeast Mississippi into Itawamba County and then into Alabama and pebbles from this bed have been carried south by the Tombigbee and other rivers. The pebbles are often deposited in bars along the courses of the rivers. (Hilgard 1860:5-130)

Along the course of the Tombigbee River, terraces which formed during the Pliocene, Pleistocene, and Holocene Periods overlie the Tombigbee Sand and about five series of terraces are recognized in Monroe County. In 1940 about 5 m of Pleistocene alluvium composed of fine grey sand were found to overlay the Tombigbee Sand member at a low cliff near the Highway 45 Bridge south of Aberdeen. (Stephenson and Monroe 1940:68, 78)

The East Aberdeen site lay on a terrace of the Tombigbee River. The age of the terrace is not definitely known but has been estimated to be of late Wisconsin-early Holocene origin (Pettry 1978, personal communication).

According to the Monroe County Soil Survey, the entire site area is covered with a sandy alluvial deposit in which little or no soil development has occurred. Such deposits are usually recent and result from frequent flooding. Their natural fertility is low and water filters rapidly through them. (United States Department of Agriculture 1966:17, Sheet 92) However, as will be discussed in a later chapter dealing with the natural stratigraphy found during the archaeological investigations, the soil profiles found in places at the site differed a great deal from this description.

Vegetation and Animal Life. According to maps produced by a previous study which classified the modern vegetation of the entire waterway using infrared aerial photography, nearly all of the vegetational zones present on the East Aberdeen site and in its vicinity show evidence of disturbance due to agricultural and/or other activities. Most of the land around the site for a radius of about 1 km is currently either being used for agriculture or exhibits vegetation which has invaded abandoned agricultural land as indicated by the presence of pine and/or other early occupants of open land such as sweetgum, ash, red maple, and elm; these may be mixed with some oak and hickory. Only a few areas around the site show a naturally occurring forest cover and they are restricted to low, poorly drained land that floods seasonally. On these are found low-density stands of cypress and overcup and willow oaks. There are also a few areas near the river which are occupied by species which are colonizing land which has been recently formed due to river migration or other shoreline disturbance; the species present in these areas include ash, sugar berry, elm, sycamore, yellow poplar, red maple, and river birch. (Miller et al. 1973: Volume V, Appendix 6)

The same study also describes the potential game animal habitats for the waterway area based on the types of vegetation present. For the forest zones within 1 km of the East Aberdeen site, the potential for deer, squirrel, rabbit, and turkey varies from average to poor and

and for quail it is poor to very poor. Actual counts of deer and squirrels in the Tombigbee Sand Hills show 1.3 deer and 280 squirrels per 40.5 ha; the squirrel count was taken in the most favorable habitat, i.e. the mixed oak-hickory forest and this habitat is not found in the vicinity of the East Aberdeen site. (Miller et al. 1973:47-53)

The modern flora and fauna differ greatly from those present in the periods before European settlement both in terms of the estimated numbers of species present and the numbers of individuals present within each species. Intensive cultural activity during the last 150 years has increased the amount of disturbed area so that nearly all of the forests present are sub-climax. At the same time, game and other animals have been reduced in number and variety due to hunting, habitation, and other cultural activities. (Kelly 1973:19)

Site Boundaries and Topography. The site as archaeologically investigated was bounded by the Tombigbee River on the south, a small unnamed creek on the west, the railroad line on the north, and an arbitrary line on the east (Fig. 2). This area contained all of the known prehistoric and historic cultural remains of the site. The site was divided into two main sections of high ground: one near the river on the western portion of the terrace and one farther from the river to the northeast. Overall, the site had an elevation of between 58 and 60.5 m above msl and was about 9 m above the normal level of the river.

General Nature of the Site Prior to the Archaeological Investigations. The architectural remains which were present on the site immediately prior to the beginning of the archaeological investigations are also shown in Fig. 2. The house on a rise to the northeast and a wooden structure just north of Taylor's Store were collapsed. Taylor's Store and Pickle's Store had both been partially dismantled. The other architectural remains represented either standing structures or brick and/or concrete remnants of previously destroyed structures. See also Plates 1 and 2.

Three areas of the site were in grasses and other low growth and may have been used for limited agricultural activities during the preceding five years. They were located on the rise in the northeastern portion of the site, immediately north of Murff's Store, and north of the remains of the cotton gin. Except for small cleared areas around the recently used structures the remainder of the site was covered by medium to tall second growth vegetation including pine and fruit trees.

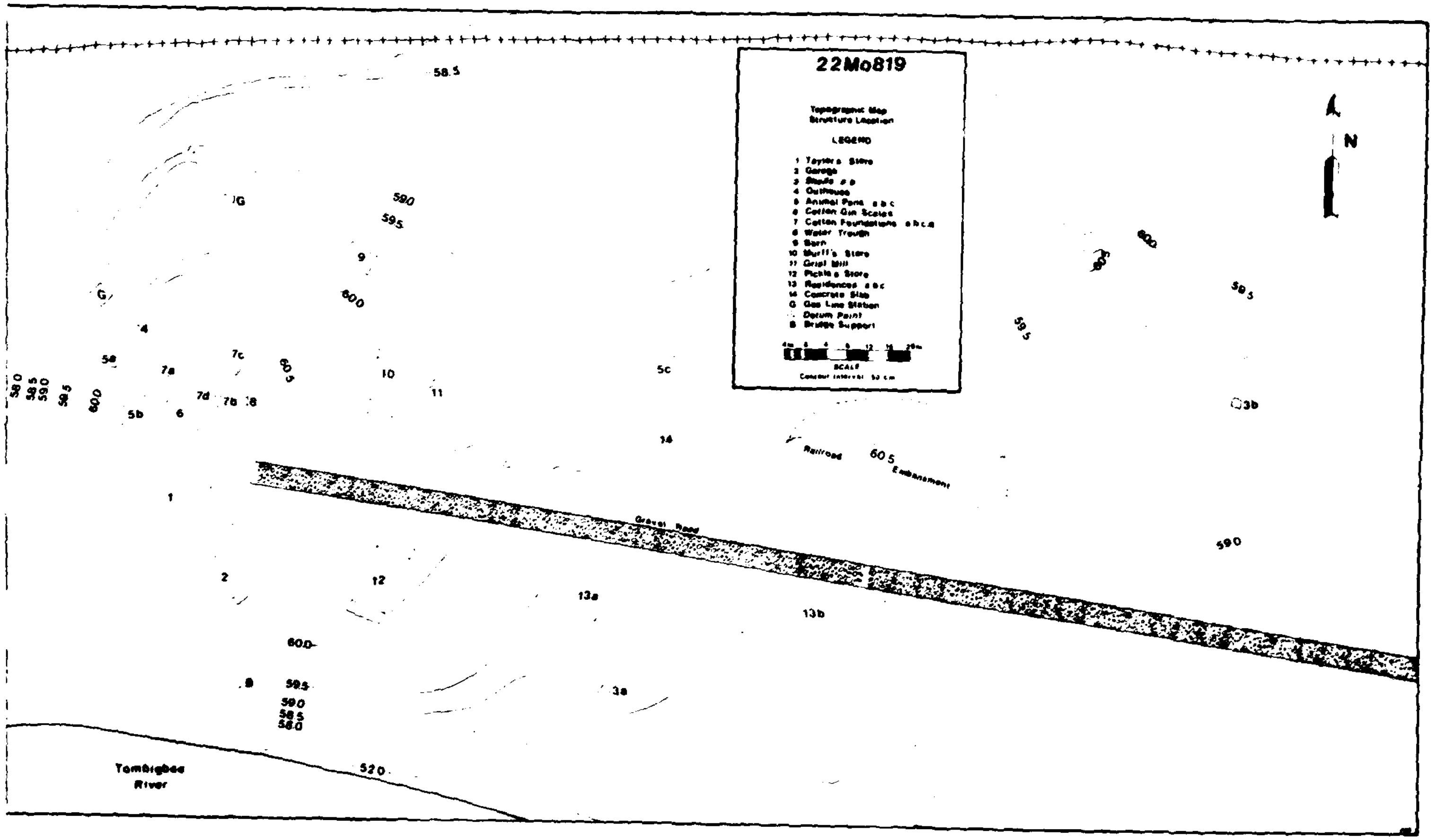

FIGURE 2. BOUNDARIES, TOPOGRAPHY, AND HISTORIC STRUCTURES PRESENT AT THE EAST ABERDEEN SITE AS OF JUNE 1, 1978.

III. PREHISTORIC BACKGROUND AND RESEARCH DESIGN

INTRODUCTION:

Prior to the archaeological investigations, the East Aberdeen site was known to contain prehistoric components ranging from Archaic through Woodland in age. The longest, most extensive, and most intensive use of the site was believed to have occurred during the Archaic period. There was also a possibility that Mississippian materials might be present. In order to place the series of prehistoric occupations in context, this chapter presents an overview of the current state of knowledge emphasizing the Archaic period and with briefer considerations of the Gulf Formational, Woodland, and Mississippian periods. The research implications of this knowledge as they relate to the East Aberdeen site are discussed and the specific hypotheses which formed the bases for the prehistoric archaeological investigations at the site are presented.

ARCHAIC:

A series of site surveys conducted along the Tennessee-Tombigbee Waterway have located a great many Archaic sites from the Tennessee border to Gainesville, Alabama (Lewis and Caldwell 1972: Rucker 1974; Jenkins, Curren, and DeLeon 1975; Blakeman 1975; Atkinson 1978a; Elliott 1978a; Hubbert 1978). As shown in Table 2, a tabulation of sites found in the Tombigbee River Multi-Resource District exhibits a tendency for Archaic sites to increase in frequency from Aliceville Lake in Alabama to Bay Springs Lake in northern Mississippi. The most marked contrast appears between the sections of the Waterway to the south and the north of Columbus, Mississippi. The area south of Columbus lies largely in the prairie ecosystem (Miller et al. 1973); in it only about one quarter of the sites have identifiable Archaic components, i.e. entirely non-ceramic. North of Columbus, the Tennessee Hills which consist of Sand, Eutaw, and Divide Hills ecosystems, begin (Miller et al. 1973); in this area as far as Bay Springs Lock and Dam, approximately 40 to 70 percent of all sites have identifiable Archaic occupations. North of Bay Springs in the Divide Cut section of the Waterway about the same proportion of sites have such components (O'Hear 1978:2).

Since no computation has been made of the relative densities of Archaic sites in the Prairie versus the Hills, it is not known whether the difference in proportion of sites occupied respresents greater Archaic use of the Hills or merely less use of the Hills in later periods. The latter explanation has been proposed in several survey reports and has been attributed to the beginning of cultigen use and argiculture (Blakeman 1975:106-110, 1976:55-56; Hubbert 1978:120-212).

There is a tendency throughout the Tombigbee River Multi-Resource District for more sites to have been occupied during the Late Archaic than during any previous time (Table 2). However, this picture may be

TABLE 2. NUMBER OF ARCHAIC COMPONENTS FOUND IN SURVEYS ALONG THE TENNESSE-TOMBIGBEE WATERWAY.

Survey Area	Components: Early Archaic	Middle Archaic	Late Archaic	Suspected Archaic	Total Number of Sites With Identifiable Archaic Components	Total Sites in Area
Aliceville Lake	2	5	7	6	14	54
Columbus Lake	3	7	5	10	15	58
Aberdeen Lake	14	19	45	21	78	107
Canal Section	0	4	21	10	24	44
Bay Springs Lake	4	7	13	32	24	57

Source: Mobile District Corps of Engineers and Interagency Archeological Services-Atlanta 1977:Appendix II.

skewed by the fact that Late Archaic components are less likely to be deeply buried under later natural or cultural deposits so they may have been more easily identified during the surveys. The evidence does suggest population growth during the Archaic; alternately, it is fairly likely that there was a greater diversity of settlements during the Late Archaic than in the preceding periods so that the same number of people might have created more total sites.

Although the surveys provide considerable information on site distribution, they have not been used extensively as the basis for models of Archaic period settlement patterns along the Tombigbee River. The two most important exceptions to this come from opposite ends of the waterway, the Gainesville Lake area in the south and the Divide Cut area in the north (Jenkins, Curren, and DeLeon 1975:183-187; O'Hear 1978).

The discussion of Archaic settlement and subsistence in the Gainesville survey report is necessarily sketchy since only ten Archaic components were identified at nine sites. The artifact density was low in these components; the few excavated examples contained no Archaic burials, although this might be attributable to poor bone preservation. The sites tended to be buried under alluvial deposits and did not take the form of accretional mounds. The settlement pattern proposed for the Early Archaic period in the Gainesville Reservoir is restricted wandering, with groups envisioned as having moved erratically or in a seasonal-round pattern through a particular territory. During the Late Archaic there may have been a change to central-based wandering, with larger base camps occupied for a part of each year in addition to the small hunting/collecting camps. If so, these base camps were apparently located outside the Gainesville area. It has been suggested that certain sites located in the Prairie-Hills ecotone near Columbus may represent base camps that were part of the same settlement pattern as the transitory camps found around Gainesville. (Jenkins, Curren, and DeLeon 1975:183-187)

Four of these possible base camp sites, Kellogg mound (22C1528), Vaughn mound (22Lo538), Barnes mound (22Lo564), and Kellogg village (22C1527) have undergone some excavation. All four seem to be accretional midden mounds composed mainly of Archaic debris although Kellogg village was not as intensively occupied during the Archaic as the other three sites were (Atkinson 1974; Blakeman 1975; Atkinson 1978b; Atkinson 1979, personal communication). The Archaic zones of the four sites have several characteristics in common including thick, fairly dark deposits, relatively few features, and long temporal spans of occupation ranging from Early or Middle to Late Archaic. Two flexed burials were found at the Barnes mound and nine at the Vaughn mound (Atkinson 1974:146-149; Blakeman 1975:89). Although no burials were found during testing, Kellogg village has since produced one probable Archaic cremation and one Archaic burial (Blakeman 1975:26-39; Atkinson 1978b). Burials may well be present at Kellogg mound also, since it underwent only limited testing. Only one burial from the Vaughn mound produced an associated artifact, part of a marine conch shell; however, not all of the nine burials found were completely excavated because they only partially protruded into the 1 x 1 m test pits. No artifacts were associated with the Barnes mound burials (Blakeman 1975:89-90). The cremation from Kellogg village had a fire-shattered atlatl weight and a square fire-damaged stone gorget associated with it (Atkinson 1978b).

The Vaughn mound is the only one of the four sites to have produced shellfish remains from the Archaic deposits and they were limited to the Middle Archaic levels (Atkinson 1974:144). All of the sites showed evidence of a diverse subsistence base with hickory nuts, turtle, bird, deer, small mammals, and fish remains found (Atkinson 1974:142-145; Blakeman 1975:36-68, 50-52, 90-92). No postmold patterns that could be attributed to structures were found in the Archaic zones at any of the sites. However, the area exposed in the Archaic deposits was limited at all four sites, so it is possible that structures existed at some or all of them.

There are also several excavated sites with Archaic components in the vicinity of Columbus and north of it that seem to have been less intensively occupied than the four previously discussed sites. One of these is the Cofferdam site (22Lo599). It produced several Middle and Late Archaic features but no Archaic burials. Only one of the features attributed to the Archaic contained any mussel shell and the attribution, which was based on lack of ceramics, may have been in error. The other Archaic floral and faunal remains again showed a predominance of hickory nut shells with relatively little bone in evidence. The Archaic component has been interpreted as representing a temporary nut collecting camp occupied in the middle to late fall. (Blakeman, Atkinson, and Berry 1976:56-64, 116)

Two other sites with ephemeral Archaic settlements occurred farther north, near Aberdeen, Mississippi. One of these, the Self site (22Mo586), was occupied from Early to Late Archaic times and the other, the Okashua site (22Mo651), had Early and Late Archaic components. There was some evidence of Archaic structures at the Self site, including a packed earth floor containing several hearths. The only floral remains found were a few hickory nut shells; mussels were not used and bone was rarely preserved. The site is interpreted as having been a hunting/collecting station. The one Late Archaic feature found at the Okashua site was a fairly large scatter of lithic artifacts and hickory nut shells; it has been interpreted as an indication of chert working and hunting/gathering activities. (Wynn and Atkinson 1976:42-46, 57-58, 81)

The subsistence information from the sites in the central Waterway is similar to that found in the excavated Archaic components in the Gainesville Reservoir, where 1Gr2, interpreted as a temporary camp, produced large amounts of hickory nut shells from the Early and Late Archaic components. The floral and faunal remains at the excavated sites tend to confirm the hypothesis proposed by Jenkins, Curren, and DeLeon that hunting and nut collecting were the main subsistence activities during the Archaic period. The diversity of small mammals, birds, and fish present indicates that the hunting was probably not particularly focused on deer, while the shellfish, turtles, and plant food remains indicate that collecting was not entirely focused on hickory nuts, at least in the base camps. The transitory camps do indicate considerably more specialization, especially an emphasis on hickory nut collecting. (Jenkins, Curren, and DeLeon 1975:55,184)

Four radiocarbon dates have been obtained on Archaic components from the Columbus and Aberdeen Lake areas of the Waterway. The Kellogg mound produced an age of 8600±685 radiocarbon years: 6650 B.C. from a shallow pit in the lowest levels of the site, while an age of 5980±105 radiocarbon years: 4030 B.C. came from a features in the oldest Archaic deposits at Kellogg village (Blakeman 1975:96; Atkinson 1979, personal communication). The Okashua site produced two dates with radiocarbon ages of 4005±80 years: 2055 B.C. and 4170±90 years: 2220 B.C., both on nutshells from a Late Archaic feature (Wynn and Atkinson 1976:58).

Survey and excavation in the Divide Cut have led to a proposed model for Archaic settlement in one part of the area (O'Hear 1978). The model derives from data on sites in the Yellow Creek valley, which is a tributary to the Tennessee River; it is applied to the Late Archaic period only but this is defined as including both late preceramic and early ceramic-bearing components with Wheeler series pottery being labeled Late Archaic (O'Hear 1978:2). This is the traditional usage in the Tennessee valley, although fiber-tempered ceramics throughout the Southeast have also been assigned to the Gulf Formational stage (Walthall and Jenkins 1976). The varying definition of Late Archaic means that the models proposed for the Divide Cut and the middle Tennessee River valley may not be entirely applicable to Late Archaic material farther south which does not include components containing Wheeler ceramics. However, there seems to have been little change in settlement or subsistence from late preceramic to early ceramic times, at least in the northern area.

O'Hear (1978) identifies five kinds of Late Archaic sites in the Yellow Creek drainage, defined on the basis of location, size, thickness of deposit, artifact density, and number of features. Base camps are large, thick midden deposits with high artifact density and large numbers of features. Two kinds of base camps, floodplain and terrace edge, appear to be present with the floodplain type located where major tributaries flow into the Yellow Creek. The third type of site, the upland or terrace edge camp, is similar to the terrace edge base camp but lacks midden deposits; rock hearths are the only kind of feature found so far at such sites. Small floodplain sites without midden and with low artifact density compose the fourth type, floodplain camps; the fifth type, the upland camp, is their equivalent located in the uplands.

It has been proposed that the base camps may be linked in pairs, with floodplain base camps having been occupied during the dry part of the year and upland base camps used when the floodplain sites were inundated. One important resource exploited in the floodplain may have been nuts, since oak and presumably other nut trees apparently grew mainly in the bottoms, with the ridges covered with stands of pine. (O'Hear 1978:6-7) Although in the last few years a number of sites have been tested and extensively excavated in the Divide Cut and Bay Springs Lake areas of the Tennessee-Tombigbee Waterway, the reports are still in preparation. They are expected to provide considerable information on the Late Archaic and should serve to test, clarify, and broaden parts of O'Hear's model.

Other models of Late Archaic subsistence and settlement have been proposed for areas to the north and east of the Waterway, in Tennessee and northwest Alabama. One of the earliest hypotheses advanced for these areas is contained in a paper by Lewis and Kneberg (1959). It proposes a complex set of traditions and phases for parts of the states of Tennessee, Alabama, Kentucky, and Georgia. All of the traditions and phases are seen as having a number of things in common, the most important being a sedentary settlement pattern composed mainly of large thick shell middens located along permanent streams. The midden sites contain numerous features, faunal remains, and other artifacts. There are also other kinds of sites recognized which have thinner deposits and no shell and are sometimes located farther from and higher above the rivers. There seem to have been changes in subsistence in the middle Tennessee River sequence. The main changes were a cessation of the use of freshwater mussels at the beginning of the Big Sandy and Ledbetter phases, estimated to have begun about 1250-1200 B.C., and a concomitant decrease in deer bones, at least in the Big Sandy phase. At the end of the Ledbetter phase, estimated to have dated about A.D. 500, mussels again came into use. In general, Archaic subsistence in all the phases and traditions is seen as having been characterized by broad-based hunting and collecting, not heavily dependent on any one food source. (Lewis and Kneberg 1959:161-182; Lewis and Lewis 1961: 21-23)

Four alternative models have been offered for Late Archaic settlement-subsistence in the western and middle Tennessee River valley since Lewis and Kneberg's proposal. They have in common the belief that the Late Archaic involved seasonal shifting of occupations rather than sedentary settlements. They differ in the complexity of seasonal movement they propose and in the emphasis they place on the various resources which were explioted. (Jenkins 1974; Oakley and Futato 1975; Bowen 1977; Dye 1977)

Bowen's (1977) model is the one which is most similar to that of Lewis and Kneberg, since it deals with the Ledbetter and Big Sandy phases which they defined and with sites which they discussed. One of these, the Ledbetter site, a shell midden on the Tennessee River, contained numerous burials with about one quarter of them having associated grave goods. Only nine other features were found at the site. The other site discussed is the Cherry site which is located above and away from the Tennessee River on a small tributary. It contained little shell but a large number of features. These were of several kinds, including large shallow pits that may have been structures or tree tip-ups, large deep pits, and postmolds. The latter were aligned around pit groups in several cases, either in arcs or lines, and may represent structures. Many burials, about 40% containing grave goods, were found. At both the Ledbetter and Cherry sites, artifact density was high and animal bones were numerous. It is suggested that the sites represent two kinds of base camps, with lowland sites like the Ledbetter site occupied in the summer and the upland base camps like the Cherry site used in the fall and winter. (Bowen 1977)

Jenkins' (1974) model for the Late Archaic is limited to the Bluff Creek phase, which marks the beginning of manufacture of fiber-tempered ceramics in the western Middle Tennessee valley. The model is similar to the central-based wandering settlement pattern hypothesized for the Late Archaic in the lower Tombigbee valley (Jenkins, Curren, and DeLeon 1975) and shares with those of Bowen and O'Hear the proposal that lowland base camps existed which were occupied primarily in the summer. Jenkins believes, as does Bowen, that these were reliant on shellfish expliotation, with a variety of animals, especially deer, having been hunted from them as well. The base camps are held to have been abandoned in the fall and winter, with the groups breaking up into small bands which moved into the uplands to exploit mast foods and to hunt.

Dye (1977) has proposed another hypothesis that deals primarily with subsistence, expanding on rather than contradicting Jenkins' ideas. Dye proposes that a greater variety of resources were in use in the Bluff Creek phase than Jenkins postulates; resources neglected by Jenkins but mentioned by Dye include wild plant foods other than nuts, small mammals, native and tropical cultigens, fish and turtle. No one of the resources, including shellfish, deer, and nuts, is felt to have played a predominant part in the subsistence base, but rather all of them were used in balance.

The settlement-subsistence model proposed by Oakley and Futato (1975:101-108) for the Late Archaic Perry phase of northwest Alabama divides sites into lowland and upland base camps, in a scheme similar to that used by Bowen. The lowland base camps, believed to have been occupied mainly in the summer, are shell middens along the Tennessee River; the fall-winter upland base camps are similar to the Dam Axis site in the Little Bear Creek watershed, which lacked shellfish but contained a number of large pits that apparently were used to store hickory nuts, walnuts, and acorns. Oakley and Futato also discuss a third kind of site, temporary campsites, which are located in the uplands and were used for short-term hunting and collecting activities, probably mostly in the fall and winter. In conformity with Jenkins, Oakley and Futato see shell fish, nuts, and deer as the three most important resources used in the Late Archaic.

All except one of the hypotheses that have been proposed for Archaic subsistence-settlement systems in the central and northern Tombigbee and the middle Tennessee River valleys contend that the settlement pattern was a seasonal round; only Lewis and Kneberg differ, believing that the large shell middens represent sedentary settlements. Within the seasonal round model, all of the authors feel that at least the Late Archaic and often the Middle Archaic as well were characterized by some combination of summer floodplain base camps and temporary camps. This kind of seasonal round is termed central-based wandering. There is considerable disagreement and/or disparity in the evidence as to whether there were also upland base camps, perhaps occupied mainly in the fall and winter. O'Hear's model is the only one that postulates such a system that does not tie the floodplain base camps to the Tennessee River valley, but rather hypothesizes that the tributary basins away from the river may have had separate settlement patterns. Since the hypotheses are derived from a variety of areas it may be that they reflect actual differences in settlement pattern and not only differences in interpretations of the data.

There are also common themes in the consideration of Archaic subsistence. In all cases, the models assume a broad subsistence base with a variety of seasonally-available resources being used. Whether some of these, such as deer, shellfish, and nuts, were depended on more than others is in question. Again, local variability in resources that were available may be the cause of some of the interpretive differences. For example, neither upland nor lowland base camps in the Yellow Creek drainage in the Divide Cut of the Waterway contain shellfish (O'Hear) 1979, personal communication). This is probably due to a lack of mussel shoals in the area, but may also result from poor preservation in the extremely acid soils present there.

GULF FORMATIONAL:

The observations discussed above apply equally well to the Gulf Formational period, at least in western Tennessee, northwest Alabama, and northeast Mississippi, where there has often been no clear distinction between Late Archaic and Gulf Formational when settlement and subsistence are discussed. Farther south, the Gulf Formational or Transitional Archaic-Woodland period has been treated more often as a separate entity.

The number of Gulf Formational components found in the site surveys that covered the Waterway from Aliceville Lake through the Canal Section was calculated from the survey reports and is shown in Table 3. The components included are all those containing either Wheeler or Alexander series ceramics. It is apparent that Gulf Formational components follow the same pattern as those belonging to the Archaic, with the northern part of the Hills containing the highest percentage of sites with early ceramics and the proportion decreasing to the south. About 30% of the sites in the Eutaw Hills have identifiable Gulf Formational components, as do about 25% in the Sand Hills and less than 20% in the northern part of the Prairie. Fifteen of 159 sites, or about 10%, were occupied during that time in the Gainesville Reservoir (Jenkins, Curren, and DeLeon 1975:59). There does seem to be a lower density of occupation along the river in the Sand Hills than was apparent during the Archaic; this may be due to the shorter time span covered by the Gulf Formational or to a change in settlement pattern or to some combination of these or other factors.

All of the Gulf Formational sites located in the Gainesville Reservoir have been described as transitory camps. They are placed in two phases. The earlier one, the Broken Pumpkin Creek phase, was named after a previously recognized site located outside the reservoir. The site, Broken Pumpkin Creek (22Lo617), is located well into the Prairie, about 10 km west of the Tombigbee River on James Creek. It is believed to have been a base camp, since the collection from it contained large quantities of ceramics, lithic debris, and animal bones, as well as some shellfish. (Jenkins, Curren, and DeLeon 1975:9, 25) The site has since been revisited and another very similar collection

TABLE 3. NUMBER AND PERCENTAGE OF SITES WITH IDENTIFIED COMPONENTS IN THE PRAIRIE, SAND HILLS, AND EUTAW HILLS ECOSYSTEMS, BASED ON SITE SURVEY DATA.

	Ecosystems						Total # Components	
	Eutaw Hills		Sand Hills		Prairie			
Components	# of components	% of total in ecosystem	# of components	% of total in ecosystem	# of compo- nents	% of total in ecosystem	# of compo- nents	% of total in all ecosystems
Early Archaic	1	2	12	8	0	0	13	5
Middle Archaic	7	13	20	18	1	3	28	11
Late Archaic	13	24	53	34	2	5	68	27
Gulf Formational	16	30	38	24	7	18	61	24
Miller I	16	30	33	21	4	10	54	22
Miller II	20	37	64	41	16	41	100	40
Miller III	24	44	75	48	29	74	128	51
Mississippian	7	13	19	12	12	31	38	15
Total Sites	54		156		39		249	

Source: Computed from Rucker 1974; Blakeman 1975, 1976; Atkinson 1978a.

made (Brookes 1979, personal communication). The phase is typified by fiber-tempered Wheeler ceramics. The assignment of a phase name on the basis of surface collections has been criticized and the Broken Pumpkin Creek phase rejected by some archaeologists working in the area (Blakeman, Atkinson, and Berry 1976:33). The difficulty with this phase also illustrates the dangers of defining settlement patterns solely on the basis of survey data. Since only a narrow strip immediately adjacent to the river was covered in most of the surveys, whole portions of the settlement patterns that were located further from the river might be missing from the survey data, as Broken Pumpkin Creek phase base camps are missing in the Gainesville Reservoir.

The second phase defined for the Gulf Formational period is Henson Springs. It was originally placed in the Woodland period but has since been reclassified into Gulf Formational because the Alexander series ceramic styles that typify it appear to be southern in origin. Both the Broken Pumpkin Creek and Henson Springs phases are believed to have continued the Late Archaic central-based wandering settlement pattern. The only changes seen in settlement pattern are a population increase in the Broken Pumpkin Creek phase and an increase in occupation of the Prairie, perhaps at the expense of the Sand Hills (Table 3). There may also have been an increase in the use of shellfish, while hunting and nut-collecting remained important. (Jenkins, Curren, and DeLeon 1975: 12, 187-188; Walthall and Jenkins 1976)

The putative Late Archaic base camps farther north, i.e. Kellogg mound, Kellogg village, Barnes mound, and Vaughn mound, have produced variable amounts of Wheeler and Alexander ceramics. The first three sites yielded small amounts of fiber tempered pottery from the test excavations and appreciable amounts of coarse sand tempered Alexander wares, the latter composing from 10% to one-third of the total ceramic collections (Blakeman 1975). During full-scale excavation at Kellogg village, a number of Henson Springs phase features were identified, but none from the preceding Broken Pumpkin Creek phase (Atkinson 1979, personal communication). No features from either phase have so far been identified at the Kellogg or Barnes mounds (Blakeman 1975: Appendix 2). The Vaughn mound contrasts with the other sites in having a much smaller percentage of Alexander ceramics, only about 4% of the total collection, and only one fiber tempered sherd was found. No Gulf Formational features or burials were found there. (Atkinson 1974:141)

The paucity of fiber-tempered wares at all four sites indicates that there was a break in occupation between the Late Archaic and the late Gulf Formational components. This suggests that there may have been a change in settlement pattern at this time. A site which may have the potential to throw light on this problem is the North Nashville Ferry Cutoff site (22Lo553), which was tested in 1974 (Blakeman 1975: 54-74). The first occupation of the site was apparently in early Gulf Formational times, since Wheeler ceramics were much more numerous there than at any of the other sites discussed above, while Alexander wares were less common. The site is located well within the Prairie ecosystem rather than on the Prairie/Hills ecotone and also differs from the other sites in not being a midden mound. However, the floral materials found were similar to those from Kellogg mound, Kellogg village, and Barnes mound, being predominantly hickory nut shells. No Gulf Formational features or structures were found. (Blakeman 1975:54-74)

It has been suggested that a shift in population toward the Prairie began to occur at the beginning of Gulf Formational times as the use of cultigens became more important (Blakeman 1975:107-109). Sites such as the ecotone base camps may have been abandoned for a time in favor of horticultural camps, of which the North Nashville Ferry site may be an example. Since no native cultigens were found there, this hypothesis has yet to be supported. However, only a small portion of the site was excavated in the initial testing.

It is apparent that the midden mound sites were re-occupied during the Henson Springs phase. Whether their function had changed is unknown. The floral samples recovered show a continued predominance of hickory nut shells throughout the sequence at all sites. Faunal remains continued to be various but with an indication at the Barnes mound that hunting had become more specialized, focusing on deer and turtle. This may support the argument that subsistence was becoming more dependent on other resources such as cultigens (Blakeman 1975:92).

It has been suggested that the Gulf Formational represents an intrusion of new ceramic styles into the Tombigbee valley from the south, perhaps at around 1200 B.C. to 1000 B.C. (Jenkins 1978b). There is only one considerably earlier date from the area that bears on this question. The Cofferdam site produced one Gulf Formational feature, a deep circular pit containing Wheeler and Alexander series sherds. Charcoal from the feature gave an age of 3655±140 radiocarbon years: 1705 B.C., corrected to 2150±26 B.C., which is considerably earlier than expected, especially considering that both fiber tempered and sand tempered pottery were present. This raises the possibility that, at least in the central Tombigbee River valley, the two kinds of pottery may have appeared at the same, relatively early, time. (Blakeman, Atkinson, and Berry 1976: 65, 109)

WOODLAND:

The Woodland tradition has been divided into Miller I, II, and III in the Tombigbee River valley, primarily on the basis of changes in pottery styles. The term Early Woodland has sometimes been used in referring to the Gulf Formational period (Blakeman, Atkinson, and Berry 1976:33) and sometimes in referring to Miller I (Corps of Engineers-Mobile and Interagency Archeological Services-Atlanta 1977: Appendix II). It has been proposed that usage of the term Early Woodland be discarded, with Gulf Formational applied to the early ceramic materials described above, Middle Woodland used for Miller I and II, and Late Woodland applied to Miller III (Jenkins 1978b, 1978c). Since the fabric and cordmarked Miller ceramic styles are affiliated with Middle and Late Woodland pottery styles to the north and are broadly contemporary with them, this seems a reasonable solution.

The distribution of Miller I, II, and III sites along the Tombigbee River shows that in Miller I times the greatest proportion of sites was occupied in the north, in the Eutaw Hills (Table 3). In Miller II and III there was a southward shift, with sites in the Sand Hills and then the Prairie being more frequently occupied, so that almost three-quarters of all sites in the Prairie were in use sometime in the Miller III period. This apparent shift in settlement may be partially explained by some important changes that are usually believed to have occurred in the Woodland tradition. During its time-span burial mounds began to be built, sedentariness developed, and subsistence became more dependent on native and, later, tropical cultigens (Willey 1966:267; Dragoo 1976:16-19).

Relatively little is known about the development of burial ceremonialism in the Tombigbee River valley. Burial mounds are not common and none has been excavated along the Waterway. Testing at the Vaughn site showed that earth had been mounded over burials there in the Middle Archaic levels, raising the possibility that the practice of constructing burial mounds developed locally and much earlier than usually supposed, although there does not appear to be any direct connection with Woodland mound construction . (Atkinson 1974:146) Otherwise, the nearest burial mound excavations have occurred at Bynum mounds and Pharr mounds in northeast Mississippi (Cotter and Corbett 1951, Bohannon 1972). Both sets of mounds seem to date mainly from the Miller I period, which began around 100 B.C. and ended at about A.D. 400 (Jenkins 1978b:5-7). Only a few such mounds have been reported in the Tombigbee drainage and it is uncertain how many of these date to Miller I times (McGahey 1971:7-17; Lewis and Caldwell 1972:18).

Mound building continued into Miller II times, at least in some areas, since the Miller mounds in Lee County, Mississippi are placed in the early part of this period, which has been estimated to have lasted until approximately A.D. 550 (Jenkins 1978b:7). There are also several mound groups in the south-central Tombigbee River valley that have been placed in Miller II, including the Blubber Creek mounds in the Gainesville Reservoir and some very large mound groups, reported to contain up to 50 mounds, in the area south of Demopolis, Alabama (Jenkins 1978a:30-32). Miller II mounds contain less elaborate grave goods than those dating from Miller I times and tend to be accretional rather than being built over a short period of time (Bohannon 1972:72; Jenkins 1978a:29-30). Mound building had ceased by Miller III times, around A.D. 600.

The practice of constructing artificial burial mounds is usually explained partially by proposing Miller I participation in the Hopewell Interaction Sphere, which served as a mechanism for the movement of exotic raw materials, finished goods, and distinctive ceramic and other sytles that were frequently used in grave goods (Bohannon 1972:76-77; Jenkins 1978a:36). It is not known why the Hopewell Interaction Sphere came to be important where and when it did. It may be that mound-building is tied in some complex way to the second major change, the development of sedentariness. Perhaps the trade network, burial cult, and mound-building served to politically and/or socially tie together sedentary settlements that otherwise would have been vulnerable due to their small sizes.

When sedentariness developed in the area is not clear. Rucker (1974:22) assumes that Miller I represents a sedentary group living in horticultural hamlets and villages. From the evidence in the Gainesville area, it has been asserted that Miller I, II, and III continued a central-based wandering settlement pattern, with base camps and transitory camps the only two kinds of sites recognized there (Jenkins, Curren, and DeLeon 1975:191-194). The Self site, near Aberdeen, Mississippi may have been a transitory camp, since it produced Miller II and some Miller III pottery but no houses and only one postmold that could be assigned with certainty to the Woodland occupations; the site has been interpreted as a seasonal hunting/collecting camp (Wynn and Atkinson 1976:45). Likewise, the nearby Okashua site may represent a Miller I and II summer camp, since light semi-circular shelters seem to have been present during this time (Wynn and Atkinson 1976:82-85). The Miller III component of the Cofferdam site has been attributed to summer and fall occupations since it was near the Tombigbee River in an area subject to spring flooding (Blakeman, Atkinson, and Berry 1976: 136). Similarly, the Miller II occupation of the L.A. Strickland site (22Ts765) in Tishomingo County, Mississippi was apparently limited to the fall since only a few pits and no structures were found and the floral evidence consists of nuts and seed that ripen in the late summer and fall (O'Hear and Conn 1977:58).

A few sites have produced Miller I, II, and III houses that seem to have been more substantial in nature than the shelters at the Okashua site. They are circular to sub-circular in shape with Miller I structures tending to be very large, averaging about 2500 ft^2 in area, while Miller II and III houses average only from 100 to 300 ft^2 (Jenkins and Ensor 1978). The appearance of a greater number of more substantial houses in a sequence is one indicator of the development of sedentariness, so the Middle and Late Woodland data seem consonant in some respects with the occurrence of such a change. There is also some support in site survey data from the central Tombigbee valley for the hypothesis that sedentariness had developed by Miller I times since moundbuilding, an increase in the amount of pottery manufactured, and other changes associated with sedentariness occurred by that time. (Rafferty 1978a).

When agriculture developed is a third major question of interest in considering the Woodland sequence. There is general agreement that the Miller I and II components so far excavated seem to represent hunting/collecting activities rather than horticulture or agriculture. The resources found in the Miller I and II components at 1Gr2 in the Gainesville Reservoir include remains of mussels, deer, turkey, rabbit, squirrel, turtle, hickory nuts, persimmon, acorn, and a variety of other less common foods while the Middle Woodland components at Kellogg mound, Kellogg village, Barnes mound, Vaughn mound, and Cofferdam displayed a similar diversity (Atkinson 1974; Blakeman 1975; Curren 1975; C. E. Smith 1975; Blakeman, Atkinson, and Berry 1976). The L.A. Strickland site produced a wide variety of plant foods from only a few Miller II features (Mosenfelder 1977). The only evidence of cultigens found so far for this period is from 1Gr2 where one corn cupule was identified from a possible Miller I level and some fragments of rind, possibly from gourd, were found in two Miller II features (C. E. Smith 1975:276). The corn may have been intrusive from the Mississippian component, however, since Mississippian postmolds containing corn did extend as deep as the Miller I zone (Jenkins, Curren, and DeLeon 1975:190).

Despite the lack of floral evidence found so far to support them, hypotheses have been advanced that Miller I and II were becoming increasingly reliant on native or tropical cultigens (Rucker 1974:22; Blakeman 1975). The hypotheses do have some support from settlement pattern data since the greater occupation of the Prairie that began in Gulf Formational times continued to be evident in the Miller I period and might be attributed to the existence of more favorable conditions for cultigens in the Prairie (Blakeman 1975:109).

There is somewhat more evidence suggesting that cultigens were used in Miller III times. Corn (*Zea mays*) was found in several Miller III pits at the Cofferdam site. One pit produced three dates, with radiocarbon ages of 1540±851 years: A.D. 410, 1200±851 years: A.D. 750, and 770±701 years: A.D. 1180, the last of which was rejected as being too late, while the others were regarded as acceptable for Miller III (Blakeman, Atkinson, and Berry 1976:106-108, 121). A date with a radiocarbon age of 735±1101 years: A.D. 1215 has since been obtained on another Miller III feature at the site (Atkinson 1979, personal communication). This poses an interpretive problem concerning whether the Miller III component at Cofferdam is earlier than Mississippian or at least partly contemporary with it, in turn affecting the interpretation of the corn remains that were found. However, corn has also been found in several Miller III features at the Tibbee Creek site (22Lo600); Miller III there has been assigned a radioarbon age of 985±55 years: A.D. 965 (O'Hear 1979, personal communication).

Similarly, in the Gainesville Reservoir corn first appears in the sequence in early Miller III, after about A.D. 700; before this time, there is no evidence beyond that from 1Gr2, previously discussed, that either native or tropical cultigens were being used. This is especially significant since the Gainesville excavations produced a good sample of late Miller II features, in which no cultigens at all were found. Earlier material is less well-represented in the Gainesville data, so there is still a possibility that more work on Miller I and early Miller II may produce domesticated plant remains. (Jenkins 1979, personal communication).

A change in base camp location from sandy to loamy soils in the Miller III period was observed in the Gainesville Reservoir and may also suggest the greater importance of cultigens during this time (Jenkins, Curren, and DeLeon 1975:193). When the use of cultigens developed into dependence on them is not known; such a change may not have occurred until Mississippian times.

MISSISSIPPIAN:

The Mississippian tradition is generally believed to have had an agricultural subsistence base. One of the major problems that remain to be solved is how the Mississippian culture originated in the Tombigbee River valley; another is the nature of the relationship of the local Mississippian manifestations to major centers, especially Moundville in Alabama.

There are relatively few Mississippian mounds in the upper central Tombigbee River valley and most of these are found south of Columbus, Mississippi in the Prairie ecosystem (McGahey 1971; Rucker 1974; Blakeman, Atkinson, and Berry 1976:23). The habitation sites without mounds follow the same pattern. Relatively few sites, less than 15%, in the

Hills showed Mississippian components while about 30% of Prairie sites produced shell-tempered pottery from the surface collections; see Table 3. This concentration in the Prairie has been explained as being due to Mississippian dependence on tropical cultigens, since the Prairie contained the best agricultural soils (Blakeman 1975:110). The marked decrease in the number of sites occupied in the Prairie between Miller III and Mississippian times is also of interest. As mentioned earlier, almost 75% of Prairie sites were in use sometime in Miller III times, which is in marked contrast to the 30% occupied in the Mississippian period. One possible explanation for this pattern is that by Mississippian times the average site size in the Prairie became larger as nucleation occurred (Rafferty 1978b). Another possibility is that sites were occupied longer during the Mississippian period than during Miller III.

In the Gainesville Reservoir survey, Mississippian sites have been divided into farmsteads, transitory camps, house mounds, and cemeteries with only one example of each of the latter two categories having been found. The settlement pattern is felt to be of the type called simple nuclear centered, in which the settlements are sedentary and focused on one or more large, primarily ceremonial, sites. (Jenkins, Curren, and DeLeon 1975:63, 194) Since, as mentioned earlier, Miller III is viewed as being characterized by a central-based wandering settlement pattern and hunting and gathering subsistence, the rather considerable differences between it and Mississippian must be addressed.

The relationship of Miller III to Mississippian may have taken one of several possible forms. It may be that Miller III developed into a local variant of Mississippian, that Miller III changed abruptly into Mississippian as a result of outside contact and acculturation, or that Miller III was replaced by intrusive Mississippian communities. All three of these possibilities could have occurred at different times in different parts of the Waterway area.

The Gainesville Reservoir has so far produced the only series of excavated sites that can be used to address this problem systematically and the site reports for these are not yet available. However, Jenkins (1978b, 1978c) has discussed the major ceramic changes that occurred during these periods. In the late Miller III Gainesville phase a few Mississippian styles began to appear including a few sherds of shell-tempered pottery, loop handles, rectangular houses, and semi-extended burials. Jenkins favors acculturation as an explanation of these changes with an intrusive Mississippian population which possessed agriculture, a nucleated sedentary settlement pattern, and mound-building that culturally overwhelmed the Late Woodland population of the Tombigbee River valley. The origin of the Mississippian group is not clear.

There is also precedent for viewing the Mississippian tradition in the Tombigbee River valley as developmental, since it seems to have developed more or less contemporaneously over a wide area of the Mississippi River valley and its tributaries. A good developmental sequence has been established for the American Bottom in the vicinity of the major Mississippian site of Cahokia and has been suggested for many Mississippian centers, including Kincaid, those in the lower Mississippi valley south of its confluence with the Ohio, and most importantly, Moundville (Brain 1971:70-73; Marshall 1973; Fowler 1978; Muller 1978; Peebles 1978). In order to settle the question for the Tombigbee River valley, it will be necessary to do detailed studies of the kinds of stylistic changes which occurred between late Miller III and early Mississippian times. Such studies are currently being completed for the Gainesville Reservoir by Ned Jenkins and others and should be addressed in other parts of the Waterway as data become available.

The relationship of outlying areas to the nearest major Mississippian center is a problem that has received some study elsewhere but not yet to any great extent in the Waterway (Muller 1978; Price 1978; Smith 1978). It is clear from work on ceramic materials that at least some Mississippian settlements in the area had contact with Moundville since distinctive Moundville pottery types have been found in them, especially in burial association (Jenkins 1978b:15-16; Atkinson 1978b: 5-6). This problem is currently a major area of study in connection with excavation being carried out by the University of Michigan at 1Pi85 in the Gainesville Reservoir.

RESEARCH IMPLICATIONS AND HYPOTHESES:

In the discussion of the culture history of the central Tombigbee River valley, it was noted that archaeologists working in the area have used three general settlement pattern models to account for the periods from Early Archaic through Mississippian. The three general models are:

1. restricted wandering: small groups wandering within a territory but not necessarily returning regularly to the same sites; occupation types: transitory camps, special purpose camps.
2. central-based wandering: regular seasonal movement within a territory, with group size fluctuating from a maximum size in the most favorable season to small groups in less favorable seasons; occupation types: base camps, transitory camps, special purpose camps.
3. sedentary: year-round occupations with the largest composed of a number of residential units; occupation types: villages/hamlets/farmsteads, special purpose camps.

In the span of time covered by the series of occupations believed to be present at the East Aberdeen site, it is possible that the site could have been used for any one of these types of occupations. In order to determine what role the site played in the contemporary settlement pattern during each period, it is necessary to derive test implications for each of the occupation types noted above for each settlement pattern. Before this can be done, a distinction must be made between two major kinds of activities, maintenance and extractive, being carried out at sites in all of the settlement patterns. Maintenance activities are those "related to nutritional and technological requirements of the groups" while extractive activities are those "related to the direct exploitation of environmental resources" (Binford and Binford 1966:291).

This distinction is a useful one because it bears on the kinds and varieties of artifacts to be expected at an occupation and on differences in site location requirements for carrying out the two kinds of activities. Maintenance activities would include food processing, provision of shelter, and artifact production and repair; these would be expected to occur in sites occupied by larger groups for longer periods of time. In contrast, extractive activities might be very specialized, require only a small group, and last only a short time. Either kind of activity might make it desirable to revisit the same site repeatedly, depending on how localized the characteristics were that made the site attractive. Transitory camps could be expected to represent a mixture of maintenance and extractive activities carried out by small groups of people, while base camps and sedentary settlements would involve mainly maintenance activities and extractive camps would involve primarily resource exploitation activities.

Test implications have been derived to identify four kinds of sites: sedentary settlements, base camps, transitory camps, and extractive camps; see Table 4. Villages and hamlets have not been differentiated since they differ mainly in size, while farmsteads are essentially agricultural hamlets, so that they would be expected to differ only in subsistence remains from other kinds of hamlets. It is plain that there may also have been other kinds of special purpose sites besides extractive camps, the most obvious kinds having been burial mounds, cemeteries, and other ceremonial sites. However, it was fairly certain that East Aberdeen was not used for these kinds of special purposes, so test implications were not formulated to identify them. It should also be possible to divide the extractive camps into types based on the kinds of resources being extracted. Since so many possibilities present themselves, this was not done in the test implications, although it is addressed to some extent in the hypotheses that follow. The test implications should allow arguments to be made about the kinds of occupations represented during any period of use at East Aberdeen prior to historic times. However, it is possible to derive some hypotheses that will focus on the more likely possibilities.

Hypothesis I: The East Aberdeen site was used as a transitory camp during the Early Archaic period. This hypothesis is derived from current knowledge about this period in the Waterway area as previously discussed which indicates that all known occupations were small and short-term. It is usually assumed that a variety of hunting/collecting extractive activities were carried out at such camps as well as maintenance activities.

Hypothesis II: The East Aberdeen site was used as a base camp during the Middle and Late Archaic periods. This hypothesis is derived from the data and settlement pattern hypotheses previously discussed for the Middle and Late Archaic periods along the Tombigbee River. In particular, the East Aberdeen site seems to be similar in a number of ways to the Archaic ecotone base camps such as Vaughn mound, Barnes mound, Kellogg mound, and Kellogg village, which produced a variety of faunal remains but with floral remains mainly limited to hickory nuts.

Hypothesis III: The East Aberdeen site was abandoned during the early Gulf Formational period and thus did not participate in the

TABLE 4. TEST IMPLICATIONS FOR HYPOTHESES CONCERNING THE ROLE OF THE EAST ABERDEEN SITE IN PREHISTORIC SETTLEMENT PATTERNS.

DIMENSIONS AND ATTRIBUTES	OCCUPATION TYPES			
	Base Camp	Hamlet/Village	Transitory Camp	Extractive Camp
Matrix alteration:				
size	large	variable	little or no	little or no
depth	deep	deep	alteration	alteration
soil color	darkened	darkened	no alteration	no alteration
Water source:	near seasonally available	near permanent	near seasonally available	variable
Topography:	seasonally dry	permanently dry	seasonally dry	variable
Floral/faunal remains:				
variety	great	great	limited	limited
density	high	high	variable	variable
seasonality	less than four seasons	four seasons	less than four seasons	less than four seasons
Artifacts:				
variety of lithics	great	great	great	variable
density of lithics	high	high	low	variable
variety of ceramics (if present)	great	great	great	limited
density of ceramics (if present)	moderate	high	low	low
Features:				
kind of structures	variable	substantial	variable	absent or few
presence/number of burials	present, may be numerous	present, may be numerous	absent or few	absent or few
other features:				
variety	great	great	moderate	limited
density	high	high	low	low

settlement pattern during that time. This hypothesis is derived from apparent abandonment of the ecotone base camps mentioned in Hypothesis II during this period.

Hypothesis IVa: The East Aberdeen site was a sedentary settlement during late Gulf Formational through Miller III times. This hypothesis presupposes that the site had changed from a base camp to a sedentary settlement between Late Archaic and late Gulf Formational times, but that the emphasis still remained on maintenance activities. The hypothesis is based on the data discussed earlier that suggest that sedentariness developed in late Gulf Formational or Miller I times in the Tombigbee River valley and that the East Aberdeen site would have been favorably located to have attracted a sedentary settlement, since it was near a permanent water source and on high ground well above normal flood stage. The extractive activities performed at the site would be expected to have concentrated on wild resources until at least Miller III, since no certain evidence of cultigens has yet been found before that period in the Waterway area.

Hypothesis IVb: East Aberdeen was a base camp from late Gulf Formational through Miller III times. This hypothesis is derived from alternative interpretations of available data which suggest that sedentariness did not develop until Mississippian times in that area. The extractive activities would be expected to concentrate on wild resources.

Hypothesis V: The East Aberdeen site was used as a transitory extractive camp during Mississippian times. This hypothesis was suggested by the paucity of Mississippian settlements in the Sand Hills and their apparently transitory nature, suggesting that the area was used mainly to extract certain resources not as readily available in the Prairie ecosystem where the bulk of the population was concentrated. Such resources might include large and small mammals and hickory nuts.

IV. HISTORIC BACKGROUND AND RESEARCH DESIGN

INTRODUCTION:

The bulk of this chapter outlines the documented history of the East Aberdeen site as researched by Jack D. Elliott, Jr. It not only presents the information which has previously been published as a separate report but also considers in more detail many of the events and periods addressed in the report (Elliott 1979). At the conclusion of the discussion of the documented history of the site, the research implications of this information are considered and the specific hypotheses which formed the bases for the historic archaeological investigations at the site are presented.

An archaeological site is an artificial entity in that its boundaries are arbitrarily designated on the basis of observable contrasts in artifact density. As such it may or may not correspond to a discrete activity area which was used by its former prehistoric and/or historic occupants. A site may include all or parts of one or many previous activity areas. In the case of the East Aberdeen site, during historic times it was a part of a larger community and it is that community which forms the focus of this chapter rather than the more limited area within which archaeological investigations were conducted.

The community which included the East Aberdeen site was referred to by several different names during its history. The oldest known name was "Martin's Bluff," used from 1830 through 1900. The names "Morgan's Ferry" and "Howard's Bluff" were used contemporaneously with "Martin's Bluff" but their usage was neither common nor long-lived. During the 1920s the community was known as "Murff's." Most recently, it has been called "East Aberdeen." However, in general usage "East Aberdeen" included a larger area than the previous historic community and in a specific sense it referred to the trade center which developed on Highway 45 after the opening of the 1930 bridge. (Evans November 19, 1936; Robert I. Taylor 1976, personal communication)

In this chapter the name "Martin's Bluff" will be used to denote the variously named community which included the East Aberdeen site. There are several reasons for adopting this name. First, it is the oldest known historic name. Second, it has had the longest usage. Third, it is the name which has been used most often by local historians.

The historic background part of the chapter is divided into five sections, each devoted to a period in the historic occupation of Martin's Bluff. The periods are defined on the basis of major transportation changes which resulted in subsequent changes in commerce and intra-site patterning. Period I consists of those years prior to 1830 during which there is the possibility that human historic use of the site occurred but for which no direct evicence has been found. Period II (1830-1873) began with the State Legislature in 1830 authorizing the Monroe County Commissioners to have a road laid out from Martin's Bluff in the direction of Clinton, Mississippi. During this period Martin's Bluff reached its peak development as a shipping port. Period III

(1874-1930) began shortly after the completion of a bridge spanning the Tombigbee River at Martin's Bluff. The bridge led to a commercial decline at the site as much business was diverted into the town of Aberdeen. However, a revival of business during the 1920's was promoted by the nearby operation of a large sawmill complex. In light of these developments, Period III has been divided into two sub-periods, IIIa (1874-1920) and IIIb (1921-1930), on the basis of the fluctuation in the amount of trade which took place. Period IV began with the completion in 1930 of the Highway 45 bridge across the river and ended with the cessation of human habitation at the site in late 1977. The opening of the new bridge and the consequent shift in the flow of traffic crossing the river resulted in a final realignment of activities at Martin's Bluff.

PERIOD I - PRE-1830:

No historic human activities have been documented at Martin's Bluff prior to 1830. The minutes of the Board of Commissioners of Monroe County (1824-1830) contain no mention of a road crossing or a ferry landing at the site before 1830. Although Dr. Evans wrote that "Maps made around 1820 to 1825 show a spot called Morgan's Ferry [Martin's Bluff] toward which the trails, traces, and roads on both sides of the river converged," (Evans November 19, 1936) this is very likely an incorrect statement. All maps dating to the 1820s in the collection of the Evans Memorial Library, the Mississippi Department of Archives and History, and the Mitchell Memorial Library have been examined and no map from this time period shows the site as a center of human activity. Additionally, the Original Land Survey Map of Township 14 South, Range 19 West, which was made during the mid-1820's and includes the area in which the site is located, shows no road at that point in time. The Original Land Survey Maps of the east side of the Tombigbee River usually showed the locations of farms in existence at the time of the surveys; however, no farms are shown at Martin's Bluff.

The fact that there were apparently no roads crossing the Tombigbee River at Martin's Bluff prior to 1830 has implications relevant to the United States De Soto Expedition Commission's report (1939:224) which stated that this location was the most likely point for De Soto's 1540 crossing of the river. The implied basis for the argument supporting De Soto's crossing at this location was the existence of a road preceding permanent white settlement on the west bank of the Tombigbee River. In this regard, it is no coincidence that every road shown crossing the river on the 1835 Henry M. Lusher Map of the Chickasaw Cession, i.e. at Waverley, Martin's Bluff, and Cotton Gin Port, was later claimed as a possible point for De Soto's crossing. Attempts to deduce the most likely spot for the crossing apparently began by projecting the road system of the Chickasaw lands ca. 1835 back 300 years into the past. Then the road which seemed to most nearly correspond with the accounts of De Soto's chroniclers detailing the explorer's route was selected as the most probable crossing point. However, the validity of projecting a road system of the 1830s back 300 years is questionable.

Road layout through time is highly sensitive to demographic and cultural changes and many such changes occurred in the upper Tombigbee

River valley between 1540 and 1830. After De Soto's travels in the region, the indigenous cultures suffered a rapid decline (Hudson 1976: 438). By the early eighteenth century the Chickasaw tribe had emerged out of a remnant of the Mississippian culture and was located in a cluster of villages near present-day Tupelo, Mississippi. During the latter part of the eighteenth century the Chickasaw began to move away from the Tupelo area and live on scattered farmsteads. Following the treaties of 1816 permanent white settlement was initiated on the east side of the Tombigbee River and the west side was settled after the treaties of 1830, 1832, and 1834. These changes would not have been conducive to maintaining a static system of roads. As a consequence, the various assertions championed as to the exact location of De Soto's crossing of the Tombigbee River are discredited. In the specific case of Martin's Bluff the river crossing, which apparently has been projected back 300 years, cannot on the basis of any known reliable documentation be proven to have existed before 1830.

Although no historic human use of Martin's Bluff has been documented for Period I, events were taking place in northeastern Mississippi which would affect the site. The initiation of permanent white settlement in the surrounding portion of the Tombigbee River valley and some of the characteristics of the region which ultimately resulted in the development of Martin's Bluff as a ferry crossing, river landing, and agricultural trade center will be briefly examined.

Beginning in 1814 with the Treaty of Fort Jackson and ending in 1816 with the Treaty of the Chickasaw Council House, the Treaty of Turkey Town, and the Treaty of Choctaw Trading House, the Creek, Chickasaw, Cherokee, and Choctaw Indians ceded all of their claims to an enormous tract of land in what was then referred to as the "Mississippi Territory." This tract was located east of the Tombigbee River and the Gaines Trace and south of the Tennessee River. Of concern here is that portion of the tract which now lies in the state of Mississippi and is bordered on the east by the Mississippi State Line, on the west and north by the Tombigbee River and the Gaines Trace and on the south by James Creek (Fig. 3). From 1821 to early 1830 this area comprised Monroe County, Mississippi. Through the Indian cessions of 1830, 1832, and 1834 the United States acquired the balance of the Choctaw and Chickasaw territories, all of which lay to the west of the Tombigbee River and the Gaines Trace. A portion of these acquisitions was also incorporated into Monroe County. The first tide of white settlers arrived in Monroe County in 1815 and found a country which was virtually uninhabited. (Riley 1904:468; Howell 1971:24-26)

During the first years of white settlement in the river valley the major thoroughfares were two roads: the Gaines Trace and the Jackson Military Road (Fig. 3). The Gaines Trace was surveyed by Edmund Pendleton Gaines in December 1807 and January 1808 and ran from Milton's Bluff on the Tennessee River to Cotton Gin Port on the Tombigbee River. It served as a route for settlers who followed it down the Tennessee River to the Tombigbee River and then descended to the lower Tombigbee settlements (Elliott 1978b). The Jackson Military Road was surveyed by Andrew Jackson and led from Nashville, Tennessee to Madisonville, Louisiana. It was completed by U. S. Troops in May 1820 and, in effect,

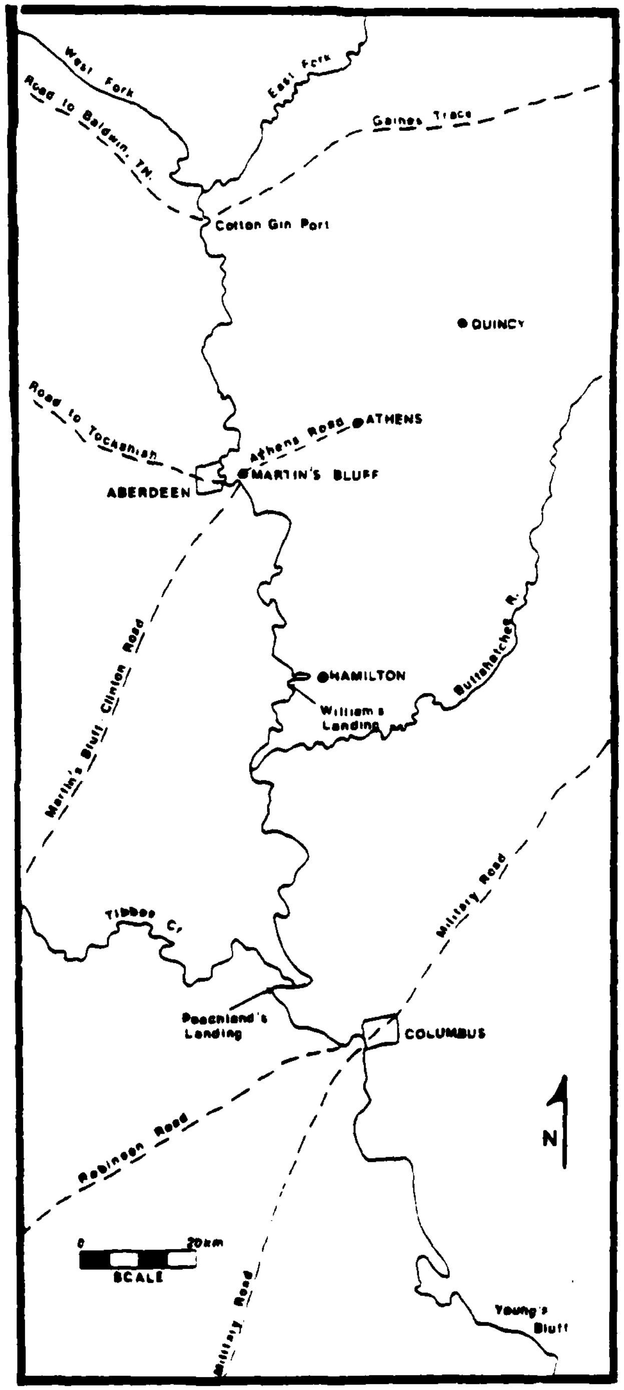

FIGURE 3. MAJOR KNOWN ROADS AND SETTLEMENTS ALONG THE TOMBIGBEE RIVER DURING THE EARLY NINETEENTH CENTURY.

connected Nashville with New Orleans, crossing what was then a considerable expanse of Indian territory (Love 1910:409). The Military Road crossed the Tombigbee River at what would later be Columbus, Mississippi (Riley 1904:472-473).

Settlement in the area which was designated as Monroe County progressed rapidly. In 1820 the population was over 2650 and almost doubled to 4563 by 1825. In 1830 the county population was 7034 even though by the early part of that year the southern half of the original area of Monroe County had been included in the newly formed Lowndes County (Walter 1972:64; Howell 1970:iii). At the time of the 1820 census the economy of Monroe County was overwhelmingly agricultural: the primary focus was cotton production. Out of 847 occupations listed in the census, 802 were agricultural while only 18 commercial and 27 manufacturing occupations appeared (U. S. Government Printing Office 1820). In the same census 451 slaves were listed, most of whom were probably working in agricultural pursuits. In 1820 slaves constituted only about one-sixth of the total county population (Howell 1971:31); in the years prior to the Civil War, however, the ratio of slaves to free individuals increased considerably.

Commerce during the 1820s and early 1830s had a dual nature, with trade being carried on between merchants and white farmers on the east side of the river and between merchants and Indians on the west side. The farm trade in Monroe County consisted primarily of merchants selling supplies to farmers on credit during the year with accounts paid off with cotton at the end of the season. The other major market catered to by merchants was that of the Chickasaw and Choctaw Indians who occupied the west bank of the Tombigbee River and who traveled to Monroe County to trade hides and peltries for commodities. The principal commodities traded to the Indians were sugar, coffee, and whiskey (Riley 1904:474; Rodabough January 30, 1975); merchants probably also traded other goods such as guns, powder, and trinkets to the Indians.

The road system for travel and trade on the two sides of the river also had a dual nature. As settlement began on the east side, an informal series of trails developed to connect houses, stores, and landings. After the formation of the Monroe County government in 1821 most of these trails were absorbed, with some modifications and additions, into county roads which were under the coordination of the county but were kept in repair by local residents. The section of the Military Road which lay in Monroe County was included in the county road system while the Gaines Trace was apparently abandoned (Monroe County Board of Commissioners 1824-1830). The Indian-occupied west side of the river had a system of traces and Indian trails which connected Indian houses and villages with each other and with missionary stations, Indian agencies, and white settlements which lay within and outside of the Indian territories. Other than a few traces which were frequently used by white men, these roads were generally unmaintained and much less dense than those which were part of the county road system on the east side of the river. Following white settlement of lands on the west side of the river in the mid-1830s, the traces and trails were incorporated into the county road system in a process parallel to that which had occurred on the east side.

Although considerable overland travel was occurring at this time. most of the trade was beginning to use the Tombigbee River as it afforded the most practical way to ship large quantities of agricultural produce and trade goods. Prior to the advent of steamboats, trade was conducted using keelboats and flatboats. Both were used for shipping produce downstream to the regional marketplace at Mobile but only the keelboat made the return trip. Its slim structure enabled it to return upstream with trade goods. However, more flatboats than keelboats were in use on the river; flatboats took their cargo downstream to Mobile where they were dismantled for the wood. Flatboats remained popular on the river for decades, even after the introduction of the steamboat. Due to their small size and the relative simplicity of their construction, they were particularly important on tributary streams which were difficult or impossible to navigate by steamers, while during times of drought shipping on the river was totally dependent upon the flatboat. The appearance of the steamboat on the Tombigbee River in about 1823 revolutionized the economy of the area by decreasing the cost and time necessary for the transportation of materials to and from markets (Rodabough, April 19, 1973).

During the second and third decades of the nineteenth century a number of landings developed to articulate the road system with the river (Fig. 3). Cotton Gin Port and Columbus were the oldest and most prominent landings. Both of them were located at intersections of the Tombigbee River and the two trace roads which crossed Monroe County during the first phase of settlement, a factor which encouraged their development as trade centers. At the time of the 1820 census, these communities were the only two locations in the area later designated as Monroe County which had sufficiently dense populations to receive separate listings under place names. Cotton Gin Port and Columbus had populations of 52 and 116 respectively. Over half of the non-agrarian activities for the total area were located in these two communities; Cotton Gin Port had three commercial and two manufacturing occupations and Columbus had 11 commercial and 13 manufacturing occupations (U. S. Government Printing Office 1820). During the 1820s Cotton Gin Port and Columbus had the only ferries on the Tombigbee River which were licensed by Monroe County as "public" ferries, a fact which further emphasized their importance in transportation and commerce.

As an adjunct to their roles as landings both Cotton Gin Port and Columbus soon developed more complex transportation systems around them. Cotton Gin Port had two county roads on the east side of the river; one led to the Court House at Hamilton and the other led to the road at or near John Ashcroft's property (Monroe County Board of Commissioners 1824-1830). On the west side of the river two trails developed which connected Cotton Gin Port with the Chickasaw settlements at Tockshish and Pontotoc (Lusher 1835). Columbus had five county roads on the east side of the river leading from it to: the state line (i.e. the Military Road), Thomas Townsend's ferry on Luxapalila Creek, the state line on the way to the Pickens County, the courthouse at Hamilton, and the state line at Marshall Frank's residence (Monroe County Board of Commissioners 1824-1830). Also, two roads approached from the Choctaw territory, the Military Road and Robinson Road (Fig. 3). The latter was established during the early 1820s to connect Columbus with the Natchez Trace (Phelps 1950). Figure 3 shows only the most important of the roads that did not connect directly with Martin's Bluff, since the pattern of road development at river ports is the main concern here, rather than the precise location of all roads in Monroe County.

The third most important landing during the 1820s was probably the one at Hamilton, also known as Williams' or Farris' Landing, where the county seat was located (Fig. 3). The original Hamilton should not be confused with the present-day "Old Hamilton" and "New Hamilton" which are located several miles from the site of the extinct county seat. The original Hamilton was located in the East 1/2 of the Southeast 1/4 of Section 6, Township 16, Range 18 West (Evans September 17, 1836). Rather than developing at an intersection of transportation routes, this landing was apparently the result of the need to tie the county seat into the contemporary transportation system. Hamilton, which was known as "Monroe Court House" until 1824, was established some time prior to October 1821 when the Monroe County Court held its first meeting there (Monroe County Court October 1, 1821). Shortly afterwards a system of roads was established to give the county residents access to their seat of government. These roads connected Hamilton with Williams' or Farris' Landing, the Alabama Road at or near the house of Nathan N. G. Allen, the state line to intersect a road from Moore's settlement in Alabama, Columbus, and Cotton Gin Port (Monroe County Court July 7, 1824). Williams' Landing, referred to above, was probably named after the Williams' Store located there. Robert H. and Christopher Williams operated Indian trading posts at Cotton Gin Port and at the confluence of the Tombigbee River and the Buttahatchie River (Rodabough January 30, 1975). The county road to Williams' Landing probably developed in response to the convergence of roads at the county seat in Hamilton which tended to concentrate trade in this area. The opening of the road formalized a route which farmers had apparently already been using to take cotton to the river. The road probably also served as a route for individuals going to and coming from the Chickasaw Nation. However, there was no licensed public ferry there for crossing the river. People who crossed at this point probably did so on private craft or by crossing at the "Indian Ford" which was located a short distance below the landing (Evans September 17, 1936).

Three minor landings were also in existence during the 1820s and probably developed as a result of pressures from a rapidly increasing population on the east side of the Tombigbee River. They were Breeding's Landing, "Peachland's [sic, Pitchlynn's] Landing," and Young's Bluff (Fig. 3). Breeding's Landing was the location of a store at a now unknown point near Cotton Gin Port. John Breeding did business there with the Indians as early as 1820 and a county road leading to Breeding's Landing was established in 1827 (Monroe County Board of Commissioners May 7, 1827:70; Rodabough January 30, 1975). "Peachland's Landing" was on the river opposite the location on the west bank where the town of Plymouth was established during the 1830s. The Original Land Survey Map of Township 18, Range 19 West, made during the mid-1820s, depicts a road crossing the river at this point. The landing was named after John Pitchlynn, an Indian trader, who lived at this point on the west side of the river from about 1810 to 1825. Apparently the road running to the landing was never established as a county road (Monroe County Board of Commissioners 1824-1830; Elliott 1978a:18-21). There was apparently also a landing at Young's Bluff. A frequently mentioned road ran from the Luxapalila Creek to this point and likely crossed over into the Choctaw Nation (Monroe County Board of Commissioners 1824-1830). During the 1830s Young's Bluff became the town of Nashville (Love 1903: 362). These three landings, like those at Hamilton and Williams' Landing, apparently never had public ferries so crossings had to be accomplished by fording the river or using private water craft. Steamers traveling to and from the more prominent landings may have stopped at these landings during the 1820s.

In summary, the years between the beginning of white settlement in 1814 and 1830 saw many changes occur in the upper Tombigbee River valley. By 1830 sufficient population and commerce existed in Monroe County to encourage, and even necessitate, the development of additional shipping and trade centers along the river. The stage was set for the establishment and development of Martin's Bluff.

PERIOD II - 1830-1873:

Background. In 1830 a series of events began which were to culminate in the development of Martin's Bluff as a river trade center. On January 30, 1830 Monroe County was divided in half with the new line following for the most part the Buttahatchie River. The southern half became Lowndes County while the northern portion retained the name Monroe County (Rodabough August 17, 1972). The division was apparently the result of demands of the population for more ready access to a county seat. This was accomplished by establishing the seat of Lowndes County at Columbus and moving the seat of Monroe County to the newly-founded town of Athens, located near the new geographical center of the county (Fig. 3).

The county government moved to construct a network of roads leading to Athens to make it readily accessible to the entire county. This process paralleled that which had occurred at Hamilton during the early 1820s. Consequently, during 1830 plans were made for the development of at least seven roads leading to Athens; one was to lead from Athens "the nearest and best way to the Tombigby River at or near Houston's Bluff" (Monroe County Board of Commissioners, April 26, 1830:139; July 3, 1830:145-147). Houston's Bluff was very likely the same location as Martin's Bluff.

On December 16, 1830 the Mississippi State Legislature approved an act appointing the Monroe County commissioners to lay out a road from Martin's Bluff on the Tombigbee River to Clinton, Mississippi and compelling all white men and Blacks living within 20 miles of the road to work on it for at least six days a year (Mississippi Laws 1830). Evidently the increasing population of Monroe County led to increased needs to travel to the white-occupied portion of south Mississippi which was separated from Lowndes and Monroe Counties by the Choctaw and Chickasaw Nations. This factor led to the development of the Martin's Bluff-Clinton Road and an extension of this road which connected Martin's Bluff to Athens. The Original Field Survey Notes for Clay County, made during the early 1830s, refer to a road crossing the line between Sections 26 and 35, Township 20, Range 15 East of the Choctaw Meridian (United States General Land Office n.d., Clay County). This road, referred to as the "road from Athins [sic] to Clinton," was located in the lands of the 1830 Choctaw Dancing Rabbit Creek Cession and was probably the same road as the Martin's Bluff-Clinton Road. The reference to Athens implies that there was an extension of the road from Martin's Bluff to Athens. Since there was a road running from Martin's Bluff to Athens during the 1830s, it is very likely that this was the same road as that which was planned to be laid out from Athens to "Houston's Bluff" in 1830. In this light the development of the Martin's Bluff-Clinton Road can be seen not only as the result of the need for better communication between north and south Mississippi but also as a consequence of the development of the county seat and the roads leading to it. By 1835 another road which converged on Martin's Bluff was developed; it came down from the heartland of the Chickasaw Nation which lay to the northwest. The early existence of these two converging roads implies the existence of a river crossing, and perhaps a ferry, at this time.

After the opening of the road between Martin's Bluff and Athens, the presence of the ferry and a subsequent boat landing signified the development of Martin's Bluff as an important transportation center. However, almost immediately after Martin's Bluff was established as a river crossing and shipping point on the western edge of the white settlements in northeastern Mississippi, the situation changed radically. Following the Choctaws' 1830 cession of their last tribal holdings in Mississippi, the Chickasaws ceded their lands in the treaties of 1832 and 1834. This opened a vast expanse of land west of the Tombigbee River and the Gaines Trace in north Mississippi for new settlement. The people who settled this land built an economy based on the commercial production of cotton just as the earlier settlers had done on the east bank of the river. While the settlers of the western portion of the Chickasaw Cession depended upon the Mississippi River and those of the northeastern portion depended upon the Tennessee River, the settlers of the southeastern portion relied on the Tombigbee River to ship their cotton to market. With this large area put into cotton production and the development of the county road system, cotton trade on the river boomed.

On the west side of the Tombigbee River opposite Martin's Bluff was the Black Prairie, a long strip of land running north and south which was far more fertile than the lands on the east side of the river. A large portion of the Black Prairie was incorporated into Monroe County during the process of extending local government to the Chickasaw Cession lands. Cotton production became the dominant economic base in this area also.

In 1835 the town of Aberdeen was established on the west bank of the river about one mile west of Martin's Bluff to serve the cotton trade of the Black Prairie and areas beyond. Like almost every other river town, Aberdeen developed at the junction of a previously established road and the river; in this case the road consisted of the trail which had led from Martin's Bluff to the main Chickasaw settlements.

However, unlike most of the other river towns which developed on the west side of the river, Aberdeen's growth was phenomenal. Within a year of its founding, the town trustees were advertising that:

> [Aberdeen] has already five hundred inhabitants... a Steam Saw and Grist Mill are now in successful operation...numerous buildings of a costly and permanent character have already been erected; and...upwards of one hundred mechanics are now actively employed in erecting others (Columbus Democrat August 6, 1836).

By 1845 Aberdeen had attained a position of such commercial prominence in the Tombigbee River valley that the following statement was made:

> The Mobile merchants have turned their attention to this place...and the trade that has hitherto gone to Columbus or Mobile is now concentrated at this point...Several new stores will be opened in the counties of Chickasaw, Pontotoc, Marion, & c. colateral branches of houses in this city. This is another cut at the business of Columbus (Unknown writer quoted in Rodabough February 11, 1971).

In 1851 Aberdeen had a population of 2768, making it the second largest town, after Columbus, in northeast Mississippi (Monroe Democrat March 5, 1851). Aberdeen averaged shipments of about 30,000 bales of cotton annually during antebellum years; these shipments fluctuated from as low as 11,000 bales to as high as 37,500 bales annually (Rodabough March 4, 1971).

The proximity of Aberdeen and Martin's Bluff was to have important impacts on the development of Martin's Bluff. After the founding of Aberdeen the road on which Martin's Bluff was located became known as the Aberdeen and Athens Road. Perhaps the most important influence of Aberdeen on the Period II development of Martin's Bluff was the fact that nearly from its founding, the people of Aberdeen desired it to become the seat of Monroe County. This fact had very particular implications for the role of the ferry at Martin's Bluff.

In 1836 the trustees of the town of Aberdeen promised the county $20,000 from the proceeds of lot sales if the courthouse would be moved there; the offer was rejected. In about 1840, at the instigation of Aberdeen, the location of the county seat was put to a vote. Cotton Gin Port, Aberdeen, and Athens were in competition and Cotton Gin Port won. At the next session of the Legislature, however, Athens had an act passed which put the courthouse question to another vote. This time Aberdeen won and the county seat moved there in 1841. During the 1842 session of the Legislature, Athens sent an agent to Jackson and he secured passage of an act requiring the county to appoint five commissioners to select a site for the county seat at the center of the county. The commissioners chose Athens. (Rodabough August 17, 1972) Aberdeen won the county seat back from Athens in an 1848 election and has retained it to the present day.

The Ferry and the Boat Landing. After the opening of the Athens Road and, particularly, after the founding of Aberdeen, the ferriage business at Martin's Bluff thrived. After 1835 traffic crossed from the west side of the river on its way to the political center of the county at Athens and traffic from the east side of the river crossed on its way to the commercial center at Aberdeen. By 1850 the ferry was producing an annual income of $2500 (Monroe Democrat July 17, 1850). Throughout the period the ferry was a primary focus of activity at Martin's Bluff and much of the documented history of the period relates to changes in ownership and operation of the ferry.

The parcel of land which was often referred to as the "Martin's Bluff property" was Lot 3, Fractional Section 27, Township 14 South, Range 19 West. Lot 3 was the 98 acre Northeast 1/4 of Fractional Section 27. Although the property had been surveyed by the Government Land Office in the mid-1820s, it was not sold until 1831. In May of that year the U.S. Government sold it to James N. Ross (Tract Book-Original Entries n.d.:242-243). Ross sold the property, with "Hereditaments and appurtenances" thereon, to Nathan L. Morgan and Samuel Ragsdale on August 4, 1832 (Monroe County Deed Book 5:194-195). On May 3, 1834 Ragsdale sold his half interest in Lot 3 "including Martin's Bluff... with all appurtenances there with property" (Monroe County Deed Book 3: 317-318). The references in these deeds to appurtenances attached to the property may imply the existence of a ferry and some type of commercial establishment as early as 1832. If it existed this early it would have been used by whites going south to the Choctaw Nation and the white settlements. Chickasaws crossing the river to go to Monroe County may also have patronized the ferry.

Nathan L. Morgan was probably the Morgan with whom the ferry was often identified. Although he continued to own the ferry until 1841, he may have hired someone else to operate it for him because Morgan seems to have lived at or near Athens (Works Progress Administration n.d., "Pioneer Times" section:5-7).

There may have been a rival ferry on the river at Aberdeen during the latter half of the 1830s. At that time Daniel Saffarans paid $4500 for the ferry privileges on Sections 26 and 35, Township 14, Range 7 East; this land was on the west side of the river and was owned by the Aberdeen Land Company (Evans November 19, 1936). However, due to the unavailability of the Board of Police Minutes for the late 1830s it is not known if Saffarans actually established a ferry there.

On February 25, 1841 Morgan sold 6/7 of his interest in the Martin's Bluff property and other parcels of land to Mark Prewett, John Godwin, Samuel J. Gholson, John M. Anderson, Daniel Burnett, and Boling C. Burnett for $8285 (Monroe County Deed Book 7:807-808). This gave all seven men equal shares in the property. On the same day these seven individuals purchased 1/4 acre of land opposite Martin's Bluff "embracing the west bank of the Tombigbee River known as Morgan's Ferry" for $1500 (Monroe County Deed Book 7:805-806). The second transaction was apparently to insure that the ferry had access to the west bank of the river.

These seven men were the "certain citizens" who in 1841 purchased the Martin's Bluff ferry and:

> donated the same to the county, so long as the courthouse should remain at Aberdeen--This donation secured to the citizens of the county east of the river, the right to

> cross at said ferry, free of toll; and would have yielded to the county treasury (judging from the present profits) an annual income of near $1,500, this relieving the people from the necessity of paying, or nearly so, any tax for county purposes (Monroe Democrat July 17, 1850).

The donation was apparently turned down.

After the removal of the courthouse from Aberdeen in 1842 the seven men, here referred to as the "Ferry Company," continued operation of the ferry as a private enterprise. In 1842 Daniel Burnett and John Goodwin entered into bond with the Monroe County Board of Police to operate the ferry (Monroe County Board of Police October 1842:23). In 1844 Abner Prewett, apparently a new member of the Ferry Company, was authorized to run the ferry for a period of ten years. The ferriage rates for various types of vehicles and livestock at that time are presented in Table 5; these rates could be raised when the river was at floodstage. (Monroe County Board of Police April 1844:119)

In August 1844 a rival ferry was authorized at a location about one-half mile upriver from Martin's Bluff and Joel Halbert, Reuben Davis, and John M. Anderson were appointed keepers of the ferry. Anderson was a former member of the Ferry Company and Davis was a prominent lawyer in Aberdeen. The new ferry was located at "Halbert's canoe landing" in Fractional Section 28, Township 14, Range 19 West. A newly established road which left the Aberdeen and Athens Road at the section line about 300 yd from the Martin's Bluff ferry led to the new ferry. This road ran on or near the north section line of Section 27 and 28 to a ravine and then down the ravine to the river. (Monroe County Board of Police August 5, 1844:162-164)

The possibility of a new ferry aroused the ire of the Ferry Company. The Company appeared at the August 5, 1844 meeting of the County Board of Police and it was over their protests that the new ferry and the road leading to it were authorized (Monroe County Board of Police August 5, 1844). Consequently, Samuel J. Gholson of the Company filed a suit in Circuit Court appealing the decision of the Board of Police. It is not known for certain whether Gholson won his appeal in court, but it does seem likely because on December 25, 1844 Joel Halbert sold Fractional Section 28 to Gholson and Mark Prewett for $800 (Monroe County Deed Book 11:430). Halbert's sale of the land and the fact that no further reference to the ferry has been found seem to indicate that the Circuit Court prevented him from operating the ferry. He probably sold it to his former competitors because they offered him a good price to increase their monopoly on river frontage.

On April 21, 1846 an article of agreement was made for the Ferry Company to sell the "Ferry Tract of Land lying on the east side of the Tombigbee River near Aberdeen, and also the Ferry and one-half acre of land on the West side of the river at said Ferry" to Daniel Saffarans and Reuben Davis (Agreement: Ferry Company and Saffarans and Davis 1846). Although no deed recording the sale has been found, the transaction apparently occurred. On November 18, 1847 Saffarans and Davis along with James C. Wilson formed the partnership of James C. Wilson & Company. This company operated not only the ferry but also a store and a cotton warehouse at Martin's Bluff. (Rodabough March 29, 1975)

TABLE 5. FERRIAGE RATES AT MARTIN'S BLUFF IN 1844

Item	Rate
Man and horse	10¢
Foot passenger	5¢
Road wagons	50¢
Two horse waggons and carriages	37½¢
One horse buggie, jiggs and carts	25¢
Loose or led horse	5¢
Hogs	10¢
Cattle per head	3¢
Sheep	2¢
Goats	2¢

Source: Monroe County Board of Police April 1844:119.

When it won back the position of county seat in 1848, the town of Aberdeen authorized free ferry to induce the citizens on the east side of the river to support maintaining the courthouse there. The free ferry, the location of which is now unknown, was not successful because the unnamed owner of the Martin's Bluff ferry in 1848 (probably Saffarans or Wilson) obstructed it by refusing to let traffic cross his land to reach it. (Monroe Democrat July 17, 1850; Rodabough August 17, 1972)

Davis left James C. Wilson & Company in 1849 and the firm disbanded after the death of Wilson in July 1850 (Rodabough March 20, 1975). Saffarans, the other member of the partnership, appears to have left the county about that time as he is not listed there in the 1850 census (U. S. Government Printing Office 1850). It is not known who operated the ferry for the next few years.

By 1856 B. R. Howard had acquired title to the Martin's Bluff property and in 1857 he was given permission to operate the ferry for ten years (Monroe County Land Roll 1856; Monroe County Board of Police August 3, 1857:259). Howard also operated the store and warehouse. During the late 1860s Howard's son, J. Woodward L. "Woody" Howard, operated the ferry (Rodabough March 20, 1975). As late as 1872, the Monroe County Board of Supervisors paid $3.00 to "Howard for Ferriage" (Monroe County Board of Supervisors, Volume I, July 1, 1972:239).

In addition to the ferry operation Martin's Bluff functioned as an important river shipping port. It was a regular shipping point for steamboats by 1833 (Rodabough March 20, 1975). The first known recorded steamer to stop there was the "Plough Boy" which arrived from Mobile in February 1835 and was back again in April 1837 (Evans n.d.). Martin's Bluff reached its peak as a shipping port in the mid-1850s. Although not much more than a store and warehouse were located there at the time, farmers and merchants for many miles away were apparently dependent on shipping and receiving through this port. Numerous steamboats stopped here on their way down the river from Aberdeen and other ports and flatboats departed from and may have been constructed at Martin's Bluff.

The heaviest amount of commercial activity for each year began with the picking of cotton during the fall. It was then baled and brought to Martin's Bluff where it was stored in the warehouse to await the rising of the river to a navigable level. This usually occurred during the month of November and the river continued to be navigable into the spring. Table 6 illustrates the temporal distribution of river traffic during a season by presenting the total number of steamboat arrivals by month for two seasons at Aberdeen. In the 1855-56 season the first arrival occurred on November 13 and the last on May 13; in the 1856-57 season the first arrival was on November 28 and the last was on March 10 (Sunny South May 22, 1856 and April 2, 1857). In light of the close relationship between Aberdeen and Martin's Bluff, the table provides a good idea of the number and temporal distribution of steamboats which were likely to have stopped at Martin's Bluff. When the steamboats arrived at the landing, commodities to supply the store and to be shipped into the interior were unloaded while cotton from the warehouse was loaded into the boats.

Warehousing Activities. While the presence of a warehouse is

TABLE 6. STEAMBOAT ARRIVALS AT THE PORT OF ABERDEEN DURING THE 1855-1856 AND 1856-1857 SEASONS

Month	Number of Arrivals
1855-1856 Season:	
November	3
December	15
January	18
February	18
March	13
April	6
May	8
Total	81
1856-1857 Season	
November	3
December	21
January	17
February	16
March	3
Total	60

Source: Sunny South May 22, 1856, and April 2, 1857.

firmly documented, no description of the Martin's Bluff warehouse or its location has been found. In fact, very few descriptions or photographs of warehouses which were located in non-urban areas along the Tombigbee River are known to exist.

The primary function of the warehouse at Martin's Bluff was in the forwarding and storing business. This business seems to have been of two types. The first consisted of forwarding and storing for those individuals living on the east bank of the river who bought and sold directly through Mobile, usually through commission merchants. The individual serving as merchant and agent would apparently store the client's cotton in his warehouse until a boat arrived and then ship the cotton to Mobile. Merchandise brought upstream to supply the client's store or plantation would be unloaded and stored until the client could have it picked up. Evidence of this type of forwarding and storage business at Martin's Bluff exists in several documentary sources. J. C. Wilson "attended to the shipping of other merchants who used Martin's Bluff as their port" (Works Progress Administration n.d., assignment 20:24). Based on unknown sources, Evans wrote:

> the merchants of Quincy used Martin's Bluff as their boat landing. They consigned much cotton and other farm produce to Mobile commission men on boats, loading at this landing and ordered much merchandise from Mobile Wholesalers to be shipped by boats and unloaded at Martin's Bluff (Evans November 5, 1936).

In late 1846 or early 1847, B. M. Terrell shipped a considerable amount of merchandise on the steamboat "Union" from Mobile to "J. O. [?] Carroll, Martin's Bluff;" this merchandise was signed for by "W. Harris-Martin's Bluff" (Evans n.d.). Apparently Harris was with a forwarding and storage firm at Martin's Bluff.

The second type of forwarding and storage business which may have occurred at Martin's Bluff involved shipping the cotton of farmers who lived on the east bank of the river but did much of their trading with merchants in Aberdeen rather than Mobile. There is no direct evidence of this practice but it occurred nearby at Columbus. There, planters on the west side of the river took their cotton to West Port (located on the west bank opposite Columbus) to be shipped and then crossed the river to Columbus to purchase merchandise (Rodabough January 9, 1975). This practice probably developed in response to the expense and difficulty of crossing the river with wagonloads of bulky, heavy cotton. Due to the general simplicity of river landings during the period, the shipping facilities at Martin's Bluff probably differed little from those at Aberdeen and shipping from Aberdeen provided little advantage to planters on the east side of the river. However, the diversity of merchandise and services available in Aberdeen likely proved an effective incentive for crossing the river and driving the additional mile into town to trade. These individuals probably also did most of their buying during the year on credit and paid off their debts in Aberdeen with the proceeds on cotton stored in the warehouse at Martin's Bluff.

Mercantile and Other Business Activities. Judging from the fact that there is no temporal overlapping of merchants, it is likely that there was never more than one store in operation at any given time at

Martin's Bluff during Period II. The first merchant to locate at Martin's Bluff was Henry Lamon who settled "near Martin's Bluff" in 1843 and operated a store there with Lann (Rodabough March 20, 1975). Lamon and Lann's store at Martin's Bluff apparently operated no more than a year or two. By 1845 J. W. Wooten & Company had a mercantile establishment there (Rodabough March 20, 1975). At the time of the 1850 census James C. Wilson was living on the east side of the Tombigbee River, probably at Martin's Bluff (U. S. Government Printing Office 1850). He was listed as a merchant and as living with three men who were listed as clerks. They were Thompson W. Lann, Albert G. W. Brandon, and Elija Mays. Following the death of Wilson and the termination of his partnership, James C. Wilson & Company, the next known store to do business at Martin's Bluff was that of the partnership of John F. Mills and Thompson W. Lann. Lann had formerly been in business with Henry Lamon and had later clerked for James C. Wilson. Lann sold his interest in the partnership to William T. Perry on December 17, 1851. The business then operated as "Mills & Perry" until April 1, 1852 when the "lease and stock" was sold to David Clarke and J. B. Jennings. This partnership, which operated under the name of J. B. Jennings & Company, was dissolved on June 30, 1853 when Clarke bought Jennings' share in the firm (Weekly Independent July 2, 1853). It is likely that Clarke continued the business until about 1855 when B. R. Howard took control. Most of these firms must have rented or leased the facilities that they used at Martin's Bluff as none of the individuals except James C. Wilson is recorded as having owned real estate at Martin's Bluff.

In November 1851 Graham Mc Farlane advertised "Turnip Seed/For sale at Martin's Bluff" (Weekly Independent November 1, 1851). McFarlane was the "prince of the commission merchants in Aberdeen" where he had a "large, two-story grocery store and wareroom" adjacent to the landing during the latter half of the 1840s and early 1850s (Rodabough March 11, 1971). Although it is possible that McFarlane had a branch store at Martin's Bluff, it is more likely that he used Mills and Lann as agents to sell his turnip seeds.

B. R. Howard moved to Monroe County in 1855 and by 1856 he owned the Martin's Bluff property. Howard lived in Aberdeen but operated the ferry, warehouse, and store at Martin's Bluff (Monroe County Land Roll 1856; Rodabough March 20, 1975). He may have been doing business in the store in 1855 because he was listed in merchandising during the previous year. Howard remained in business at Martin's Bluff longer than any other known merchant. He was still there in 1867 and his store was then called B. R. Howard & Son. He was very likely still in business in 1872 as he was still operating the ferry then. (Rodabough March 20, 1975) In an 1871 register he was listed as handling groceries and cotton at Martin's Bluff (Merchantile Agency Reference Book and Key 1871).

Over the years during Period II the retail trade at Martin's Bluff was evidently essentially the same as at most of the other southern country stores of the time, i.e. the store "operated on the basis of bartering merchandise for farm crops and then disposed of the latter as a means of meeting wholesale bills and other expenses" (Atherton 1968: 47). Most of the trade was apparently done by farmers who made purchases throughout the year on credit and then brought their cotton at the end of the season to pay off their debts. Apparently there was a substantial demand for this type of mercantile service in the area around Martin's Bluff. James C. Wilson & Company did $10,500 in retail business during the 1848-49 fiscal year (Evans December 24, 1936). Clarke & Jennings' retail sales for 1852 were $16,500 and B. R. Howard's sales for 1855, 1856, and 1860 were $9089, $9278, and $15,605 respectively. Howard also sold $800 worth of liquor in gallon or larger quantities during 1860. (Monroe County Personal Property Rolls 1853, 1856, 1857, and 1861)

Sometime later Henry Lamon established a steam sawmill in the vicinity of Martin's Bluff (Rodabough March 20, 1975). The mill was described as being "a few miles east of [Aberdeen]" (Sunny South June 17, 1858) and was very likely located in either the Northwest 1/4 or the West 1/2 of the Southwest 1/4 of Section 23, Township 14, Range 19 West. This property, owned by Lamon in 1854, more closely fits the description of the location of the mill than any other property he owned in that year (Monroe County Land Roll 1854). The immense acreage of hardwood forest in the floodplain on the east side of the Tombigbee River was a productive resource for Lamon's mill. It was so productive that in 1859 when a bridge over the river was being proposed, one writer said that if "B. R. Howard's property [at or near Martin's Bluff] were purchased the wood on his land would pay for 2 bridges" (Sunny South September 29, 1859). Lamon owned 720 acres of this hardwood forest in Township 14, Range 19 West in 1854 (Monroe County Land Roll 1854).

The sawmill had apparently been established by June 1848 when James C. Wilson & Company first advertised building materials for sale. The prospective buyer was urged to inquire of Wilson or "Henry Lemmon" at Martin's Bluff (Monroe Democrat March 21, 1849). Wilson was apparently acting inthe capacity of agent for Lamon. It is somewhat surprising that Lamon was not listed in the 1850 U. S. Census of Manufacturing for Monroe County which required that an industry have a minimum annual production of $500 in order to be listed. The demise of the sawmill may have been caused by the explosion of its boiler in 1858, an accident in which three Blacks were badly scalded (Sunny South June 17, 1858).

A flatboat, the "Quincy" from Martin's Bluff, wrecked on the lower Tombigbee River in March 1848 while carrying cotton to Mobile. Out of the 178 bales of cotton rescued by the steamer "Young Renown," 37 belonged to B. M. Terrell and 70 belonged to John Greenwood, both of whom resided in the community of Quincy in Monroe County (Evans 1942: 220). Since the flatboat was from Martin's Bluff, it is possible that it and others were built there. The hardwood forests surrounding Martin's Bluff as well as the nearby Lamon sawmill would have afforded a ready supply of lumber for flatboat construction. However, no direct documentation of a flatboat building enterprise at Martin's Bluff has been found.

Lamon also established a water mill to grind wheat during the 1840s "just north" of the Martin's Bluff ferry. The mill was in operation as late as the 1860s because Lamon became overheated and died there in the fall of 1863 (Rodabough March 20, 1975). The mill was not listed in either the 1850 or 1860 U.S. Census of Manufacturing (U. S. Government Printing Office 1850-1860).

Residential Units. As there were relatively few commercial units at Martin's Bluff during Period II, there were probably few residences. A minimum might have included residences for a merchant, store clerks, and a ferryman. There might also have been residences for individuals who worked at the sawmill and who operated the wheat mill. There is also the possibility that there were a few resident farmers or individuals who operated commercial functions which are not identified in the documentary record.

This list of expected residents is partially supported by the 1850 Census of Population (U. S. Government Printing Office 1850). It listed the following households in consecutive order: a merchant, James C. Wilson, who is known to have operated the store that year; a shinglemaker; a second shinglemaker; a farmer; and, a miller. The listing of these names in immediate proximity to that of Wilson, who almost certainly lived at Martin's Bluff at that time, may indicate that they lived there also. This is, however, a tentative conclusion. It may be that they lived in the area of but not at Martin's Bluff. At that time a census taker could probably have traveled for a mile or more on the sparsely populated floodplain without encountering a house. This could have resulted in relatively distant households being listed in close proximity of each other in the census listings, making them appear to have been geographically close when they actually were not.

There were other indications that there were few residences at Martin's Bluff. Numerous sources indicate that all or most of the seven members of the Ferry Company lived in Aberdeen or Athens. Their ownership of the ferry and ferry property was probably considered as more of an investment than an occupation and some other individual was likely hired to actually operate the ferry. B. R. Howard, who owned and operated the ferry, warehouse, and store the longest, lived in Aberdeen on the site of the present City Hall (Rodabough March 20, 1975; U. S. Government Printing Office 1860). He commuted to his businesses at Martin's Bluff but likely kept one or more individuals in residence not only to operate the businesses in his absence but also to be there at night to discourage thieves. However, it should be noted that the existence of any residential units has not been firmly documented for Martin's Bluff during Period II.

The Voting Precinct of Martin's Bluff. In 1850 Martin's Bluff was a voting precinct (Rodabough August 17, 1972). It is not known when the precinct was established or discontinued. Volumes of the Monroe County Board of Police Minutes through 1848 and after 1852 carry no reference to it. Therefore, it must have been both established and discontinued within the short period between late 1848 and early 1852, a period for which there are no known surviving Board of Police Minutes. A plausible reason for the short life of the Martin's Bluff precinct can be seen in the listing of the August 1850 election precinct returns for Monroe County. In that election the average number of votes cast per precinct was 142; the Martin's Bluff vote was 20. Only three precincts in the county had smaller returns. Martin's Bluff, surrounded by hundreds of acres of what was apparently sparsely populated bottomland and hardwood forest, may not have been in a location that was central enough to be highly useful to the voting public.

Attempts to Sub-Divide the Martin's Bluff Property. After their acquisition of the ferry and other property at Martin's Bluff in 1846, Saffarans and Davis ran the following advertisement in an Aberdeen newspaper:

> Extensive sale of Town lots at
> Martin's Bluff
> On the East side of the Tombigbee River
>
> The undersigned will sell on the premises, on the 2nd Monday of November next, a large number of lots of various sizes at public auction. Terms of sale liberal and made known the day of sale at which time a map or plan of said town will be exhibited. This point, in our opinion, possesses many commercial advantages. The tract of land upon which this town is located contains about 1200 acres, fully timbered. A large part of this tract will be sold in tracts of from five to twenty acres, to suit purchasers. We will also offer for sale, the ferry and privelege attached to said lands, which extends on both sides of said river, above and below the town of Aberdeen.
>
> Danial Saffarans
> Reuben Davis
> (Mississippi Advertiser June 24, 1846)

Although some of the outlying areas of this parcel may have been sold for timber, no deed record has been found for a lot sale in the Martin's Bluff property and in 1850 Saffarans was listed as the owner of the still undivided property (Monroe County Land Roll 1850).

A second attempt to sub-divide the property occurred in 1850 after the partnership of James C. Wilson disbanded. During June of that year Saffarans' agent and attorney ran the following advertisement:

> Lands and Wood Lots for Sale
>
> The tract of lands near Aberdeen known as "Martin's Bluff Ferry Tract": having been surveyed into small lots, will be sold in sizes to suit purchasers; or the timber and firewood off said lots will be sold at the option of purchasers. This arrangement will be advantageous to citizens of Aberdeen desiring to supply themselves with wood from lands contiguous to said town--Apply to the undersigned, agent and attorney in fact for Daniel Saffarans. He may be found at the office of Col. R. Davis or Halbert & Strong's.
>
> Wm. J. Gordon
> (Monroe Democrat June 19, 1850)

Again, there are no records of lots having been sold out of the Martin's Bluff property and the only property which might have been sold was outlying floodplain tracts described in the deeds as fractional sections.

PERIOD III - 1874-1930:

Sub-Period IIIa - 1874-1920. As early as the late 1850s a number of letters and articles appeared in the Aberdeen newspaper, The Sunny South, urging the construction of a bridge across the Tombigbee River at Martin's Bluff. The writers proposed that a bridge would not only be a convenience to the people of Monroe County but would also bring additional trade into the town of Aberdeen. One writer speculated that it would increase the amount of cotton brought to the town to 50,000 bales per year. Another said that it would reconcile the difficulties caused by the divisions in the county over the courthouse problem by saving the people living on the east side of the river the expense of crossing on the ferry to get to the courthouse. One person, however, who favored Athens as the county seat, charged Aberdeen with "fraud and deception" with regard to its promises to build the bridge. (Sunny South May 29, 1856; September 4, 1856; July 11, 1857; July 16, 1857; September 29, 1859)

The road system at Martin's Bluff changed in response to the construction of the river bridge. The section of the old Aberdeen and Athens Road which ran through Martin's Bluff was moved about 100 feet to the south to meet the bridge. As the town of Athens declined in importance, the road became known as the Aberdeen and Amory Road after the new and rapidly growing town of Amory located on the east side of the river in Monroe County. A second road which converged on Martin's Bluff from the east had developed by this sub-period; it came from the south and then turned west and ran to Martin's Bluff where it intersected with the Aberdeen and Amory Road almost at the bridge. It was called the Aberdeen and Columbus Road during the early part of the twentieth century. (Soil Map of Monroe County 1908)

The town of Amory was founded during the late 1880s on the Kansas City, Memphis and Birmingham Railroad (now the St. Louis and San Francisco Railroad) line. A spur line was constructed which connected Amory and Aberdeen. The spur came down from Amory in the north, took a sharp turn to the west at Martin's Bluff and ran into Aberdeen on a portion of a railroad grade which had been constructed years earlier by a company headed by Nathan Bedford Forrest. Forrest's railroad company, organized in 1870 as the Selma, Marion, and Memphis Railroad, graded several miles of line northwest and southeast of Aberdeen before the firm went out of business in 1873. (Rodabough May 1, 1975)

According to documentary sources, the completion of the Tombigbee River Bridge in 1873 resulted in a decline of businesses at Martin's Bluff (Evans November 19, 1936; Rodabough March 20, 1975). The ferry would certainly have been out of business. However, the store and warehouse may have continued to operate, albeit on a greatly dimished scale. Evidence in support of this is the fact that B. R. Howard continued to own Martin's Bluff as late as 1883 (Monroe County Land Roll 1883), although neither he nor any other merchants are listed for Martin's Bluff in an 1877 register (Merchantile Agency Reference Book and Key 1877).

The opening of the bridge made it more economical for people on the east side of the river to trade in Aberdeen because they no longer had to pay ferriage tolls. Crossing the river by bridge was also far easier physically than crossing by ferry, particularly if heavy and/or bulky items, such as wagons full of cotton bales, were being transported. Additionally, the stores and services available in Aberdeen were far more numerous and carried a far greater variety of goods than could be found at Martin's Bluff. These factors would have been important inducements for people living on the east side of the river to cross over and trade in Aberdeen.

However, there is a good possibility that some cotton shipping continued from Martin's Bluff. Although the spur of the Mobile and Ohio Railroad in Aberdeen detracted considerably from river trade, there were times during the post-bellum years when the river underwent revivals as a commercial route due to excessive costs of rail shipping. During these times, B. R. Howard, who advertised in Aberdeen as a cotton buyer as late as 1877, may have had a purchasing station at his old warehouse at Martin's Bluff for the convenience of his patrons from the east side of the river (Tri-Weekly Examiner July 23, 1877). Washington Hollivay recalled that intermittent cotton shipments were being made by boat from Martin's Bluff shortly after the turn of the century (Hollivay, personal communication 1976).

Following completion of the bridge there was no documented commercial establishment at Martin's Bluff until 1900. In that year O. A. and M. E. Miller transferred a lot on which there was a "store and dwelling and blacksmith shop" to Robert E. Houston, J. C. Houston, and T. S. Cunningham (Monroe County Deed Book 62:167). It is not known when the structures were built; they may have been several decades old in 1900. It is also not known when the Millers acquired the property as no deed recording the purchase has been found. They apparently purchased the lot sometime after August 3, 1898 because on that date the still undivided Lot 3 of Section 27, i.e. the Martin's Bluff property, was transferred from E. A. Perryman, Executor, to the Mobile Insurance Company (Monroe County Deed Book 61:53-54). The 1900 sale described the lot:

> one lot of land 50 x 100 feet situated on the east side of the Tombigby River near county iron bridge at Martin's Bluff in the place we now occupy for store and dwelling and blacksmith shop & c. commencing at a stake 92 feet west of a big chinaberry tree standing on the east side Aberdeen and Athens Road in Fractional Section...and said stake stands 200 feet from east end of said county iron bridge on said Aberdeen and Athens road and thence southeast 100 feet to a stake, southwest 50 feet to a stake, northeast [sic, northwest] 100 feet to a stake, thence 50 feet east of North to the place of beginning being 50 feet by 100 feet (Monroe County Deed Book 62:167).

Although there are a number of ambiguities in the description of the lot boundaries, its location has been reconstructed and is shown on Figure 4. The lot is here referred to as "Lot A."

In 1908 Houston, Houston, and Cunningham sold a lot with a store on it to J. W. Jordan. It was described as:

> commencing at a Chinaberry tree 167 feet north of the iron part of the county iron bridge near Aberdeen, Miss., thence running east 100 feet, thence in a northwesterly direction 67 feet to Aberdeen and Athens dirt road, thence south along the east side of said road to the place of

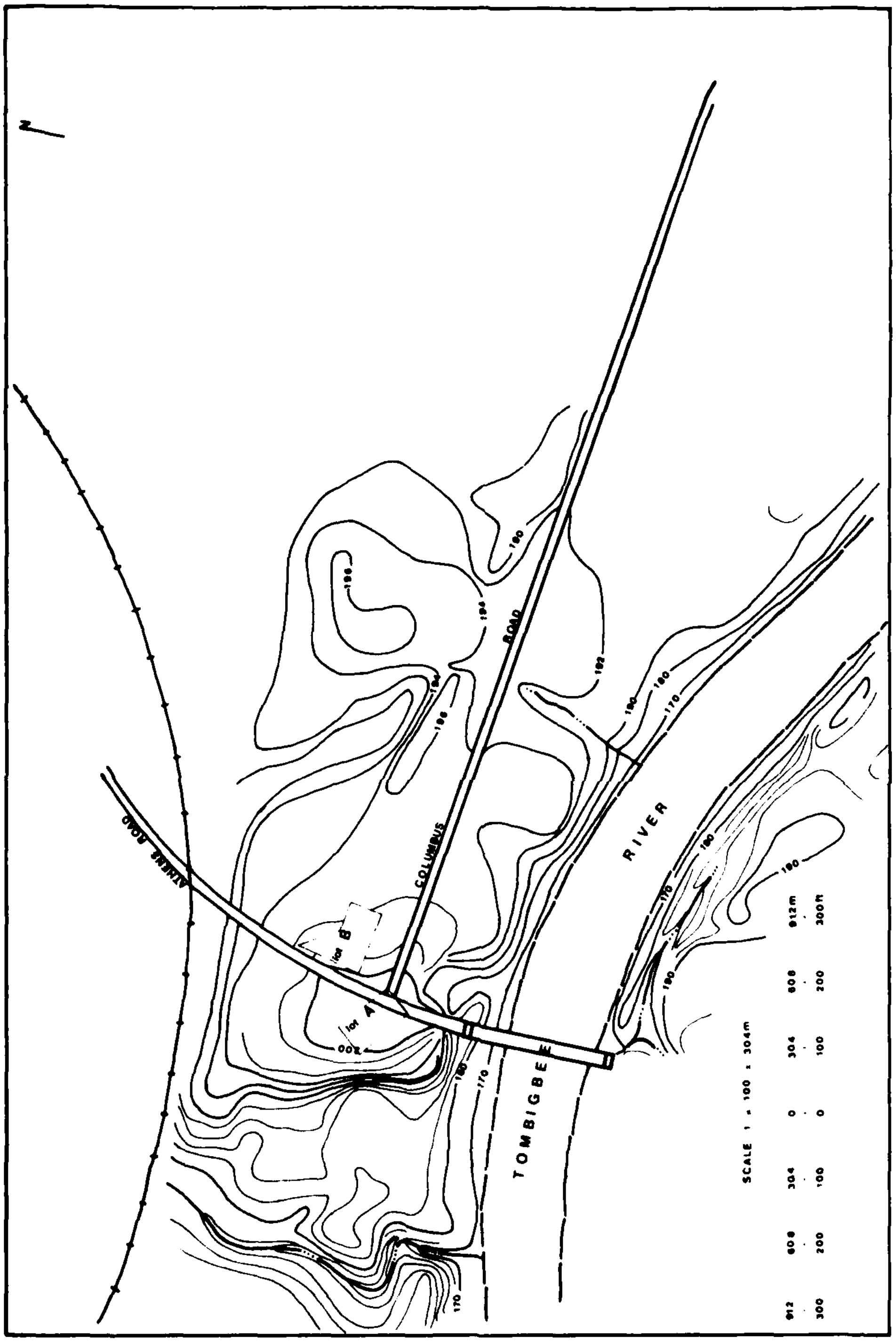

FIGURE 4. MARTIN'S BLUFF. PERIOD IIIa (1874-1920).

> beginning being 97 feet. All of said lot and parcel of land lying and being in Section 27...and known as the Miller store and lot (Monroe County Deed Book 72:122).

This lot, here referred to as "Lot B," is also depicted on Figure 4. After its sale to Jordan there is a gap in the records and it is not referred to again until 1921 when Ben, Eph, and Joe Bluestein sold it to Noel O. Murff (Monroe County Deed Book 72:378). Since this is essentially the same lot as the one on which Murff's Store was located during the 1920s, it may indicate that the store referred to in 1908 as the "Miller store" was the same structure that was later used by Murff.

While the location of Lot B has been quite clearly established, there is ambiguity with regard to the location of Lot A. Several questions exist concerning the two lots. What happened to Lot A which appeared in only one deed in 1900 and was never referred to again? How did Houston, Houston, and Cunningham acquire title to Lot B? Why did both lots have stores on them which were associated with the Miller name? Although the metes and bounds given for Lot A are very different from those given for Lot B, there is the possibility that the two lots were one and the same and that differences in the stated boundaries are the result of an erroneous deed description. If this were true it would provide answers for the questions raised above.

It is not known who the patrons of the store and the blacksmith shop were during Sub-Period IIIa. There may have been a large sawmill located in the vicinity and resident workers may have traded with the two establishments. A large sawmill complex definitely was present in the following sub-period and greatly influenced the cultural activities which took place at Martin's Bluff.

<u>Sub-Period IIIb - 1921-1930</u>. The main cause of the boom in commerce and small industry which occurred at Martin's Bluff during Sub-Period IIIb was the development of the C. C. Day Lumber Mill located about one-half mile (one kilometer) to the northeast on the St. Louis and San Francisco Railroad line. Workers at the mill provided most of the new business. (Robert I. Taylor, personal communication 1976, 1978)

Sources vary as to the founding date of Day's mill. One gives 1916 as the date and another gives it as 1925 (Works Progress Administration n.d., assignment 20:24; Works Progress Administration 1936:42). The earlier date is more likely correct because it conforms better with the occurrence of the commercial expansion at Martin's Bluff.

An account written during the 1930s gives the following description of the mill:

> Mr. C. C. Day, in 1916, founded a lumber concern which bears the name C. C. Day Lumber Co. During the first year Mr. Day employed 25-30 men with an annual payroll of approximately $25,000. At present Mr. Day employs about 150 men with an annual payroll of $100,000. The products of this company are, finished and rough lumber, sold locally and to the markets of Michigan, Indiana, Ohio, Illinois and the other great lumber markets of the North Central Section. The business at present embraces a band mill, planing mill, several small tractor mills throughout the county, a large lumber yard, dry kiln and logging interest in various

> sections of the county. The payroll released weekly by the company does much to stimulate business, and at the same time gives a living wage to a hundred or more facilities (Works Progesss Administration n.d., assignment 20:31).

Another contemporary account provides the following information about the mill:

> Mr. C. C. Day has just about completed the installation of a new 40,000 Capacity Band Saw Mill, at this property just east of the Iron Bridge at Aberdeen, and alongside the Frisco Railroad's Pensacola main line. This is the largest Band mill ever erected in this part of the State and will give employment to a large force of workers, as well as provide a market for hardwood and pine timber, such as we have never had before.
>
> The timber will be bandsawn, an innovation in this city, circular saws being the method used in the past. In his mill the saw is the form of a large bank of steel, with saw teeth cut in the steel band. This band works over two large wheels, and is large enough to cut the largest logs, straight through the center. Another advantage of the band saw is that a much smaller proportion of the log is wasted in the form of sawdust.
>
> An eight mile tram road has been built up the Tombigbee river bottom, on the east side of the river to haul logs to the Day Mill and there is already about a million feet of logs on the mill lot. The tram road has regular logging cars, and is standard gauge railroad width. It goes to the Lambeth tract of lumber, and other tracts of virgin timber adjacent to Aberdeen.
>
> Mr. Day is said to own enough standing timber to keep the new mill busy for five years...Both pine and hardwood will be handled by the new mill, and it will run daily winter and summer (Aberdeen Examiner January 4, 1929 as transcribed in Rollins n.d.)

Although most of the mill workers lived in Aberdeen and walked to work, a number lived with their families around the mill and at Martin's Bluff (Works Progress Administration 1936:42). Some of the workers resided at a boarding house located at the mill. Almost all of the mill workers were Blacks. (Robert I. Taylor, personal communication 1978)

Noel Murff purchased Lot B and its store in 1921 and operated the store (Point B on Figure 5) during the 1920s while his brother Howard operated a "pig stand" (point F on Figure 5) on the east side of the store. The pig stand sold barbeque in short orders and quantity; it was constructed of logs and had a sawdust floor. The Murffs also operated a grist mill which was adjacent to the store (Point E on Figure 5); it was powered by an internal combustion engine. Probably due to the number of businesses owned and operated by the Murffs, Martin's Bluff was often referred to as "Murff's" during Sub-Period IIIb. (Robert I. Taylor, personal communication 1976)

The second store known to have operated is shown as Point C on Figure 5. This property was first described in a 1916 deed when J. E.

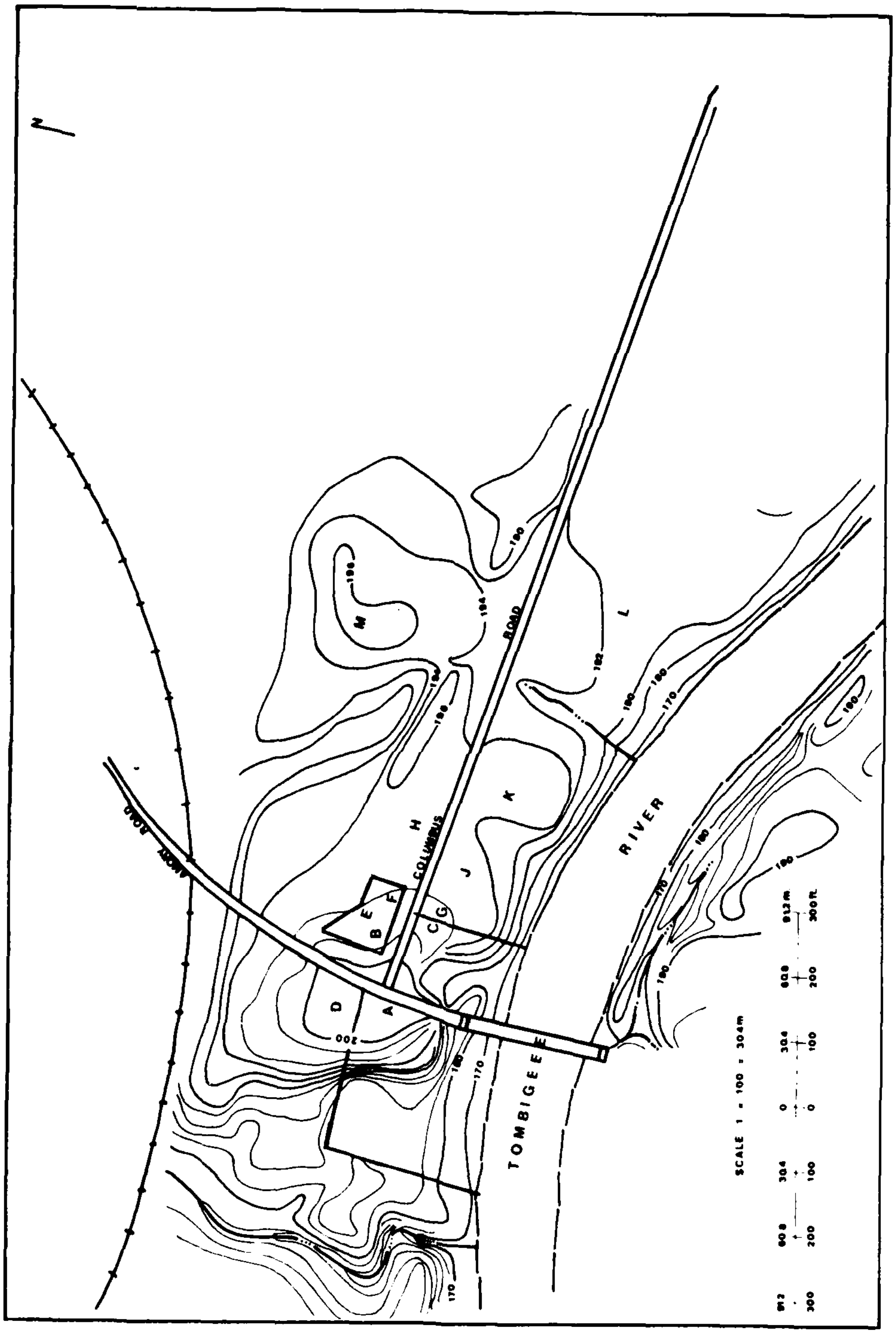

FIGURE 5. MARTIN'S BLUFF. PERIOD IIIb (1921-1930).

Houston sold his interest in it to A. W. Thompson for $50. The description of the lot was:

> Beginning at a point 10 ft. east of the east pier of the county bridge where the same crosses the Tombigbee River near Aberdeen, Miss., thence in a northerly direction with the abutment of the said bridge on its east bank to the Aberdeen and Columbus Road 80 ft., thence down said road 50 feet, thence in a southerly direction to the bank of the River, thence up the river to the place of beginning, being 80 ft. x 50 ft. (Monroe County Deed Book 80:337).

Judging by the price of this property in 1916, there was probably no store on it then. However, by 1919 when J. H. Crow had acquired the property there was a store on it (Monroe County Land Roll 1919-1920). Crow sold the store and lot to George W. Pickle for $700 and Pickle owned it as late as 1933 (Monroe County Deed Book 89:456; Monroe County Land Roll 1932-1933). A 1926 map depicts a "shop" (Point G on Figure 5) immediately on the east side of Pickle's Store (Plat of East Aberdeen 1926, Fig. 6). No information has been found on the function of this structure.

The third known early twentieth century store (Point A on Figure 5) was also already in existence when it was purchased by Robert G. Taylor from R. L. Irwin in 1926 for $1300 (Robert I. Taylor, personal communication 1976). The property was then described as:

> Beginning at North pier of river bridge on east bank of Tombigbee River...and running thence in a northerly direction 152 feet to a stake thence in a westerly direction 242½ feet to a stake, thence south 212 feet to the Tombigbee River, thence, along the meanderings of the river to the place of beginning, containing one acre more or less. (Monroe County Deed Book 92:242).

The Taylors purchased goods for their store from wholesalers in Aberdeen. Their sales were made to a variety of customers but local residents were the most prominent patrons. The boarding house at Day's Mill was also a large buyer. Taylor's Store sold gasoline as did both Pickle's and Murff's Stores. Mrs. Taylor used one corner of the Taylor's Store structure for making sandwiches to sell to farmers who were having their cotton ginned next door. (Robert I. Taylor, personal communication 1976, 1978)

The cotton gin was in operation as early as the 1920s and L. A. West was its first known owner (Robert I. Taylor, personal communication 1976). It was located on the north side of Taylor's Store (Point D on Figure 5). It is not known when the gin was constructed and no deed has been located which shows the purchase of the property by West, although he was recorded as being the owner of a fractional part of the west half of Section 27 in 1928 and 1929 (Monroe County Land Roll 1928-1929). The gin was housed in a wooden structure and was powered by a steamboiler with the water apparently coming from a nearby artesian well (Gene Bradley, personal communication 1978; Larry Kite, personal communication 1978; Robert I. Taylor, personal communication 1976). Another service function located at Martin's Bluff during the 1920s was a garage (point H on Figure 5) owned by Charlie Cox (Robert I. Taylor,

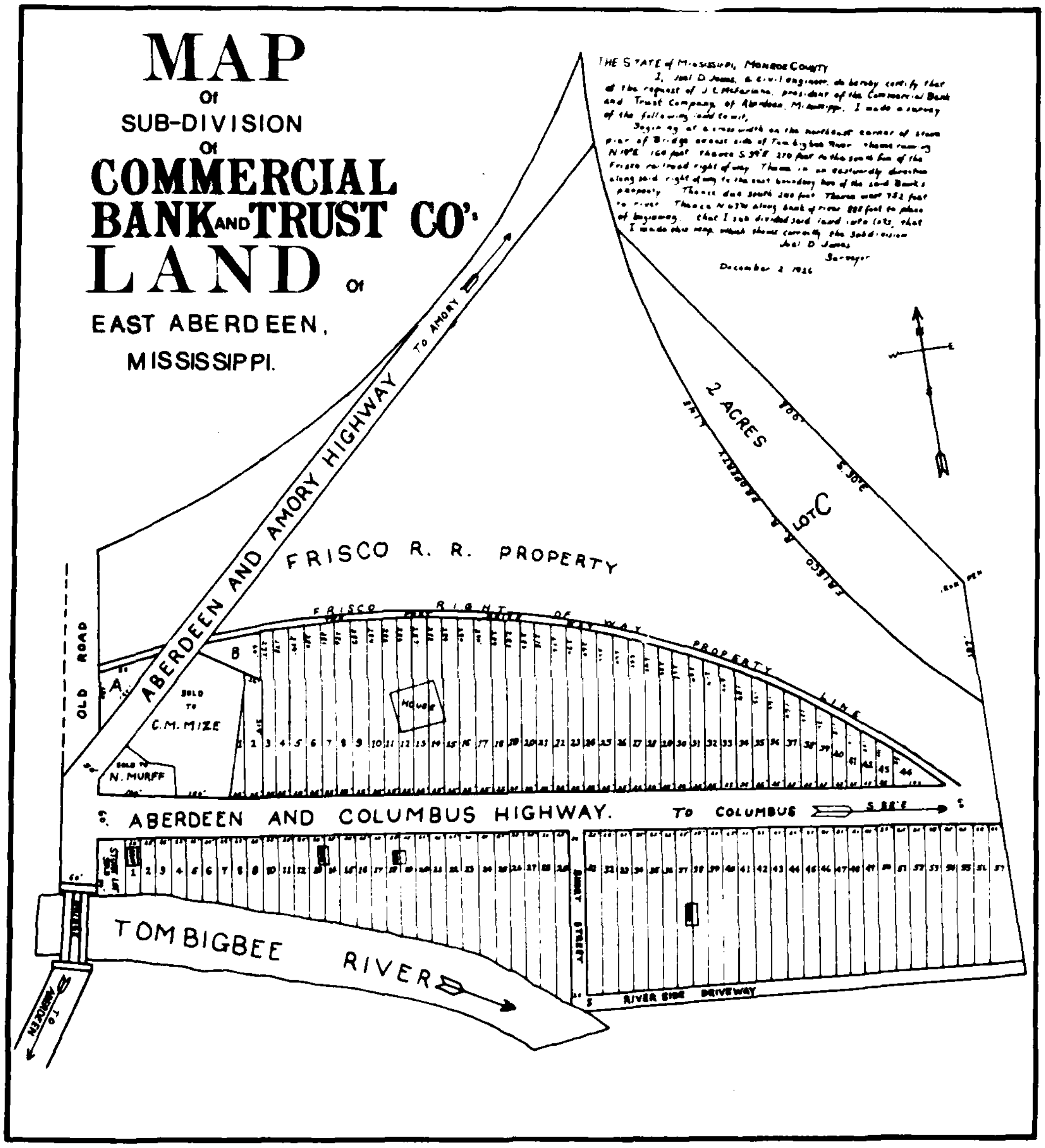

FIGURE 6. PLAT OF EAST ABERDEEN.

personal communication 1978).

None of the individuals who operated the commercial and service establishments at Martin's Bluff during Sub-Period IIIb is known to have lived there. All lived in Aberdeen and commuted to their places of business. The residences (Points J, K, L, and M on Figure 5) were mostly inhabited by the families of workers at Day's Mill. All were Black families except for that of Cliff Holly who trucked logs for Day's Mill and lived at Point M on Figure 5. (Robert I. Taylor, personal communication 1978)

During the late 1920s further changes in the transportation system at or near Martin's Bluff took place. The landing was still in use; Tom Feight Paine and W. B. Harrison of Aberdeen kept their houseboat docked there (Robert I. Taylor, personal communication 1978). In 1927, the St. Louis and San Francisco spur line from Aberdeen to Amory was extended from Martin's Bluff southward to Kimbrough, Alabama where it connected with the Muscle Shoals, Birmingham, and Pensacola Railroad. For at least a portion of this route it followed the grading of Nathan Bedford Forrest's abandoned railroad line (Rodabough May 1, 1975). In 1926 the Commercial Bank and Trust Company of Aberdeen, apparently in anticipation of increased commercial and industrial development at Martin's Bluff due to the proposed railroad, had the site surveyed into town lots (Fig. 6) and renamed it "East Aberdeen" (Plat of East Aberdeen 1926). The bank was wrong, however, in its expectation. Martin's Bluff had already reached its peak as a trade center.

PERIOD IV - 1931-1977:

The 1930 completion of Highway 45 and the new bridge over the Tombigbee River, located about 250 m below Martin's Bluff, resulted in a final shift of traffic and trade to the new highway and the end of the trade center at Martin's Bluff. As traffic was diverted across the new bridge, a new trade center developed at what was called "East Aberdeen," presumably after the 1926 plat. The old river bridge at Martin's Bluff was dismantled and all of the businesses except the cotton gin closed. (Robert I. Taylor, personal communication 1976)

In anticipation of the opening of the new highway, Robert G. Taylor and Noel and Howard Murff in 1929 purchased lots located adjacent to the proposed thoroughfare. Taylor bought Lots 27-42 in Block B-1 of the Plat of East Aberdeen from C. C. Day. These lots at least partially lay "north of the eastern approaches to the new Tombigbee Bridge leading from Columbus road and east of the fill for the Amory Road to said bridge, being the triangle between these two fills and the present 45 highway" (Monroe County Deed Book 97:214). This property was in a very low location relative to the two road embankments which bordered it so Taylor had fill dirt excavated from the branch bottom behind his store at Martin's Bluff and brought to the new location to build it up. A new store was constructed there (Point J, Figure 7) and the old store was sold in 1931 (Robert I. Taylor, personal communication 1978; Monroe County Deed Book 99:290).

The Murffs purchased Lots 47-50 and 52-58 of Block B-1 in the Plat for $100 (Monroe County Deed Book 97:236). They constructed a combination store and barbeque stand (Point L on Figure 7) and also closed

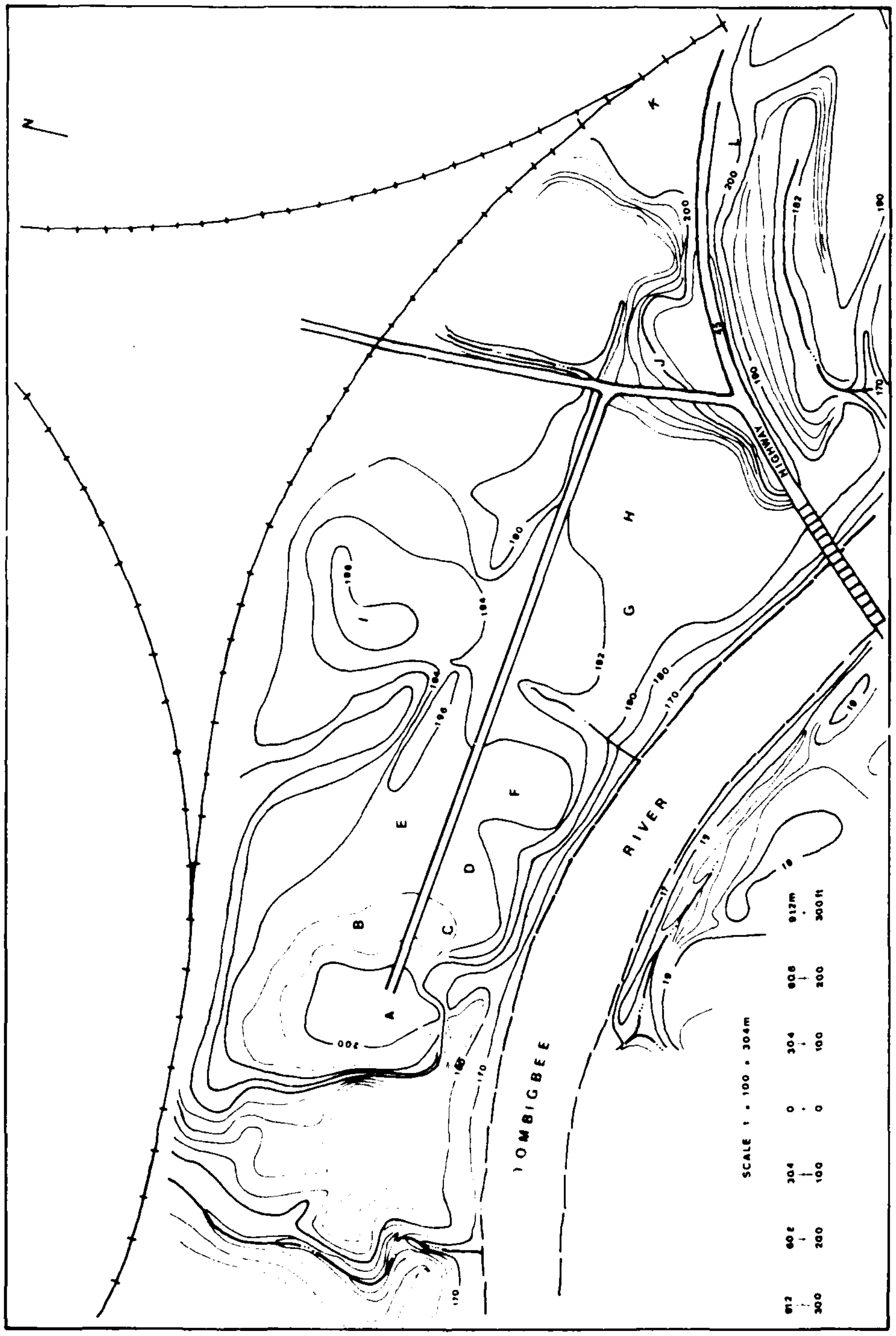

FIGURE 7. MARTIN'S BLUFF. PERIOD IV (1931-1977).

their Martin's Bluff operations. Some years later they discontinued their mercantile business and devoted their efforts to operating a short-order drive-in cafe. Behind their building they constructed a swimming pool which was fed by water from an artesian well. (Robert I Taylor, personal communication 1976)

The St. Louis and San Francisco Railroad built a depot (Point K on Figure 7) at the new trade center in 1928. After the 1972 demolition of the St. Louis and San Francisco Depot in Aberdeen, this depot handled freight from the town of Aberdeen. (Rodabough May 1, 1975)

Only the cotton gin continued to operate at Martin's Bluff; it burned in 1948. L. A. West did not own the gin during all of this time; there were several later owners, one being a Mr. Pope. (Robert I. Taylor, personal communication 1976; Larry Kite, personal communication 1978)

With the demise of business, Martin's Bluff became primarily residential. The three old store buildings (Points A, B, and C on Figure 7) and Cox's garage (Point E on Figure 7) were converted into residences. The inhabitants were people of small economic means and most were Black. An exception was a Mr. Parnell, a white man who fished in the Tombigbee River and sold his catches on the streets of Aberdeen. He and his wife lived in "Pickle's Store" several decades ago. Other residences existed at Points D and F through I on Figure 7. (Robert I. Taylor, personal communication 1978)

When the Mississippi State University survey team arrived at Martin's Bluff in autumn of 1976, several houses including the old store buildings were still present at Points A through C and F and I on Figure 7. All except Points E and F were occupied. Cox's garage had been replaced by a "Jim Walter house" (Point E on Figure 7). However, the residents of Martin's Bluff were beginning to move out in anticipation of the acquisition of the property by the U. S. Army Corps of Engineers. The house at Point D in Figure 7 had just been demolished and only its sills remained; the house at Point E was being moved intact. The house at Point I had been torn down by the spring of 1977 and the last of the residents had moved out by late 1977. The old store buildings had been partially torn down by June 1978.

All three of the structures at the trade center on Highway 45, i.e. the two commercial buildings and the depot, still exist. "Murff's Place" has been abandoned for some years while Taylor's Store closed in 1977 and the structure is now being used by Granite Construction Company as a field base for their work on the Aberdeen Lock and Dam. The depot presently serves its original purpose but is scheduled for removal to a new location which is as yet undetermined.

HYPOTHESES AND RESEARCH IMPLICATIONS:

The documented history of the East Aberdeen site suggests a series of hypotheses and accompanying test implications as presented below. As is the case with the hypotheses concerning prehistoric occupation of the site, these hypotheses are not meant to preclude others, if the data are found to better fit other possibilities.

Period I:

Hypothesis I The East Aberdeen site may have included the location of Hernando De Soto's 1540 crossing of the Tombigbee River. This hypothesis is derived from the conclusions of the United States De Soto Commission and would be supported by the occurrence of any artifacts dating to the fifteenth or sixteenth century. As De Soto was accompanied by a small band of fellow-explorers and animals, it would be reasonable to expect that articles and/or debris were regularly left behind or discarded as they moved across the countryside.

Hypothesis II During the remainder of Period I, historic times prior to 1830, the East Aberdeen site was not occupied or utilized in any manner which resulted in material remains. This hypothesis is derived from the lack of documentary evidence of historic occupation prior to this date and would be supported by a failure to recover historic artifacts dating to earlier than 1830.

Period II: During Period II, 1830-1873, the community of which the East Aberdeen site was a part developed and grew as an important shipping port for cotton growers residing in the surrounding area on the east side of the Tombigbee River. The activities known or believed to have been conducted in the community can be divided into three major categories: transportation, economic, and residential (Elliott 1979). At Martin's Bluff the transportation element consisted of the roads, the ferry crossing, the river, and the boat landing. The known economic units present were at least one store, a warehouse, a saw mill, and a wheat mill. The residential element consisted of one or more structures used for habitation. All the main activity areas likely had various types of associated outbuildings.

Throughout the period the Martin's Bluff property remained intact as a single parcel of land. As a consequence there is no indication of the lay-out of the community during this period in the deed records and reconstruction of the intra-community patterning must be speculative. Two sets of factors are of primary concern in attempting to reconstruct the intra-community patterning: the kinds of cultural activity known or believed to have been present and the causal factors which influenced their distribution.

Topography probably affected all three elements of community patterning and the most important topographic characteristic in determining the locations of units was likely drainage. Most areas of cultural activity were in locations which were usually above flood levels and provided suitable water run-off.

Hypotheses VI, VII, and IX below were tested using archaeological data. Since all three concern the location of structures within the Period II community, it is necessary in each case to demonstrate that the artifact patterns in question represent structures and that they were occupied during Period II. Buildings would be expected to be marked by structural artifacts, including bricks, nails, pane glass, and door and window hardware. In addition, they might have associated with them features such as pits, postholes, brick chimneys, and piers.

In order to determine that a building was constructed and/or used during Period II, nail and historic ceramic types that can be dated to that period will be employed.

Hypothesis III During Period II, Martin's Bluff was located on a river-road transportation network. The nature and location of the boat landing can be hypothesized based on general descriptions of similar landings along the river.

Landing facilities on the Tombigbee River were spartan. Wide fluctuations in river levels made wharves impractical and very few other improvements were made. Even at the larger towns little was done except possibly to grade the land surface down to an even slope (Hunter 1969:79, 350). Frederick Law Olmstead, who traveled through the South during the 1850s, remarked on the landings he observed at the Tombigbee and Alabama Rivers:

> The so-called landings, however, have not in many cases the slightest artificial accomodations for the purpose of a landing. The boats hawser, if used, is made fast to living tree, there is not a sign of a wharf, often no house in sight, and sometimes no distinct road. (Olmstead 1971:99)

The specialized structure of steamboats accommodated for the lack of improved landings. Louis Hunter, a steamboat authority, wrote:

> The problem of making landings quickly and cheaply was neatly solved by giving the stern of the vessel a long rake. This made possible quick and easy landings directly on the river bank, and the awkward early practice of anchoring in mid-stream while cargo was sent ashore became unnecessary. With a long rake the bow of the steamboat approaching the shore struck the soft mud and sand of the sloping river bank and was eased to a stop close enough to the shore to reach it by means of gangplanks. The momentum of the boat carried the bow slightly up the river bank, and often gave it enough hold in the mud to require no further mooring during brief landings, the slow turning of a paddle wheel sufficing to counteract any effect of the current (Hunter 1969:79).

Evidence of a steamboat making a landing in this fashion on the Tombigbee River is found in an 1858 account of a journey from Columbus to Aberdeen on the steamer "Leona." The anonymous writer noted that "the Leona ran her nose into the mud and landed a keg of nails and a box of sardines at Waverly" (Sunny South March 13, 1858).

The boat landing at Martin's Bluff was probably located in the low floodplain of the small stream which flows into the Tombigbee River at Martin's Bluff (Fig. 8). Washington Hollivay (personal communication 1976) stated that boats landed here during his childhood. The sloping bank ranges in elevation from 170 to 190 ft above mean sea level and could have provided a feasible landing at a variety of river levels. Because of bank erosion and flooding in this area, archaeological evidence of the boat landing was not sought.

Hypothesis IV The ferry landing is also believed to have been in the floodplain of the small stream immediately to the west of the terrace (Fig. 8). Since this area floods fairly frequently, the ferry was probably moved over to the terrace itself for loading during times of high water. A rope would have been tied to relatively high points on both sides of the river for the ferry to run along in crossing.

Supporting this hypothesis is the statement that the ferry was about 100 ft above the 1873 bridge pier (Monroe County Board of Supervisors August 11, 1871), which would place it in the floodplain described above. Archaeological evidence to support this hypothesis was

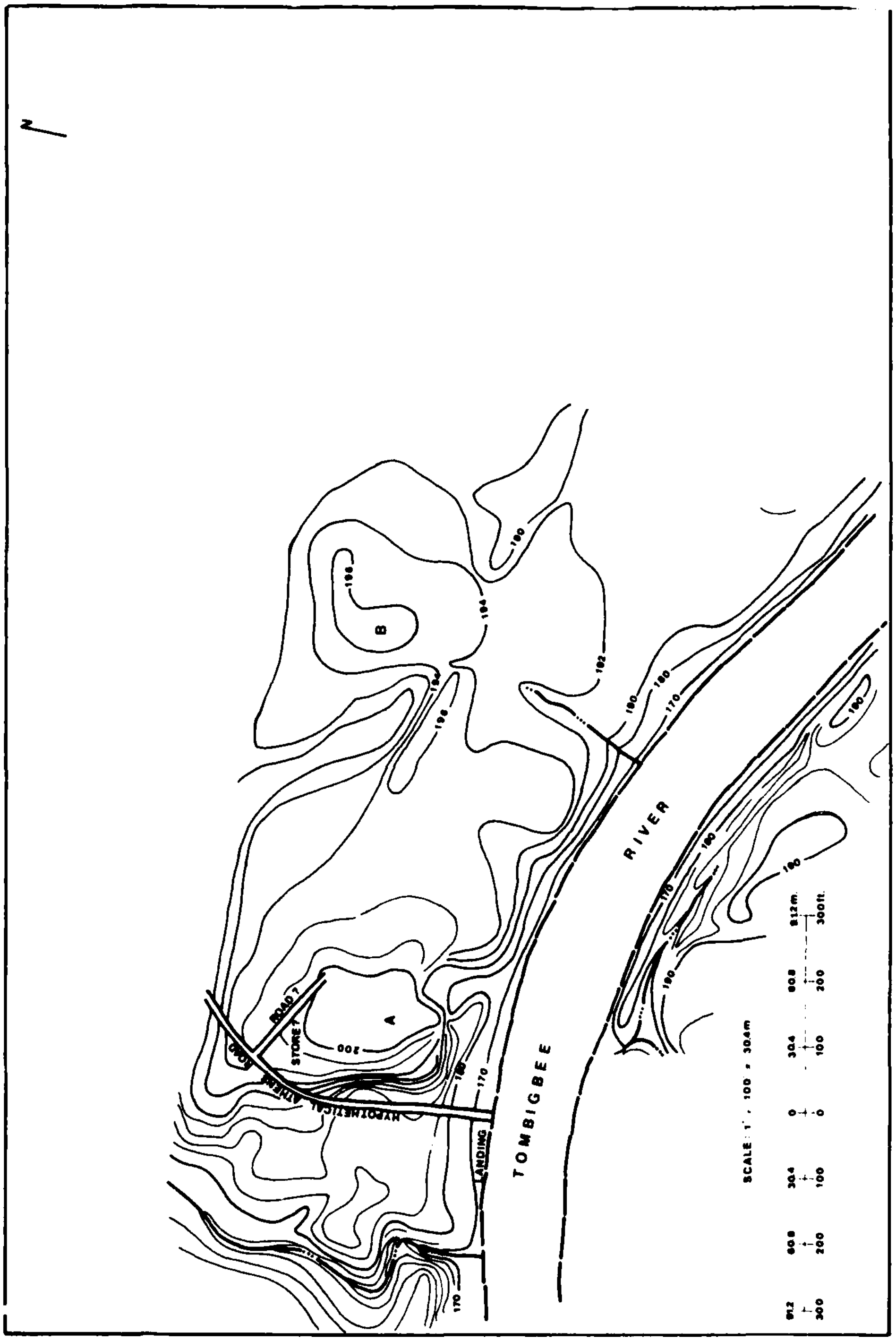

FIGURE 8. MARTIN'S BLUFF. PERIOD II (1831-1873), HYPOTHESIZED LOCATIONS OF BUILDINGS AND ROADS.

not sought during fieldwork, since any associated artifacts would likely have been either eroded into the river or buried in silt.

Hypothesis V The Aberdeen and Athens Road probably ran from the landing area north about 100 m along the floodplain of the small stream before climbing onto the terrace at a point where the relief between the floodplain and the terrace is not so pronounced (Fig. 8). This hypothesis follows from the fact that the bluff is too steep immediately at the river to be ascended practically by vehicles, while the floodplain edge would have provided a gradually sloping surface for the road. Archaeological evidence was not sought to confirm this hypothesis because on-going bank erosion along the stream, as well as historic earth removal, would have destroyed evidence of the road in this area.

Hypothesis VI The transportation network probably determined and delimited the arrangement of non-agrarian economic activity units because of the need to locate them near trade routes for the supply and distribution of goods and services. Different types of economic activity units probably oriented themselves to the road system in different ways. Stores would be expected to be much more specifically located than other types of units, tending to be situated directly on roads and at or near intersections.

The Period II store at Martin's Bluff was probably situated approximately at the point where the Aberdeen and Athens Road ascended onto the terrace. At this location the store would have been in close proximity to the road and the landings and on an elevated contour (Fig. 8).

An attempt was made to identify the location of this store based on the archaeological evidence. Archaeological test implications that would allow such identification are shown on Table 7. Its likely situation on high ground and near transportation routes has already been discussed. It would probably be fairly small, with less than 1000 ft^2 of floor space. This is based more on twentieth century than nineteenth century evidence, since there is relatively little archaeological or documentary data for the size and configuration of nineteenth century Southern stores. Archaeological studies that have been made of eighteenth century trading posts, such as those at Spalding's Lower Store in Florida (Lewis 1968) and Jacob Bright's trading house in Arkansas (Martin 1977), do not represent situations comparable to that at Martin's Bluff, since much of their trade was with local Indians. Most studies of folk architecture, such as those by Glassie (1975), Wilson (1975) and, for Mississippi, Black (1976), although they deal with buildings constructed during the nineteenth century, are concerned solely or primarily with residences and outbuildings and do not contain information on stores.

One short but suggestive study of stores (Pulliam and Newton 1973) states that nearly all country and small-town stores in the South from 1830 or 1840 until a hundred years later were built in one classic style, Greek Revival. The authors describe this store type as :

> ...longer from front to back than it was wide; the ridge of its gable roof ran the length of the structure; gables usually overlooked the front and rear...; shed additions were frequently added to sides, rear, front, or in a

TABLE 7. ARCHAEOLOGICAL TEST IMPLICATIONS FOR HYPOTHESES CONCERNING THE INTERNAL STRUCTURE OF THE MARTIN'S BLUFF COMMUNITY DURING THE HISTORIC PERIOD.

DIMENSIONS AND ATTRIBUTES	BUILDING TYPES			
	Store	Warehouse	Cotton Shed	Residence
Topography:	permanently dry	seasonally dry (Nov. - May)	seasonally dry (Nov.-May)	permanently dry
Proximity to Transportation Routes:	near	near	near	variable
Area of Ground Floor:	small (<1000 ft^2 or 100 m^2)	moderate	large (>4000 ft^2 or 400 m^2)	small (<1000 ft^2 or 100 m^2)
Features: kinds of features	postholes piers	postholes piers	large postholes	postholes, piers, refuse pits, garbage dumps, brick chimneys
Other Artifacts: variety	great	moderate	limited	great
structural	numerous; brick, pane glass, nails	numerous; bricks, nails	moderate; nails	numerous; bricks, pane glass, nails
bulk storage	present; numerous	present	absent	few or absent
household	moderate	few or absent	few or absent	numerous
subsistence	few	absent	absent	numerous

combination of these (Pulliam and Newton 1973:1). The style first appeared from 1775-1810 on the eastern seaboard and dominated public and commercial buildings until World War II (Pulliam and Newton 1973:2-3). The twentieth century stores at East Aberdeen fit into this category and it is likely that earlier buildings were of the same type.

Most of these stores were small, with the dimensions of Taylor's Store at Martin's Bluff being 20 x 40 ft (800 ft^2), Murff's Store 18 x 30 ft (540 ft^2), and Pickle's Store 20 x 40 ft (800 ft^2), not including their porches. With porches included the stores measured respectively 20 x 48 ft (960 ft^2), 18 x 42 ft (756 ft^2), and 20 x 52 ft (1040 ft^2). (Holmes 1978) Twentieth century rural stores in the Normandy Reservoir, Tennessee, measured 10 x 30 ft (300 ft^2), 12 x 20 (240 ft^2), and 30 x 30 ft (900 ft^2) (Riedl, Ball, Cavender 1976:118).

The only features predictably thought to be associated with stores in this area are postholes and/or evidence of piers on which the sills were placed (Table 7). The three twentieth century stores at the site were supported on piers and this kind of support is more likely to have been used than posts given the rapid deterioration rate of wood in the ground in this climate. If the store were built on piers which later decomposed or were scavenged for use elsewhere, as brick might be, it could be that no features would remain to mark a store's location. Stores apparently did not usually have fireplaces, but were heated by stoves (Clark 1944:36). None of the twentieth century stores at the site had fireplaces (Holmes 1978). Thus, brick chimneys would not be expected to mark store sites.

The other artifacts associated with stores would be expected to be varied because of the wide range of objects commonly sold in them. On Table 7, the kinds of artifacts expected have been divided into structural, bulk storage, household, and subsistence. In most cases, stores would be marked by quantities of structural artifacts, especially bricks from piers, pane glass, and nails, since they were probably usually of frame construction (Pulliam and Newton 1973). Bulk storage was done in barrels and bins and on shelves, with evidence of it most likely to be preserved in the form of metal barrel hoops. These were found in large quantities at Spalding's Lower Store, for example (Lewis 1968), although Camden, South Carolina, apparently yielded none even though stores were known to be present at the site (Lewis 1976: Appendix F). General stores such as those at Martin's Bluff sold a great variety of items, including household goods such as ceramics and bottled goods. These would be expected to be present at store sites but less common there than at residences, since most would be expected to leave the stores intact (Lewis 1976:118-119). Similarly, there was probably relatively little food processing and consumption activity at stores, so subsistence artifacts such as faunal and floral remains should be found infrequently.

Hypothesis VII The warehouse would not necessarily have been located as close to the road as the store was. It would have occupied a location above the flood waters but with easy access to the river via the landing. Consequently, it was likely located somewhere between the probable store location and Point A on Figure 8. Frequent flooding would preclude its being located in the floodplain of the small stream, since this would include loss of cotton and/or goods. This is especially the case given the proximity to desirable high ground and the ease of access to it.

During the nineteenth century the term "warehouse" was used in two different senses. First and more specifically, it meant a large enclosed structure used for the storage of various products such as bales of cotton, hogsheads of meat, barrels of molasses, barrels of whiskey, barrels of flour, kegs of nails, and other items to be shipped downstream or which had been shipped upstream for distribution. Second and more generally, the term "warehouse" meant a large, enclosed structure plus attached "cotton sheds." Cotton sheds usually consisted of roofs situated on top of posts embedded in the ground and had no sides. Floors, if they were present, were crude and often consisted of nothing more than poles laid on the ground to keep the bottoms of the cotton bales from getting wet. Cotton sheds tended to be much larger than warehouses; one at Vinton (referred to as a "warehouse") measured 68 x 100 ft and the ones at Pickensville Landing in 1891 were 60 x 80 ft (Vinton File n.d.; West Alabamian November 25, 1891). Cotton sheds were used only for storing cotton while warehouses were often used only for storing of freight. Considering Martin's Bluff's prominence as a shipping port during this period, it may have had a warehouse and one or more cotton sheds.

Other accoutrements often advertised as being associated with a warehouse included camp houses and pens for livestock. The camp houses were for the convenience of farmers who brought their cotton in for shipment and had to stay overnight because of the long trip home. The pens were for the wagon teams of the farmers and for livestock awaiting shipment. (Rodabough January 9, 1975) Due to the fact that these types of structures were fairly common at the more important landings, it is likely that they were present at Martin's Bluff.

Archaeological test implications for identifying warehouses and cotton sheds were derived from this information and are shown on Table 7. The stipulation that the locations of these structures be dry from November to May, when goods and cotton were being stored and shipped, requires that they be above flood stage, since the Tombigbee River rarely floods in other months. Given the assumption that warehouses were usually set on brick piers, while cotton sheds were not, the rest of the test implications follow from the documentary descriptions referred to above.

Hypothesis VIII The water-powered wheat mill was "just north" of the ferry landing (Rodabough March 20, 1975). This would have placed it on the small stream which runs into the river immediately west of the landing. Aside from walking the sides of the stream, no attempt was made to locate the mill site archaeologically. Alterations in the stream due to erosion and historic earth moving make it unfruitful to attempt to reconstruct the mill's location based on stream configuration, especially given the vagueness of the documentary evidence.

Hypothesis IX The locations of economic activity units probably influenced the locations of the workers' residences. Poor roads typically restricted the residences of most workers to within a maximum radius of about one kilometer of the economic unit where they were employed. There were, of course, exceptions, i.e. in the cases of individuals who worked at several activity units scattered over a large area, such as circuit riding ministers who preached at several churches scattered throughout one or more counties in the course of a single month. Surrounding the residential units and the economic units were a number of outbuildings and other dependencies. These structures often lay to the sides and behind the main structures, seldom in front. The most common types of support structures were privies, wells, cisterns, stables, kitchens, and miscellaneous storage structures. Individuals who engaged in minor agrarian activities might also have had corn cribs, smokehouses, chicken houses, and barns.

The few residences which were present and their attendant outbuildings would probably have tended to cluster around the most elevated areas of the community. This would place them in close proximity to Points A and B as shown on Figure 8.

Archaeological test implications for identifying residences are shown on Table 7. Especially as the houses at Martin's Bluff were probably occupied by people of modest means, they would be expected to be fairly small. The Period II houses at the site almost certainly conformed to folk traditions of architecture, since only in urban centers and on large plantations in the South was there much attempt to follow academic architectural fashions such as Greek Revival in the design of houses (Kniffen 1965; Glassie 1975:64, 158, 188-189; Wilson 1975).

The two main folk housing traditions found in the area are log pen construction and I-house construction. The latter was closely associated with prosperous agriculturalists (Kniffen 1965:555; Riedl, Ball and Cavender 1976:93-94), so it probably would not have been found at Martin's Bluff. Houses derived from the log pen tradition could take a variety of forms, from a single pen most commonly measuring from 1[illegible] to 19 ft square (Glassie 1975:23; Wilson 1975) to houses with two square rooms laid out in saddlebag, dog trot, or double pen style (Kniffen 1965), all one room deep. These types are similar in size, differing mainly in chimney placement, number of chimneys, and presence of a central open passageway. Although this tradition began with log construction in the United States, it was continued with little alteration into frame houses (Wilson 1975; Riedl, Ball, and Cavender 1976).

Features often associated with such houses should include brick piers, postholes, brick chimneys, and refuse pits (Table 7). Artifact variety would be expected to be great because of the variety of activities, including food storing, processing, and serving, tool repair, and small scale manufacturing, that would have been conducted at residences (Lewis 1976:107). For frame houses with brick piers and chimneys, structural artifacts should be common and include bricks, pane glass, and nails. It is possible that log houses with mud and stick chimneys and shutters rather than glass on the windows might have been built at the site; these would be difficult to identify using structural artifacts. Artifacts associated with bulk storage of goods would be expected to be less common at houses than at stores, while household and subsistence artifacts should be more common, since they were most frequently used and discarded at residences (Lewis 1976:120).

Period III:

Hypothesis X During Sub-Period IIIa, 1874-1920, the community of which the East Aberdeen site was a part experienced a drastic economic decline and functioned primarily as a "way-station" for residents of the east side of the river who were in transit to or from the town of Aberdeen. This hypothesis is derived from the documentary data which exists and would be supported by the recovery of materials dating to this Sub-Period in the locations illustrated in Figure 4. A preponderance of artifacts or a lack of artifacts dating to this Sub-Period in either Lot A or Lot B would better clarify the ambiguity of their metes and bounds as well as the documentary references to the lots.

The test implications discussed above for Period II (Table 7) apply equally well to the span from 1874 to 1920 and can be used to examine the archaeological data to help determine if houses or a store were in use during this time.

No attempt has been made to derive hypotheses for the remainder of the occupation of East Aberdeen, since the community structure is well understood based on informant recollections and other documentation. This includes maps of the locations of structures extant in 1978 (Fig. 2) and the architectural recording done by Holmes (1978).

V. METHODS OF DATA RECOVERY

INTRODUCTION:

Data recovery at the East Aberdeen site was designed to address the prehistoric and historic hypotheses and test implications. It consisted of three main activities, mapping, testing, and excavation. Mapping recorded the locations of test, excavation, and surface collection units and features as well as information on the topographic and architectural features present at the site at the start of archaeological work. Testing was areally extensive and employed a variety of methods in order to assess the types and extent of cultural materials present. Excavation further explored the prehistoric and historic components confirmed through testing. This chapter presents a discussion of how these activities were conducted.

During the course of the fieldwork a number of different methods were employed and their effectiveness and potential utility at other sites evaluated. The methods included alternative means of surface preparation for controlled surface collection, augering as a method of evaluating sub-surface stratigraphy, metal detector survey to locate historic features, slope cuts versus deep test units for obtaining information on stratigraphy, and box-scraping to find historic features. The results of the evaluation have been published separately (Baker 1980).

MAPPING:

Clearing. Before mapping or other activities could begin, it was necessary to clear the site of an appreciable amount of vegetation, as well as architectural and other debris. First the remains of two of the early twentieth century structures, Taylor's Store and Murff's Store, were removed by a front-end loader. Then several days were spent hand clearing the site of vegetation and small debris and having a bulldozer remove the rubble of a collapsed twentieth century structure in the northeast part of the site. Finally, a small tractor with box-scraping and shallow disking accessories cleared the 11 areas selected for controlled surface collection. Hand clearing of vegetation continued as necessary throughout the fieldwork.

Mapping. The first step in mapping was to set up a grid system. This was done by establishing a base line running approximately east-west through the long axis of the site and a second one running approximately north-south. Grid north was 10 degrees east of magnetic north. All mapping done was in reference to the point of intersection of the two base lines.

Using a transit and stadia rod, the locations and dimensions of all historic structural remains extant on the site as of the first day of fieldwork were mapped (Fig. 2). Then a series of north-south and east-west transects were shot to provide data for making a topographic map of the site in 50 cm contours. Finally, as data recovery progressed the locations and elevations of all the units and areas investigated were mapped. As an adjunct to mapping, a survey was conducted to photograph the remaining evidence of all historic structures.

TESTING:

Controlled Surface Collection. The first testing activity conducted at the site was a controlled surface collection undertaken to accomplish the following goals. First, a measure of the area of the site was needed. Second, within that area a sample of the cultural material was necessary to draw tentative conclusions about the components present, define artifact concentrations, and guide decisions about locating further testing efforts. To accomplish these goals, all accessible areas of the site were prepared and collected. This resulted in 11 surface collection units, A through K (Fig. 9), distributed fairly evenly over the site. Their total area equaled nearly 7200 m^2 or approximately one-sixth of the potential site area as defined in the project proposal.

After the units were selected a small tractor dragging a metal box-scraper cleared the vegetation from the surfaces of all but Unit C. Four units (A, E, F, and H) were left as they were at this point. Three units (D, I, and K) were then shallowly disked to a depth of 3-8 cm. A section of Unit B was left box-scraped only and another section of the unit was lightly disked. In Units G and J a side-by-side approach was used in which alternate rows, measuring roughly 2 m in width, were treated by the two methods of surface preparation. All of Unit C and marginal sections of several of the other units were treated by other methods such as hand-clearing and front-end loader clearing; these methods had to be used because vegetation and soil dampness prevented use of the tractor. The 11 units, their total areas, and a summary of their surface treatments are presented in Table 8.

After the units' surfaces were prepared, a series of north-south and east-west transects were shot in each unit and then tapes were used to triangulate a 4x4 m grid over each unit. Wooden stakes were used to mark the grid. Finally, each 4x4 m square was sub-divided into 2x2 m squares and hand collected (Plates 3 and 4). Materials collected within each 2x2 m square were bagged and recorded together.

Augering. A second testing activity consisted of an augering program undertaken to assess the depth of the dark midden deposit which covered the site. A hydraulic augering truck dug holes 20 cm in diameter at 4 m intervals along an east-west and a north-south transect through Units I and J. After the truck equipment malfunctioned a combination of a mechanized hand-auger and a manual auger were used to continue augering in Units G, K and B. These auger holes were also excavated at 4 m intervals along north-south and east-west transects but were smaller, roughly 10 cm in diameter. The approach with all augering methods was to continue digging until either the yellow sand or yellow clay underlying the dark brown layer was encountered and record the depths of the bottom of it. The soil excavated from all auger holes was manually examined for artifacts and that from the truck-dug holes was waterscreened through 6.4 mm mesh.

Metal Detector Survey. A survey using a U.S. Army metal detector was conducted over the western portion of the site in an effort to delineate areas of high and low metal concentrations. Of particular

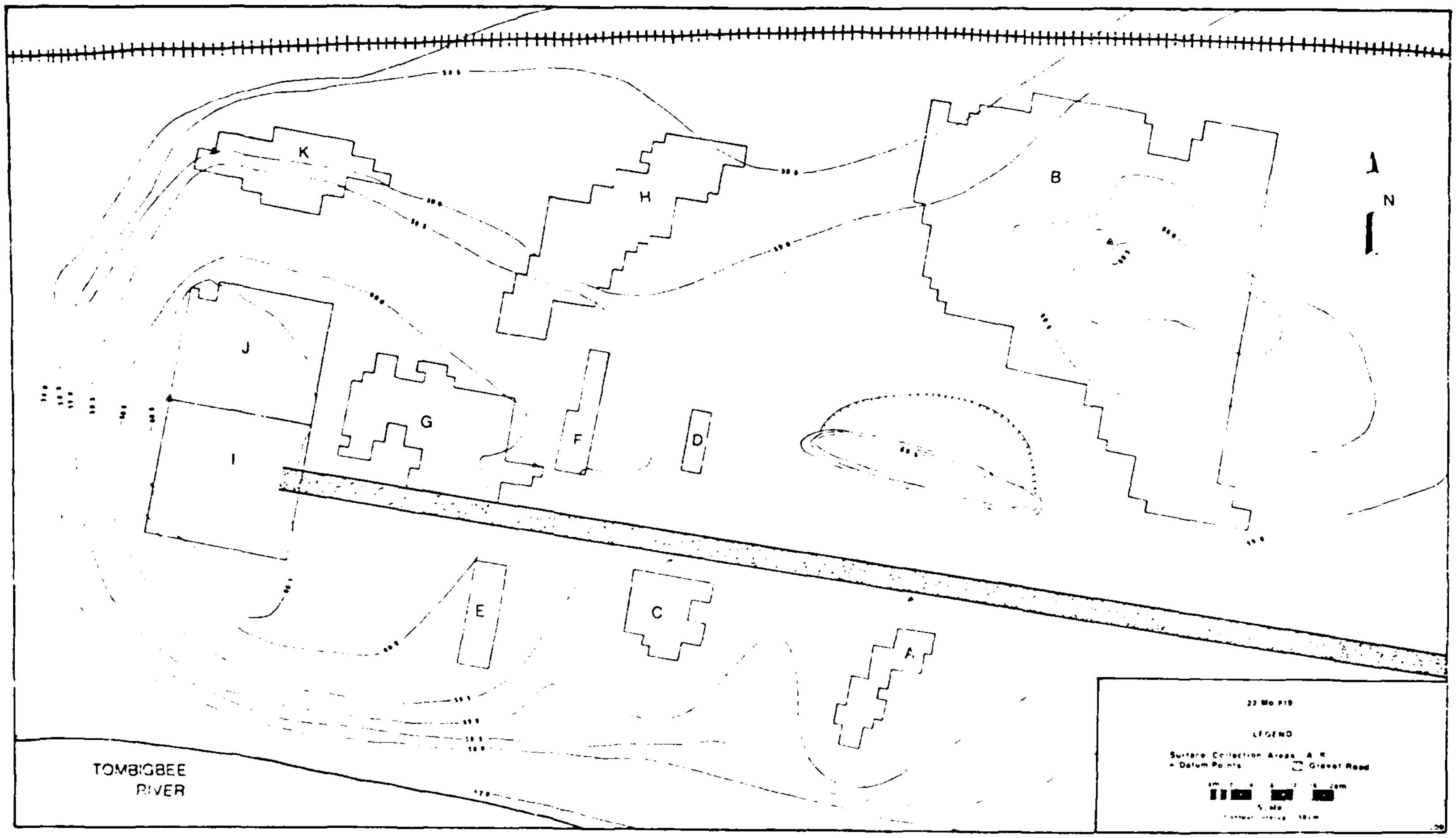

FIGURE 9. LOCATIONS OF THE SURFACE COLLECTION UNITS.

AD-A127 227 ARCHAEOLOGICAL INVESTIGATIONS AT THE EAST ABERDEEN SITE 2/5
(22MO819) TOMBIGB..(U) MISSISSIPPI STATE UNIV
MISSISSIPPI STATE DEPT OF ANTHROPOLOGY..
UNCLASSIFIED J E RAFFERTY ET AL. 1980 C5629(78) F/G 5/6 NL

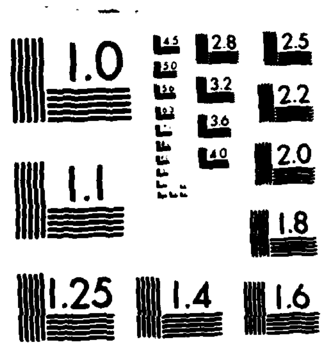
1.0
2.8
2.5
3.2
2.2
3.6
4.0
2.0
1.1
1.8
1.25
1.4
1.6

TABLE 8. SURFACE COLLECTION UNITS AND METHODS OF SURFACE PREPARATION

Unit	Box-Scraped		Disked		Other		Total m^2
	m^2	%	m^2	%	m^2	%	
A	176	1.00					176
B	772	.22	1752	.51	948	.27	3472
C					204	1.00	204
D			124	1.00			124
E	120	1.00					120
F	120	1.00					120
G	232	.41	116	.20	224	.39	572
H	676	.97			28	.03	704
I			268	.37	448	.63	716
J	188	.30	316	.50	132	.20	636
K			328	1.00			328
Totals	2284	.32	2904	.40	1984	.28	7172

interest was locating a blacksmith's shop whose presence had been indicated by the historic background research. The survey consisted of taking readings at 4 m intervals midway between the north-south and east-west transects covering Units H, I, and J.

Test Units. Based on the types and densities of cultural materials indicated by the preliminary field analysis of the controlled surface collection data, a total of seven test units was excavated. All of the test units except Test Unit 4 were placed in areas of the site which appeared to have dense surface concentrations of prehistoric and/or historic materials. Test Unit 4 was placed at the bottom of the bluff in an area subject to both erosion from the bluff and reoccurring silt deposition. It was expected to reflect natural rather than cultural stratigraphy. The locations of the test units are shown in Figure 10 and their designations, surface dimensions, and depths are presented in Table 9.

All units except Test Unit 1 were 2x2 at the surface; Test Unit 1 was 4x4 m. For safety reasons at a depth of 1 m in Test Unit 1, a central 2x2 m square was excavated to 2 m and then a central 1x1 m square was taken to a depth of 3 m. In the other test units a central 1x1 m square was excavated after a depth of 1 m was reached. All units were excavated in arbitrary 10 cm levels as no natural and/or cultural stratigraphy was recognized. The only exception to this occurred when features were encountered; they were excavated as complete sub-units. All soil excavated was waterscreened through 6.4 mm mesh and the artifacts were bagged and recorded by level. Soil and flotation samples were collected from the southeastern stake balk for each level and each feature. Wall profiles and level plans were recorded.

Excavation of the test units continued through the dark brown deposit and the underlying yellow sand until a complete level of culturally sterile white-gray sand was reached. Then a central manually-dug auger hole was excavated until either water or gravel was encountered. An exception was Test Unit 2, which was excavated only to 210 cm; excavation was abandoned for safety reasons at that point.

Slope-Cuts. In addition to the test units, two slope-cuts were excavated as part of the testing activities at the East Aberdeen site (Fig. 10).

The slope-cuts were dug by a front-end loader which pushed soil off the side of the bluff on the west side of the site until the exposed surface was below the original ground surface. Three slope-cuts were dug initially but before excavation began one became so eroded that investigation of it was abandoned. It was located approximately 2 m south of Slope-Cut 2. The two remaining slope-cuts were hand-shoveled to smooth their surfaces. Then 1 m wide strips were laid out down the slope-cuts and hand-excavation began. The approach taken was essentially the opposite of that used with the test units: the slope-cut excavation began at the bottoms of the slopes and progressed upward.

The method of excavating the two slope-cuts differed slightly due to differences in the angles of their slopes. As shown in Figure 11, Slope-Cut 1 had a much smaller angle of incline than did Slope-Cut 2. Slope-Cut 1 was excavated in 1 m squares with the unit stepped when

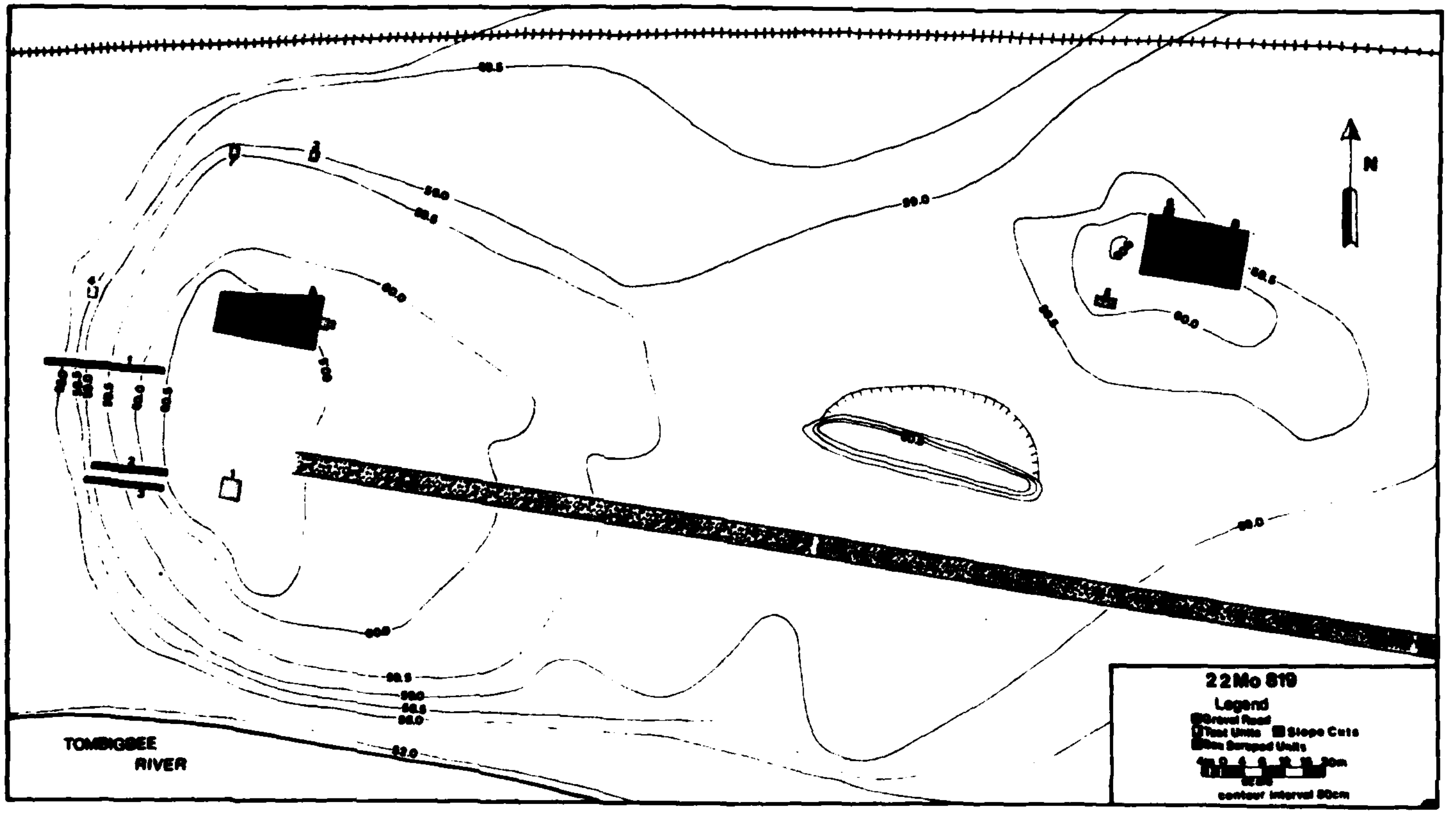

FIGURE 10. LOCATIONS OF TEST UNITS, SLOPE-CUTS, AND BOX-SCRAPED UNITS.

TABLE 9. SUMMARY OF INFORMATION ON TEST UNITS

Unit Number	Southeast Corner Designation	Surface Dimension	Maximum Depth
1	20S8E	4 x 4 m	3.0 m
2	16N26E	2 x 2 m	2.1 m
3	12N20W	2 x 2 m	1.0 m
4	48N18E	2 x 2 m	1.7 m
5	48N178E	2 x 2 m	1.4 m
6	68N186E	2 x 2 m	1.4 m
7	42N2E	2 x 2 m	1.2 m

TABLE 10. SUMMARY OF INFORMATION ON EXCAVATION UNITS

Unit Number	Southeast Corner Designation	Surface Dimension	Maximum Depth
1	16N24E	5 x 4 m	2.4 m
2	58N194E	5 x 4 m	1.0 m

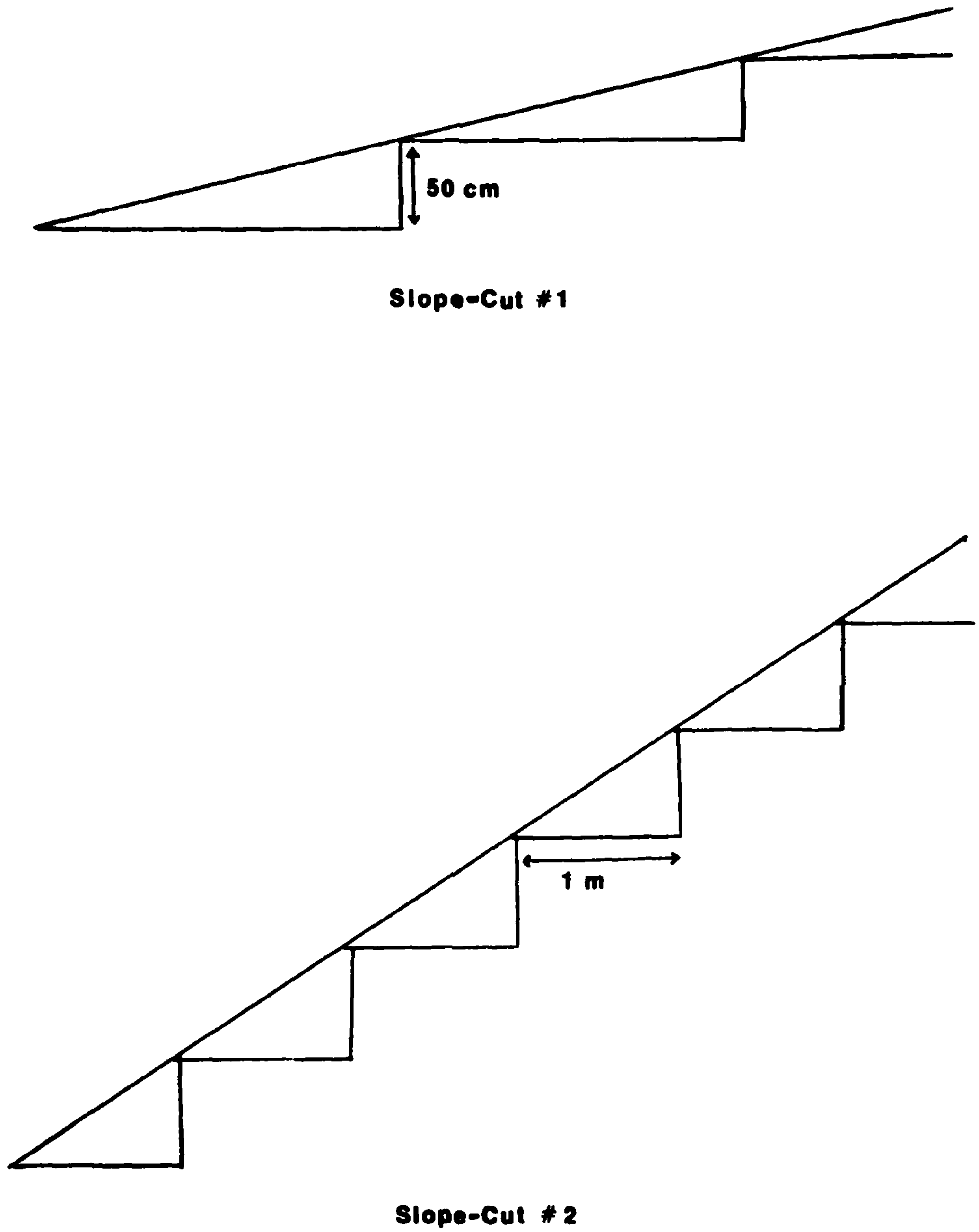

FIGURE 11. APPROACHES TO SLOPE-CUT EXCAVATION

the risor reached approximately 50 cm in height. On Slope-Cut 2, 1 m squares were also excavated but the unit was stepped at the conclusion of each square; this resulted in risors of between 50 cm and 1 m in height. Because it was longer, Slope-Cut 1 required the excavation of 19 one-meter squares to reach the top of the bluff while Slope-Cut 2 reached the top with the excavation of 14 one-meter squares.

EXCAVATION:

Box-Scraping. Based on the results of the extensive testing done at the East Aberdeen site, a number of research concerns merited further investigation. One of these involved gathering additional information on the nineteenth century component which had been documented through historic background research and confirmed through testing.

The goals of historic excavation at the site were two-fold: to secure an adequate sample of the artifacts dating to the historic occupations and to search for historic features such as pits, privies, and other structural remains. A limited sample of historic artifacts had been recovered through testing so the features presented the greatest challenge. In order to accomplish these goals a special type of stripping, progressive box-scraping, was used.

Two large areas, Box Scraped Units A in the western portion of the site and B in the eastern portion (Fig. 10), were selected for this approach because of their high yield of nineteenth century materials during the testing activities. Each of the box-scraped units measured well in excess of 100 m^2. In both units a small tractor dragging a metal box-scraper scraped away shallow layers of soil, ranging from .5 to 1 cm (Plate 5). As the layers were scraped away crew members followed behind the tractor looking for exposed features. When each approximately 5 cm level had been removed in this manner, crew members re-gridded the units into 4x4 m squares, collected the surface within these squares, and bagged and recorded the material accordingly. This procedure was continued to a depth of roughly 30-35 cm in both units as this was the maximum depth of the historic deposit at the site as indicated by the previously excavated test units.

Excavation Units. A second research concern was gathering additional information on the prehistoric components present at the East Aberdeen site. The presence of a series of prehistoric occupations of the site dating back to at least the Middle Archaic Period had been indicated through testing.

The goals of the prehistoric excavation were also two-fold: to enlarge the prehistoric artifact sample obtained through the testing activities and to search for additional features in an effort to increase knowledge concerning the nature of the prehistoric occupations of the site. To accomplish these goals two relatively large units were excavated. The locations of the two excavation units are shown in Figure 12 and their designations, surface dimensions, and depths are presented in Table 10. The excavation units were located in areas of the site where testing activities had indicated dense concentrations of prehistoric materials; both were also located in areas which had been subjected to progressive box-scraping and consequent removal of most of the historic component.

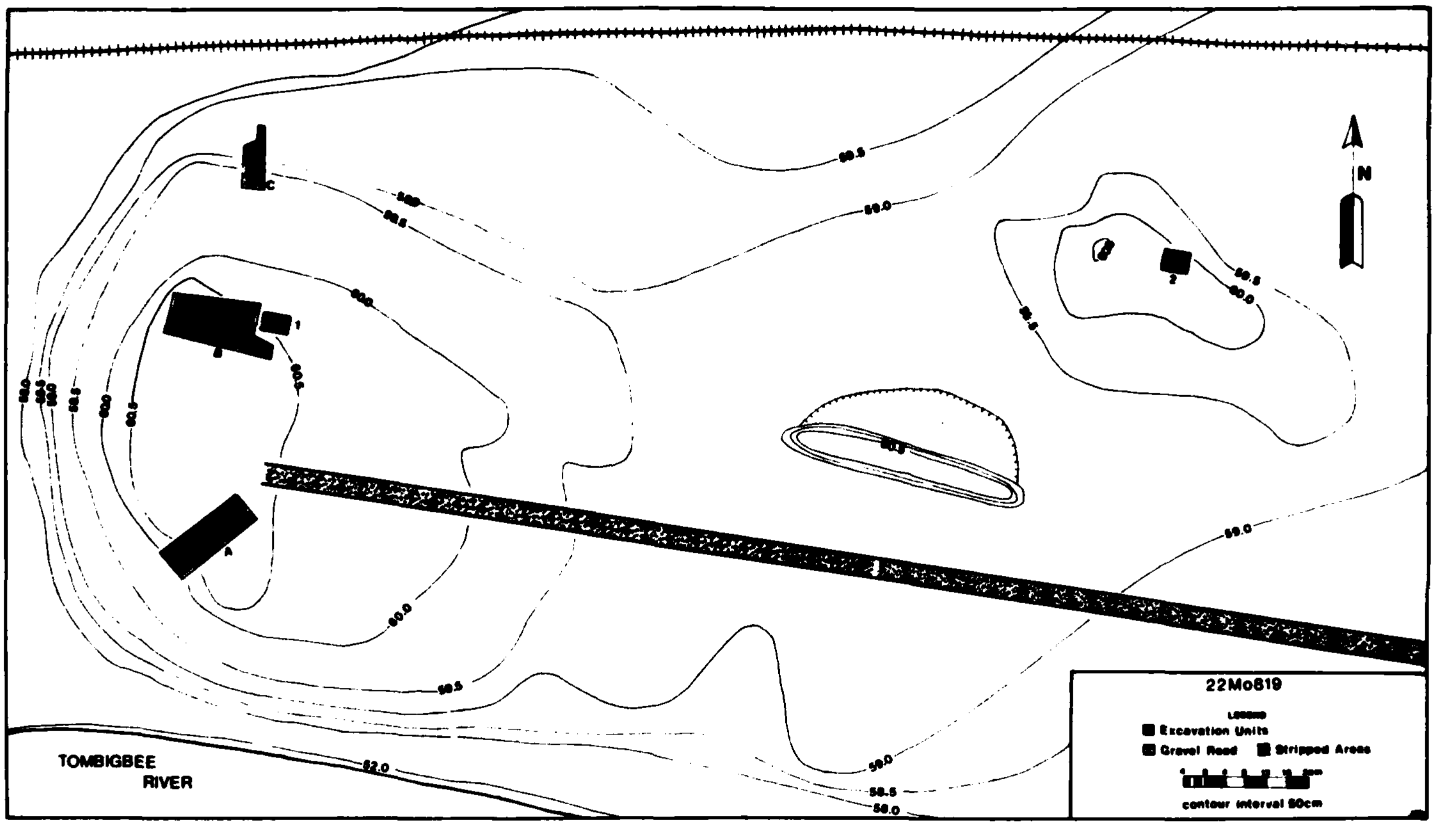

FIGURE 12. LOCATIONS OF THE EXCAVATION UNITS AND STRIPPED UNITS.

Both excavation units were 4x5 m at the surface and the method of excavation paralleled that of the test units. The dirt excavated from Excavation Unit 1 was waterscreened through 6.4 mm mesh, while that from Unit 2 was dryscreened through 6.4 mm mesh on tripodal screens. Excavation Unit 2 reached sterile white sand at a depth of 1 m and was closed. Excavation Unit 1, however, was still in culturally productive soil at 1 m. At that depth a central 2x2 m square was excavated to 2 m and then a central 1x1 m square was excavation to 2.4 m where a complete level of sterile white sand was reached.

Stripping. Due to the fact that the excavation units provided little additional information on prehistoric features, the final data recovery activity at the East Aberdeen site consisted of mechanical stripping using a combination of a bulldozer and a front-end loader. The stripped areas totaled approximately 200 m^2 and they were located in areas where testing and previous excavation activities had indicated a high probability of prehistoric occupation (Fig. 12).

Crew members followed the heavy equipment as it removed layers of soil and signaled a st. when features and/or potential features were discerned. The features were mapped and an intuitive sample of each type was excavated. Then stripping commenced again and continued until additional features were found or the culturally sterile gray-white sand was reached.

VI. METHODS OF DATA ANALYSIS

INTRODUCTION:

Analyses of the materials and special samples collected during data recovery were conducted simultaneously with field investigations and continued after field activities were completed. The bulk of the work was done at the Archaeological Laboratory of the Department of Anthropology at Mississippi State University but a field laboratory was also operated during the first part of the project. This chapter examines both the methods of analysis which were used and the bases on which approaches were adopted.

FIELD LABORATORY ANALYSIS:

A field laboratory was operated during the first ten weeks of the project while the archaeological field school was in session. Students worked in the laboratory four evenings per week as well as during those days and partial days when rain precluded data recovery activities.

Materials gathered during the controlled surface collection were washed, rough-sorted, and rebagged accordingly. Index cards noting the general types and numbers of materials which had been processed through the field laboratory were transported to the university for additional analyses.

UNIVERSITY LABORATORY ANALYSIS:

General Procedures. All artifacts brought in from the field were sorted and catalogued. After the termination of the field laboratory all materials brought in were first washed and then sorted and catalogued. Due to the large quantities of fired clay recovered during the excavation of the test and excavation units, this material was weighed and measured by volume rather than by count.

For some types of materials, cataloguing constituted analysis as the data needed were counts or volumes by collection units. These materials included: shell, coal, charcoal, unmodified sandstone, brick, plastic, recent and/or miscellaneous metal objects, and miscellaneous objects. Lithics, prehistoric and historic ceramics, pieces of glass, nails and other distinctive metal objects, and the bone from Excavation Unit 1 and Feature 23 were subjected to more detailed examinations.

Lithic Materials. Analysis of lithic materials was designed to focus on the functional and technological changes which occurred at the East Aberdeen site as well as to provide temporal information, particularly for the preceramic levels. The first step in the technological analysis was to separate unshaped from shaped stone artifacts. This initial distinction was made because shaped objects require a considerably greater number of production steps than unshaped artifacts and are usually considered to represent the last stages in manufacture (Bradley 1975; Collins 1975). In order to be classified as shaped, the outline of an object had to be regularized in some way, for example by the entire form having been made more symmetrical or more pointed or an edge straightened, smoothed, or serrated. All other objects were placed in an "unshaped" class, including hammerstones and pitted stones which had been altered by use but were not regularized in shape.

Unshaped objects that were the product of flaking cryptocrystalline rocks were by far the most common type of stone artifact. These objects were subjected to the most extensive technological analysis both because of their quantity and because they can be related to sequential manufacturing stages. The stages are defined on the assumption that the goal was to produce bifacial shaped objects, since the products may then be placed in a logical order according to the extent to which the core or the dorsal surface of the flake has been altered. This assumption, although useful in formally ordering the objects, does not preclude the possibility that unshaped objects were end-products as well as by-products of manufacture.

Three different ways in which cryptocrystalline rock can be broken are reflected in the classification of unshaped objects below. One is by percussion, which may occur naturally or by cultural intent and, if intentional, in a variety of ways. Whether the percussion breakage can be said to have occurred naturally or culturally depends partly on the natural processes at work in the site area and partly on the characteristics of the objects themselves. Certain natural processes such as river action can produce percussion breakage (Oakley 1964:18). If such processes have been at work in the site, they must be considered as possible explanations for some of the observed breakage. No such factors were evident at East Aberdeen. Intentional percussion breakage usually results in certain characteristics. For the cores, these include prepared striking platforms, multiple flakes struck from the same platform, and well-defined *negative bulbs of percussion*. The resulting flakes show striking platforms, ripple marks, and well-defined bulbs of percussion (Oakley 1964:15-19).

Pressure is another major intentional means of producing flakes (Bordaz 1970:14-15). Since there was no blade technology evident in the East Aberdeen material, the only pressure flakes likely to have been recovered are the small ones made during the last stages of tool shaping and retouch. Because the dirt was screened through 6.4 mm mesh, many of the smaller pressure flakes were probably not recovered at all. The flotation samples taken to recover floral remains contained too few lithics to be instructive. No attempt has been made to separate pressure and percussion products in the definitions below; the only exception is in the "core" category, since it was certain that the cores originated from percussion rather than pressure flaking.

Another common way that fine-grained rock is broken is through changes in temperature, which make the rock expand and contract differentially, causing it to fracture (Oakley 1964:15). In the East Abedeen collections this occurred when the rock was exposed to fire, either accidentally or purposely when used in cooking, heating, or heat-treating prior to flaking. Fractures resulting from heating are irregular and do not show striking platforms, bulbs of percussion, or ripple marks originating at the edge of the flake or core (Oakley 1964:15; Purdy 1975:135). Such breakage by-products, although a result of cultural activity, cannot be related directly to steps in tool manufacture at East Aberdeen, since they may result at any stage or from fire-related activities other than heat-treating of chert. However, since they often resemble percussion cores and shatter, their definitions are included below adjacent to those categories.

The following classes were used to group the unshaped stone objects:

Hammerstone- A piece of stone showing crushing wear on convex surfaces other than the edges of striking platforms, if present.

Pitted Stone- A piece of stone showing crushing wear, often taking the form of small pits, on concave or flat surfaces.

Whole or Broken Pebble- A water-smoothed stone not itself a flake and showing at most one flake scar if broken.

Chunk- An angular piece of rock not itself a flake and showing at most one flake scar if broken. A chunk may be broken irregularly or flaked once, both of which could occur naturally or during the course of reduction. The chert chunks from East Aberdeen are at least partly equivalent to Binford and Quimby's (1972:354) primary shatter, which is defined as "relatively large fragments of shatter exhibiting major cortical curfaces and internal cleavage faces of an unsystematic angular and cubical nature."

Unprepared Core- A piece of rock not itself a flake and showing two or more flake scars.

a. Fire Core- A core that shows no crushing or other evidence that it was struck on potential striking platforms; the flake scars do not show well-defined bulbs of percussion, are numerous, and are detached from many directions. Examples of this kind of core are illustrated in the Cache River report (House and Smith 1975:78), where they are called pseudo-cores and were experimentally reproduced by heating chert in fires.

b. Percussion Core- A core that shows crushing wear on striking platforms; the flake scars show definite bulbs of percussion and often more than one flake has been detached in the same direction. Cores have been variously defined in the archaeological literature on Eastern North America, for example as "chert or quartzite cobbles with several flakes removed. Large tabular chunks of such material" (House 1975:65) or "a block, or nodule, from which flakes are detached" (White 1963:6) or "chert or other nucleus from which large flakes have been detached" (Faulkner and McCollough 1973:80). The first two of these definitions imply but do not explicitly state that cores are unshaped objects, while the third definition could encompass shaped objects such as those referred to in this report as preforms, axes, and adzes, as well as unprepared and prepared cores. A definition very similar to that used here is given in Cook (1976:27); it was employed in the analysis of Archaic materials from the Koster site in Illinois: "a core is any irregular chert object that has been flaked on one or more edges, but is not itself an obvious flake."

The definition used to deal with the East Aberdeen assemblages does not include prepared cores, which have been shaped in order to allow the production of regular flakes. The use of a prepared core technology is indicated by the presence of flakes that are regular in shape and size, such as blades, as well as by the shaped cores themselves. There were no prepared cores in the East Aberdeen assemblage, so no definition is given for that category. It may be possible to divide the unprepared cores into types based on shape or how the flakes were struck off. In particular, Ensor (1978) has recognized a bipolar core technology in the Archaic collections from several sites in the Gainesville Reservoir. Very few cores were found at East Aberdeen, so it was not felt to be useful to subdivide them into types by method of production.

Fire Shatter- Flat pieces of rock similar to flakes which have irregular, pitted surfaces due to heat spalling or smooth surfaces but no ripple marks or bulbs of percussion. Some of the shatter created in heated chert may resemble percussion flakes in having smooth surfaces, but lacks the distinctive characteristics of pressure or percussion flaking (House and Smith 1975:78).

Manufacturing Shatter- A small angular piece of cryptocrystalline rock that does not have a striking platform or bulb of percussion; this corresponds in part to the category called secondary shatter by Binford and Quimby (1972:364), which they define as "small slivers of flint, broken or snapped sections of flakes, or broken-off distal ends of flakes." These may result naturally when cryptocrystalline rock is subjected to stress, as well as in manufacture.

Primary Decortication Flake- A flake with at least 75% of the dorsal surface composed of cortex.

Secondary Decortication Flake- A flake with cortex composing less than 75% of the dorsal surface. Other authors divide decortication flakes into primary and secondary in a number of ways. White (1963:5) restricts primary flakes to those with cortex over 100% of the dorsal surface, with secondary flakes encompassing all other flakes with cortex. Cook (1976:25) has defined decortication flakes as those with cortex covering more than 50% of the dorsal surface, while those with less cortex were presumably placed in another unspecified category, probably unutilized waste flakes. Faulkner and McCollough (1973:80) use the category core trimming flake, defined as a "flake removed from core and not further altered," with no reference to the amount of cortex on such flakes, if any.

The decision to divide primary and secondary decortication flakes using as the criterion an arbitrary amount of cortex, 75%, was made based on two factors. The first was that John O'Hear of Mississippi State University had already begun analysis using the same definitions of a number of excavated assemblages from Tishomingo County, Mississippi. All of these had predominant Archaic components, so it seemed worthwhile to analyze the East Aberdeen data in a comparable manner. White's (1963:5) definitions were not used because it was believed to be too restrictive to define primary decortication flakes as only those with the entire dorsal surface covered with cortex. Such a definition in many cases would limit such flakes to only the first one of any set removed from a particular core. It was felt to be more useful to allow inclusion of the first series of removed flakes, which would be expected to have a high percentage, but not necessarily 100%, of the dorsal surface covered by cortex.

Undifferentiated Flake- A flake with a bulb of percussion or striking platform, with no cortex on the dorsal surface and with a striking platform that meets the dorsal face at an angle of 90° or greater. Similar flakes have been described under a variety of names. Faulkner and McCollough (1973:80) define a flat flake as a "flake detached by direct percussion from a core or blank, from which all cortical material was previously removed." Wright (1977:161) defines an internal flake as one lacking cortex, dorsal scars of preceding flakes, and lateral feathering. Others have apparently lumped such flakes into more inclusive categories. For example, Cook (1976:25-26) seems to have included them in unutilized waste flakes and utilized flakes, depending on evidence of use, while House (1975:67) has subsumed them, along with decortication flakes, under miscellaneous flakes and chips, unmodified. Since most such flakes must represent a manufacturing stage after the bulk of the cortex has been removed from a core or preform but before it has been shaped into a finished biface, it seems important to separate them both from decortication flakes and from biface thinning flakes. The usage is also consistent with that used in the ongoing analysis of Tishomingo County assemblages mentioned earlier.

Biface Thinning Flake- A flake with portions of several previous flake scars on the dorsal face and a striking platform forming a less than 90° angle with the dorsal face. The platform of this kind of flake is sometimes described as lipped (Cook 1976:26) or V-shaped (Adovasio et al.1977·42). This morphological trait results because the platform formed part of the edge of the biface from which the flake was struck. Such flakes may result either from initial biface production or from the re-sharpening of dulled bifaces and thus are indicative of the later stages of production and manufacture in assemblages without prepared cores. If prepared cores are present, the flakes struck from them would be classified as biface thinning flakes.

All of the above definitions are mutually exclusive except the first two which define tools rather than technological by-products. As such, they can co-occur on the same object and they can occur on objects which also represent a reduction stage in manufacture. For example, a core, pebble, or chunk can also be a hammerstone or a pitted stone. In the course of the analysis, such artifacts were counted only once, as tools rather than as members of a technological class.

Shaped flaked stone artifacts were separated into three groups in the technological analysis. The first group , preforms, represents several technological steps preceding finished shaped bifacial artifacts. The unshaped lithics previously defined were regarded mostly as by-products of preform manufacture. The four kinds of preforms defined below were distinguished as stages in the manfacturing process, while the finished bifacial tools were regarded as the end products of that process. The third group of shaped flaked artifacts is unifacial tools, which apparently did not pass through a preform stage in the process of manufacture.

Preform I- A bifacially flaked stone artifact that has an identifiable longitudinal axis. The shaping has been done by removing fairly large primary flakes only. The cross-section is thick and there may be a considerable amount of cortex remaining on the faces.

Preform II-A bifacially flaked stone artifact that has been regularized in shape around its entire periphery, with proximal and distal ends distinguishable. The cross-section is moderately thinned, with little or no cortex remaining on the faces. The shaping has been done mainly by primary flaking.

Preform III- A bifacially flaked stone artifact that is fairly well-thinned, with secondary flaking along the edges but little or no tertiary flaking.

a. Triangular Preform III- A preform III with a blade that is basically triangular in shape and with no hafting device evident.

b. Hafted Preform III- A preform III with a blade that is basically triangular in shape with a hafting device roughed out on the distal end.

Finished Bifacial Tool- A bifacially flaked stone artifact one or more edges of which have been completely worked by final retouch flaking.

Finished Unifacial Tool- A unifacially flaked stone artifact one or more edges of which have been completely worked by final retough flaking.

Given these definitions, which are designed to allow stages in tool production to be differentiated, it is possible to create a diagram showing the stages of core reduction and the products that could logically result at each stage (Fig. 13). It can be seen from the diagram that shatter could be produced at any stage; it is therefore not helpful in isolating a manufacturing step. If the shatter were measured and examined for cortical surfaces, it might become useful for that purpose, since as the reduction process proceeded the shatter should decrease in size and be less likely to have cortex remnants on it (Newcomer 1971:90-93).

Each of the other kinds of products has a more limited range of production across manufacturing stages than shatter has; in addition, each product has a changing probability of being produced in a given stage. For example, primary decortication flakes will be the only kind produced in the reduction of a pebble to a broken pebble, while reduction to a core or chunk might produce both primary and secondary decortication flakes. Although primary decortication flakes may be produced in any of the first three reduction stages, they are more likely to have derived from the first or second stage than the third. These probabilities have not been quantified but they can be ranked for each product through the reduction stages, based on the definitions of each product given above. These probabilities are shown on Fig. 13.

The unifacial and bifacial tools were divided into a number of classes based on differences in shape, especially the shape of the working edge. No wear analysis was done on these tools or on the unshaped manufacturing products because of lack of time, but shape can usually be assumed to be related to tool function in the sense that tools with greatly different shapes probably had different functions. What these functions were is not stipulated here, even though traditional names such as scraper, projectile point, and axe have been used for some of the classes. These names have implicit functional meaning but are almost always used in the literature to refer to objects recognized by shape, not by differences in wear patterns, which can be more

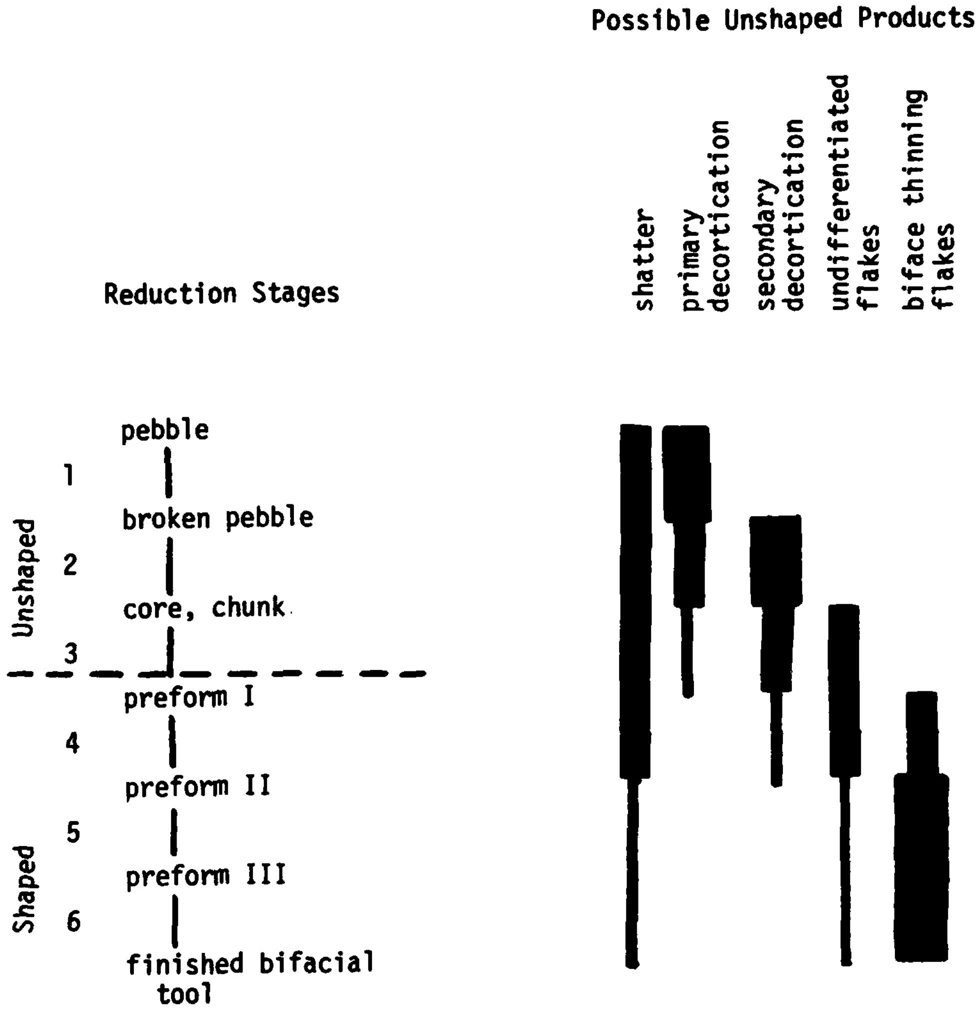

FIGURE 13. REDUCTION STAGES AND POSSIBLE UNSHAPED PRODUCTS OF EACH STAGE.

directly related to tool function (Wilmsen 1968; Keeley 1977;Dunnell 1978). Nonetheless, since wear analysis was not done, the following categories must serve as the main source of inferences about functional differences in flaked stone objects in the East Aberdeen collections. Unless otherwise stated, the following artifact types may be manifested in either unifacial or bifacial form.

Perforator- A piece of stone with a small point flaked on it, with the rest of the object's shape not otherwise regularized.

Drill- A relatively narrow pointed flaked stone object, with the shape of the entire object regularized; the point is thick and more or less round in cross-section.

Projectile Point- A relatively broad flaked stone object with the shape of the entire object regularized and made symmetrical; the point is fairly flat and thin in cross-section.

Scraper- An unpointed flaked stone object with one or more edges flaked to form a steep angle (greater than 30°) with the opposite side, which is fairly flat.

Knife- An unpointed flaked stone object with one or more edges flaked to form a shallow angle (less than 30°) with the opposite side.

Notch- An unpointed flaked stone object with a flaked concavity on one or more edges.

Denticulate- An unpointed flaked stone object with two or more flaked concavities on one or more edges.

Axe- A rectangular to trapezoidal flat stone object with one end flaked bifacially to form a symmetrically beveled bit, with a grooved hafting device paralleling the bit.

Adze- A rectangular to trapezoidal stone object with one end flaked bifacially to form a beveled bit, with no discernible hafting device. The bit often shows extensive step fracturing.

Unidentifiable Biface- A bifacially flaked shaped object that is broken or otherwise unidentifiable in terms of the previously-defined classes.

Shaped ground stone objects were distinguished from one another in terms of being in the following classes:

Grinding Stone- A stone object ground on one or more faces and with no hole through it.

Atlatl Weight- A symmetrical ground stone object with one hole through the center measuring at least 1 cm in diameter.

Bead- A symmetrical ground stone object with one hole through the center measuring less than 1 cm in diameter.

Several kinds of artifacts--projectile points, drills, and scrapers--which were defined above as functional categories were further subdivided using stylistic criteria. One important aim of these analyses was to use stylistic change in the artifacts, especially the projectile points, to correlate strata from the test and excavation units. A second purpose was to match the classes present at East Aberdeen with recognized types that have known temporal ranges, allowing the associated assemblages to be dated. Finally, the styles can be used as a basis for assigning East Aberdeen assemblages to components of the same phases in the local area and outside of it.

Projectile Points. The projectile points were classified using seven dimensions: overall shape; stem width; stem, shoulder, and base shape; blade width; and serration. These dimensions were chosen because they frequently serve to define types known to have temporal meaning in the Eastern United States. All but one of these dimensions, blade width, are used by Cambron and Hulse (1964) to describe Southeastern point styles and a number of their classes were shown to have temporal meaning when they were used to classify the projectile points from the stratified deposits of Russell Cave (Griffin 1974:36). Similar point types formed similarly meaningful patterns of change in the assemblages from another stratified site, Stanfield-Worley Bluff Shelter (DeJarnette, Kurjack, and Cambron 1962). Coe (1964:120-124) demonstrates stylistic changes in overall shape, serration, and blade width in assemblages from a series of excavated sites in North Carolina. Many of the same types, presumably recognized using the same dimensions, have been used successfully by Chapman (1977) and Broyles (1966) in dealing with collections from deeply stratified sites.

All points that were complete enough to identify in terms of attributes of these dimensions were classified. The dimensions and attributes within each were defined as follows:

<u>Shape</u> - Refers to the overall shape of the point from tip to base, especially the type of hafting device present.

a. <u>Triangular</u> - The blade sides diverge from tip to base, with no discernible separation between the blade and the haft.
b. <u>Lanceolate</u> - The blade sides diverge from the tip, then converge or become parallel from a point below the tip to the base, with no marked shoulder separating the blade from the haft.
c. <u>Stemmed</u> - The blade is separated from the haft by shoulders, with the base of the haft narrower than the shoulders.
d. <u>Side-Notched</u> - The blade is separated from the haft by shoulders, with the base of the haft wider than the shoulders.

According to these definitions, there are no corner-notched points. Instead, point types often called corner-notched would be placed in the stemmed category.

<u>Stem Width</u> - Stem width applies only to stemmed points and refers to stem size relative to the width of the shoulders.

a. <u>Broad</u> - The top of the stem next to the shoulders is nearly as wide as the shoulders of the point.
b. <u>Narrow</u> - The top of the stem next to the shoulders is much narrower than the shoulders.

<u>Stem Shape</u> - This refers to the configuration of the sides of the stem.

a. <u>Contracting</u> - The sides of the stem converge toward the base of the point.
b. <u>Expanding</u> - The sides of the stem diverge toward the base of the point.
c. <u>Straight</u> - The sides of the stem are parallel for its entire length.

<u>Shoulder Shape</u> - Refers to the shape of the area where the blade and the haft meet.

a. Rounded - The shoulders slope gradually from the widest point toward the top of the stem.

b. Barbed - The widest point of the shoulders extends below the top of the stem.
c. Straight - The shoulders form a right angle with the top of the stem.

Base Shape - Refers to the shape of the basal edge of the haft.
a. Indented - The base is concave.
b. Convex - The base is excurvate.
C. Straight - The base is straight.

Blade Width - Refers to the width of the blade in relation to its length, excluding the haft. If there is no marked break between the blade and the haft, the blade width includes the entire point from the tip to the base.
a. Broad - The blade is at least as wide at its widest point as it is long.
b. Narrow - The blade is not as wide at its widest point as it is long.

Serration - Present if the blade edges are notched by removing small flakes, so that the edges present a jagged appearance.

Once the points were classified the members of each class were measured in several dimensions, including overall length, width at the shoulders, width at the widest point of the blade if different from the shoulders, thickness at the thickest place, stem width measured at the top of the stem next to the shoulders, and stem length if appropriate. Because many of the projectile points were broken, all of the measurements could not be taken on each specimen.

The projectile points were also placed in named types when possible. The types were derived from descriptions, drawings, and photographs in several sources, especially Cambron and Hulse (1964), Lewis and Lewis (1961), Griffin (1974), Chapman (1977), Futato (1977), and Faulkner and McCollough (1973). There are a number of problems associated with linking formal point classes with the recognized types. The named types tend to have many variable traits, so that it is difficult to be sure which attributes are most important in identifying new examples. There is also considerable variation in illustrations from one source to another, due primarily to differences among authors in assigning points to particular types. Such sources of illustrations cannot be ignored, however, since the original type descriptions may be accompanied by poor or inadequate pictures. A number of the formal classes used in analyzing the East Aberdeen materials did not correspond to named types. On the other hand, several of the formal classes could sometimes be subsumed under one named type; for example, Gary points include both rounded and straight based examples of contracting stemmed points. For the projectile point classes which could be given type names, the known time ranges have been included in the relevant tables and discussions.

Drills. Drills were classified into types defined on the basis of overall shape, with special attention paid to the shape of the hafting device. Drills have not received much attention in the archaeological literature, usually being illustrated and briefly discussed but not formally classified into types (e.g. Coe 1964:73; Futato 1977:107). In the Eva report (Lewis and Lewis 1961:58-59) drills are divided into stemmed, expanded-base, Eva base, and shaft types on the basis of the presence and shape of the hafting device. Some of these differences appeared to have temporal meaning, with the Eva base being associated mainly with the Big Sandy component (Lewis and Lewis 1961:59). The drills from Russell Cave, which came mostly from the Woodland levels, were almost all of either the expanded-base or shaft varieties (Griffin 1974:51). It seems justifiable to conclude that hafting device and shaft shape are likely to be stylistic attributes.

Shape- Refers to the overall shape of the drill from tip to base, especially the type of hafting device present.

a. Triangular- The drill sides diverge from tip to base, with no discernible separation between the blade and the haft.
b. Parallel-sided- The sides of the drill below the tip are parallel until near the base, where they may converge.
c. Stemmed- The drill sides are separated from the haft by shoulders, with the base of the haft narrower than the shoulders.
d. Expanded-Base- The drill sides diverge from the tip to the top of the haft, which then expands to the base.

Many of the drills were broken so that the style of the hafting device could not be identified. All drills that could be classified were placed in the above categories.

Scrapers. Scrapers were placed into stylistic types according to shape, orientation of working edge, and face of shaping. These dimensions, among others, were used by Lewis and Lewis (1961:47-58) in describing scrapers from the Eva site, where they produced types with some temporal meaning. Shape and face of shaping were also used to describe scrapers from Russell Cave with some success, since the frequency of the different kinds of scrapers varied through time (Griffin 1974:48-51).

The following dimensions and attributes were used to classify the scrapers in the East Aberdeen collection:

Shape- The overall shape of the scraper in outline.

a. Rectangular- The scraper is generally rectangular in outline, with rounded ends or one rounded and one straight end. Several of these are similar in shape to the core scrapers illustrated by Griffin (1974:49).
b. Trapezoidal- The scraper has two long sides and two short sides, one of which is shorter than the other. The short sides are somewhat rounded. These resemble in shape the trapezoid scrapers illustrated in the Eva report (Lewis and Lewis 1961:54) and in the Russell Cave report (Griffin 1974:49).
c. Elongated Ovate- The scraper has an elongated egg-shaped outline, with one end narrower than the other.
d. Semi-Circular- The scraper has a rounded edge that abuts directly against a straight edge with no intervening straight sides.
e. Side-Notched- The scraper has a hafting device, with the scraper edge separated from the haft by shoulders and with the base of the haft wider than the shoulders.

f. Irregular- The scraper is irregular in shape away from the working edge, which is rounded.

Orientation of Working Edge- Where the working edge of the scraper is located relative to the tool's longitudinal axis.

a. End- The scraper's working edge is perpendicular to the longitudinal axis, along a short side of the artifact.

b. Side- The scraper's working edge is parallel to the longitudinal axis, along a long side of the artifact.

Face of Shaping- Whether one or both faces of the tool have been shaped by flaking.

a. Unifacial- The scraper has been shaped primarily on one face; if the object is a flake, the bulb of percussion is still visible on the bulbar face; although some flaking may have been done on that face most of the shaping has been done on the dorsal face.

b. Bifacial- A scraper with both faces shaped by flaking; if the object is a flake, the bulbar face has been retouched so that the bulb of percussion is no longer discernible.

In addition to the above distinctions, each stone artifact was classified by the type of raw material from which it was made. The following classes were used to distinguish raw material types:

Chert - A fine-grained, opaque cryptocrystalline rock showing conchoidal fracture. The color of the chert was noted as well.

Quartzite - A large-grained, metamorphic rock, hard (7 or greater on Mohs Scale) and opaque, usually pink to yellow to white in color.

Tallahatta Quartzite - A rock from the Tallahatta Formation in Alabama and Mississippi, composed of a welter of white and clear crystals of opalized claystone; grainy texture when weathered.

Sandstone - A fairly soft, grainy sedimentary rock, usually pinkish tan to red to brown in color, with pieces often slab-shaped.

Miscellaneous Other Rock - Any rock which does not fit into any of the above classes; includes some slate, hematite, and quartz.

Other Lithic Materials. Stone artifacts other than projectile points were subjected to analysis designed to elucidate functional and, to a lesser extent, technological differences. In order to provide a series of formal functional units, the assemblages from the various surface and sub-surface recovery units were examined and classified according to their content of selected artifact categories. Three kinds of lithic artifacts were used as the basis of the classification: sandstone chunks, decortication flakes, and undifferentiated flakes. These categories made up the majority of lithic artifacts so they were numerous enough to allow comparison and they represent some functional diversity.

Sandstone chunks are usually thought to be associated with fires and activities such as cooking and heating that occur around fire; they are often called fire-cracked rock. The sandstone chunks from East Aberdeen were highly fragmented, with irregular breaks and a good deal of variability in color, from very dark red to light grayish-white. Many of the grinding stones that were made of sandstone were in the same state, broken into small chunks and discolored. These characteristics are consonant with heat breakage (House and Smith 1975: 79), although the chunks could have been used either directly in hearths or in stone-boiling in water.

Decortication flakes indicate manufacturing activity and represent the earlier stages of stone tool manufacture (Fig. 13). Undifferentiated flakes most likely indicate the later stages of manufacture (Fig. 13). Decortication and undifferentiated flakes could have been used as tools without being retouched or shaped. In the collections from the Bellefonte site, which was occupied from Early Archaic through early Mississippian times, a slightly larger percentage of decortication flakes than undifferentiated flakes had been used, but in nearly all cases less than 10% of either category showed wear (Futato 1977:132). Whether the presence of large numbers of these kinds of flakes indicates their use as tools can be decided partly by examining the associated artifacts and features.

Sandstone chunks, decortication flakes, and undifferentiated flakes were compared using quantity per square meter of surface area or per cubic meter of excavation. These numbers were computed for each surface collection area and excavated level, with differences in size among the areas and levels taken into account. Then the quantity of artifacts in each category was characterized as either low or high for each area and level, low meaning that the amount in that level was less than the average for all units and high that the amount was above the average for all units.

The three kinds of artifacts, each divided into two dimensions, can combine to form the eight classes shown in Table 11. Class I presumably represents low-level occupations or hiatuses in occupation that were obscured by the use of arbitrarily chosen boundaries or levels. Classes II and III might indicate high tool manufacturing activity, with Class III representing an earlier stage of manufacture using unmodified raw material while Class II indicates a later production stage. Both classes could also include some evidence of unmodified flakes being used as tools. The fourth class is a combination of Classes II and III, indicating both kinds of activities. Class V should reflect hearth associated activities since the sandstone almost invariably shows fire-cracking and spalling. Class VI is a combination of Class II and Class V, which suggests habitation activities because it combines fire-related artifacts with those indicating late stages of tool manufacture and use. Class VII is a combination of Classes III and V. Its interpretation is open to question; one possibility is that it also represents habitation, perhaps a special-purpose camp where the early stages of tool manufacture were carried out. Class VIII shows a variety of activities all at high levels, which should indicate base-camp or maintenance activities. All of these suggestions require testing on other data from the site, which may in turn indicate other possible interpretations.

The classified assemblages are not meant to represent occupation floors or even single occupations, since the surface collected artifacts covered the entire occupation span of the site and arbitrary levels were used in excavation. They should represent activity areas in a very general sense, since they are from definable areas and they differ in composition from one another. Although there is no way to be sure, it is likely that the assemblages represent a number of repeated uses of

TABLE 11. CLASSES OF OTHER LITHIC MATERIALS

Classes	Artifact Categories and Quantities		
	Sandstone Chunks	Decortication Flakes	Undifferentiated Flakes
Class I	low	low	low
Class II	low	low	high
Class III	low	high	low
Class IV	low	high	high
Class V	high	low	low
Class VI	high	low	high
Class VII	high	high	low
Class VIII	high	high	high

the same area, presumably usually for the same or similar purposes each time. If the use of the site was not patterned in space and time, all of the assemblages would be expected to be the same expect for differences attributable to sample error.

Raw Materials of Lithic Artifacts. In order to obtain information on the kinds of raw materials used to make stone tools and at what stage each entered the manufacturing process, the lithic materials from two test units, Units 2 and 5, were subjected to a special analysis. All the fine-grained stone that could be flaked was analyzed. Five different raw material types were recognized and examined in terms of their densities and distributions.

Yellow chert represents the unaltered siliceous gravels found in many areas along the Tombigbee River and its tributaries and so was obtainable locally. Red/pink chert obtains its color through heating, either accidentally or intentionally to aid in tool manufacture (Hood and McCollough 1976; Ensor 1978). It may include chert from several sources; these varieties usually cannot be distinguished after they have been heated since their main defining criterion is color. Some of the varieties are local and others are of exotic origin so the red/pink chert is not useful in elucidating raw material sources. However, it can be used to indicate the stage in the manufacturing process where heat-treating occurred.

Blue-gray chert might potentially represent several kinds of non-local material, including chert from the Fort Payne formation of northeast Mississippi-northwest Alabama-southeast Tennessee. All of the examples recovered from the East Aberdeen site appeared to be Fort Payne chert since they were not banded with black as Dover and some other gray cherts from farther north and east in Tennessee are (McCollough and Faulkner 1976:147-148, 153-157).

The fourth category, other chert, subsumes all other varieties for which no further attempt was made to identify the sources since recovered specimens were rare. However, the main kinds seemed to be a white to cream-colored fine-grained chert and the banded Pickwick chert that originates in southern Tennessee (Peterson 1973:43).

Tallahatta quartzite was also included in the analysis since it was used for making flaked stone tools. Its origin is also non-local. Although quarries have not been identified, the Tallahatta formation from which it derives extends across north central Mississippi and central Alabama (Mellen 1939; Dunning 1964). Tallahatta quartzite is actually opalized claystone. It varies greatly in quality but good pieces are easily worked, although they weather more rapidly than chert and, therefore, may not be well-preserved. (Dunning 1964:53)

Prehistoric Ceramic Materials. Analysis of prehistoric ceramic materials was primarily concerned with stylistic characteristics and was aimed at grouping the sherds into types with known temporal meanings. In the central Tombigbee River valley, as in most of the eastern United States, such types are based on the characteristics of temper, surface finish, and decoration. General types have been defined and named and are now being further refined as information on areal varieties is collected (Blakeman, Atkinson, and Berry 1976:19-47; Jenkins

1975b, 1978a, 1978b, 1978c, 1979a). Since there were relatively few prehistoric sherds in the East Aberdeen site assemblage and most of them came from disturbed contexts, it was not considered feasible to use the collection to attempt to further refine the temporal range of existing types or varieties.

The ceramic sherds from the East Aberdeen site were grouped into classes defined by attributes of temper, surface finish, and decoration. The sand tempered pottery recovered in excavation was divided into coarse sand tempered and other sand tempered types. Since sand occurs naturally in some local clays, a sherd was not classified as sand tempered unless it had no visible temper other than sand.

The classification of sand tempered sherds is currently subject to controversy. Although coarse sand tempering seems to be associated with the early Alexander Series wares, while fine sand tempering is associated with the late Miller I period wares (Blakeman, Atkinson, and Berry 1976:18-19; Jenkins 1978c), it is hard to sort the pottery consistently because there are sherds with intermediate-sized tempering particles (Connaway 1980). Jenkins has advocated treating all plain sand tempered sherds as representatives of one type, Baldwin Plain, and placing coarse and fine sand tempered sherds in varieties Lubbub Creek and Blubber Creek respectively. Rim sherds would be classified as variety O'Neal if they were noded and as variety Baldwin if they were excurvate, without regard to the size of the tempering particles. (Jenkins 1978a:2; 1979a) Most other recent work has placed the coarse sand-tempered sherds in the type O'Neal and the fine sand-tempered sherds in the type Baldwin Plain (Blakeman, Atkinson, and Berry 1976: 18-19), following the original distinction made by Jennings (1944:412). Since the distinction between coarse and fine sand tempering apparently has temporal meaning, an effort was made to distinguish the two in the East Aberdeen excavated materials.

When it was possible to do so, sherds were placed in varieties as well as types, following Jenkins (1978a, 1978b, 1979a).

Historic Ceramic Materials. Analysis of historic ceramic materials was designed to elucidate temporal relationships and to allow identification of various intra-site activity areas. The first step in analysis was to distinguish among earthenware, stoneware, and porcelain on the basis of hardness. Any sherd that could be scratched by tempered steel, indicating that it was of a hardness of less than 5 on the Mohs Scale, was classified as earthenware (Noel Hume 1969). Any sherd which could not be scratched by tempered steel was considered to be either stoneware or porcelain; porcelain differs from stoneware in being translucent rather than opaque and was separated out on this basis. Some sherds were also subjected to a slightly different analysis (Appendix B).

The rationale for making these decisions is partly technological, based on historically-known changes in manufacture of ceramics through time, and partly descriptive, based on a need for explicit and easily defined ways to differentiate the sherds by hardness. Hardness and porosity vary inversely in ceramics (Shepard 1954:114) and therefore hardness is an indirect measure of porosity. Earthenwares were developed first and are less hard and more porous than stonewares and porcelains (Noel Hume 1969:123). They are generally fired at lower temperatures, although the temperature at which pottery reaches a certain hardness can vary due to differences in the clay of which it is composed (Shepard 1954:114).

Sherds were also divided into fine and coarse wares according to glaze characteristics and sherd thickness. Thick unglazed and non-white salt- and lead-glazed sherds were classified as coarse, while thin cream-to-white glazed sherds were classified as fine. This results in types similar to those listed in South (1972) for the late eighteenth and nineteenth centuries. Thickness is related to vessel use. The fine wares are usually assumed to represent serving dishes and the coarse wares to represent utilitarian vessels which were used in food processing and storage.

In the early nineteenth century, most fine wares tended to be earthenware but after about 1850 stoneware became more common in the fine wares (Noel Hume 1969:131-132; Loftstrom 1976:25-26). However, some late nineteenth and early twentieth century wares, even those marked ironstone or stone china, are fairly soft. The belief that fine stoneware largely replaced fine earthenware in this period, as implied by Noel Hume (1969:131-132), seems to have arisen because most sherds were never actually tested for hardness. Rather, all white-glazed fineware sherds that were not pearlware were assumed to be ironstone. As more work has been done on nineteenth century ceramics, it has become clear that whiteware, fine white earthenware that is similar to ironstone but softer, was made throughout most of the century (South 1972; Lofstrom 1976:22). In the classification used on the East Aberdeen material, whiteware was classified as fine earthenware and ironstone as fine stoneware, following South (1972).

Similarly, much nineteenth century coarse ware has been assumed to be earthenware without testing, although a small amount of coarse stoneware does occur. Coarse wares do not have much known value for dating for the period under consideration here, from c. 1830 to the present, since most of them were apparently made throughout that time (South 1972). Similarly, porcelain was made and used throughout the nineteenth century. Since it was more expensive than fine earthenware or stoneware, it is usually considered to have been an especially prized fine ware.

The stylistic analysis of the historic ceramic materials from the East Aberdeen site focused on the identification of glazes and decorations on fine earthenwares and included separating pearlware and whiteware from one another. Pearlware has a blue tinge in the glaze, due to the addition of cobalt, which can usually be seen only in places where the glaze has pooled, especially near bases and rims (Noel Hume 1969:130). Some pottery analysts have begun to define pearlware as any sherd with a bluish tinge, but only in areas where the glaze has not puddled (Price 1979:10,14). It is not clear whether this is comparable to the earlier definition based on the addition of cobalt, since some sherds of pearlware seem to have no perceptible blue tinge away from crevices (Fairbanks 1979, personal communication), while some blue-tinged sherds may achieve their color from bleeding of local blue-painted decoration.

Whiteware has no colored tinge or is a very pale yellow (Noel Hume 1969:130 ; Lofstrom 1976:23); it can be distinguished from pearlware only when the glaze has pooled and shows no blue tinge, according to the method used here. White body sherds without pooled glaze cannot be classified as either whiteware or pearlware and during the current analysis they were placed in a residual class, unspecified fine earthenware. Pearlware dates from about 1790 to 1850 and whiteware dates from about 1810 to after 1900 (Noel Hume 1969:130; South 1972). The residual fine white earthenwares probably date mostly to the nineteenth century since by the end of the 1800s whiteware was apparently less popular than stoneware (Lofstrom 1976:24).

During analysis, the fine earthenwares were also classified by type of decoration into shell-edge, flow blue, transfer print, spongeware, banded, hand-painted, plain and "other" classes. Many sources discuss how these decorations are recognized (Mankowitz and Haggar 1957:244 ; Noel-Hume 1969:130-131). All of the decorative styles date to the early-middle nineteenth century with the exception of hand-painting and transfer printing, which persisted throughout the nineteenth century (Noel-Hume 1969:130-131; Lofstrom 1976:29-30). Decorations and glazes on the stoneware and coarse earthenware were also recorded but were not used in the interpretation of the data on historic ceramic materials. These differences have no known temporal meaning in most cases and the materials from the East Aberdeen site were not appropriate to use in clarifying this problem since most of the historic sherds were recovered from mixed temporal contexts.

Glass. During cataloguing, glass was divided into three groups: bottle glass, pane glass, and other glass. Bottle glass was defined as any glass that was curved, angled, or decorated and that was not obviously part of some other type of container or object. Pane glass was defined as any clear glass without curvature, angles, or decoration; all other glass was put in the residual class. These distinctions were designed to enable the most important functional difference, i.e. that between container and structural glass, to be examined. During cataloguing it became clear that the vast majority of the glass collected from the East Aberdeen site was either not datable or was made during the twentieth century, so no additional analysis beyond that described above was done.

Metal. Analysis of metal artifacts initially consisted of separating nails from other metal objects. Most of the other metal objects were either unidentifiable or were very recent and cataloguing constituted analysis of them. However, during cataloguing two kinds of objects were sorted from the other metal objects: cotton bale clips and objects that might provide temporal and/or functional information. These consisted almost entirely of coins, ammunition, and horseshoes and were individually researched in an effort to date them.

Analysis of nails was designed to provide information on temporal and functional differences in construction across the site. The stylistic analysis focused on methods of nail manufacture which have a known sequence of change through time and can, therefore, be used for relative dating. Distinctions were made on the basis of whether nails were hand-wrought, cut with wrought heads, cut with machined heads, or made from wire. Nails with no heads or which were otherwise unidentifiable were placed in residual classes. Generally, hand-wrought nails were the earliest and were used into the early 1800s. Cut nails with hammered heads date from the 1790s to the 1820s, cut nails with machined heads date from 1815 into the twentieth century, and wire nails date from the 1880s to the present. (Nelson 1968; Ulrey 1971:32)

It is possible to make finer distinctions among nails, particularly cut nails, which can be classified according to how they were cut and how well the heads were made (Nelson 1968). However, because of the advanced state of corrosion present on most of the nails from the controlled surface collection and some of the excavated nails, these finer distinctions were not attempted. It was necessary to clean some of the nails from the East Aberdeen site using an electrolysis device as described by Noel-Hume (1968:276), in order to distinguish hand-wrought nails from cut nails and cut nails with wrought heads from those with machined heads. The cleaning proceeded only as far as was necessary for basic identification. Numerous nails had so little remaining metal that they were unidentifiable even after electrolysis.

Finally, in order to examine the functional aspect of nail distribution, the nails were classified by length and head shape. Length was recorded according to the penny designations in use today and by measuring the length in inches so the two methods could be compared. Three classes, common/box nails, roofing nails, and finishing nails, were defined. Common nails had medium-sized or asymetric heads, roofing nails had broad flat heads, and finishing nails had heads which were no larger than the body of the nail. These distinctions apply to wrought, cut, and wire nails and are believed to represent functional differences (Nelson 1968; Ross 1976:886).

<u>Surface Clusters of Historic Artifacts</u>. In order to test the hypotheses set forth in Chapter IV concerning building location and function during the nineteenth and early twentieth centuries, it was necessary to examine the distribution of structural artifacts--nails, bricks, and pane glass--in Surface Collection Units B, G, I, and J, where they were most common and undocumented structures were most likely to have been located. Once the presence of structures was established, it was possible to further consider their age and function using other artifact classes.

Clusters that might represent buildings were defined initially using nails. Nails were chosen for this purpose because they are small, not easily fragmented like pane glass, and probably less subject to displacement by cultivation and other disturbance such as scavenging than bricks. In order to constitute a cluster, at least one 2x2 m collection unit in an area had to display five or more nails and be contiguous to other units containing three or more nails; lines were drawn around each such cluster on distribution maps. In some cases, what appeared to be different clusters were joined at the edge. The boundaries between such clusters were drawn by choosing a line from which the number of nails increased in all directions on the surface.

Once the clusters were established, corresponding brick and pane glass clusters were identified if present. To define a cluster, one collection unit in an area had to contain at least 10 brick or pane glass fragments and be contiguous to three or more other units containing at least five fragments. The density of brick and pane glass was calculated for each such cluster and compared to determine which clusters seemed most likely to represent structures. One drawback to this method is that it might not allow the recognition of log structures, which presumably usually had few nails used in construction, or of structures whose nails had been scavenged. These possibilities were lessened to some extent by defining a series of secondary clusters that contained large quantities of brick fragments but few nails. These clusters were defined using the same density criteria previously described for brick concentrations that did correspond to nail clusters. Pane glass densities were then calculated for each brick cluster and the likelihood of each representing a structure was considered.

Bone. Most of the bone recovered from the site was catalogued, counted, and the counts are presented in summary tables. In two instances, however, the treatment of the material was more extensive. Excavation Unit 1 contained a large quantity of bone in its lower levels and provided the best opportunity for assessing prehistoric faunal diet at the site. Feature 23, an historic pit, also contained a large quantity of bone and provided the best opportunity for understanding historic faunal diet. The bone from these two units was examined and, when possible, identified to general type and species.

Features. The features were divided into types on the basis of boundary definition, size, and artifact content. These dimensions were chosen in order to obtain types that could be used to examine functional variability in time and space at the site. The kind of boundary a feature has indicates whether it was purposely constructed as a facility or created as a by-product of another activity. Its size is presumed to relate to its function in the sense that features of widely variant sizes were likely used differently. Size alone is probably not always useful in detecting functional variability, but when combined with the other dimensions it was found to be useful in analyzing the East Aberdeen features, particularly in distinguishing postholes from certain kinds of pits. Boundary definition and shape should be governed mostly by the original use of the feature rather than by later functionally-different reuses. Artifact content was used as the third defining criterion. It is believed to more likely reflect how the feature was last used, since the artifacts represent either the final fill of the feature or the final deposition of the artifacts composing the feature. The following feature types were defined.

Posthole- A feature with boundaries defined by soil color and/or texture changes, having a diameter less than 40 cm and containing a small number of a few artifact types and no human bones.

Refuse Pit- A feature with boundaries defined by soil color and/or texture changes, having a diameter greater than 40 cm and containing a large number and variety of artifacts, but no human bones.

Other Pit- A feature with boundaries defined by changes in soil color and/or texture, having a diameter greater than 40 cm and containing a small number of a few artifact types and no human bones.

Hearth- A feature with boundaries defined by changes in soil color and/or texture, having a diameter greater than 40 cm and containing large quantities of fired clay but few other artifacts and no human bones.

Burial- A feature with boundaries defined by soil color and/or texture changes, of any diameter and containing human bones.

Artifact Concentration- A feature with boundaries defined by artifact density rather than soil color or texture changes, of any diameter and containing many artifacts of one type as compared to surrounding areas.

Floral Remains. Two methods were used to extract floral remains from matrix samples. The first method consisted of pouring a small quantity of soil into a bucket which had a windowscreen bottom. The bucket was then partially submerged in a large tub of water and rotated in alternating directions. All floating plant remains (i.e. the light fraction) were scooped out with a tea strainer and placed on paper to dry; the heavy fraction particles (i.e. lithic materials, burned clay, etc.) which had sunk to the bottom of the bucket were also saved.

After processing approximately one-half of the collected samples it was decided that an alternative method might be more effective for the recovery of plant remains, particularly smaller plant remains such as amaranth and grass seeds. As a result, a flotation method similar to that advocated by Bohrer and Adams (1977:37) was adopted. The dirt was poured through a window screen into a dish pan filled with water and the heavy fraction and the larger plant remains were caught by the screen. The mud remaining in the dish pan was stirred by hand and allowed to settle for no more than a minute. Then the water was poured off into a 500 mm geological sieve, leaving the sand and/or clay residue in the bottom of the dish pan. The pan was again filled with water and the stirring and pouring process repeated one or more times until all visible charred plant remains had been extracted from the sludge. The plant remains collected in the geological sieve were then placed on paper to dry.

All of the plant remains recovered were sorted under a binocular dissecting microscope at 5x and 7x magnification. Identification was made by reference to seed manuals such as Martin and Barkley (1961) and Musil (1963) and, when possible, comparisons were also made with modern seeds.

Comparing the types and amounts of materials recovered through the two flotation methods, no significant differences were found between the results obtained for the East Aberdeen samples.

Soil Samples. All soil samples collected were analyzed by the Extension Service Soil Testing Laboratory on the Mississippi State University campus. The proveniences of a few samples which were submitted and analyzed could not be determined after analysis due to short-cutting of provenience designations on the part of the soil testing laboratory. The analysis performed by the laboratory included determining the pH and the total amounts of phosphates (P_2O_5) and potassium (KO_2) in parts per million in the samples. The pH level provides information on soil acidity which can help assess preservation conditions at a site and the amounts of phosphates and potassium have been found to be related to the intensity of human use (Eidt 1973: Sjoberg 1976:453).

Radiocarbon Samples. Three radiocarbon samples were originally submitted to the University of Georgia Center for Applied Isotope Studies. Two of the three were scatter samples because concentrations of charcoal were very rare at the East Aberdeen site. The scatter samples came from the 60-70 cm and 140-150 cm levels of Excavation Unit 1 (16N24E) and consisted of carbonized hickory nut shells which had been floated from the level samples and then analyzed before being submitted as radiocarbon samples. The third sample came from Feature 13, which originated at the 80-90 cm level of Test Unit 6 (68N186E). Feature 13 contained an appreciable quantity of charcoal but no diagnostic artifacts.

The three samples were believed to have the potential to provide important information on the dates of occupation of the site. The first two samples should have dated Middle and Late Archaic occupations and the third should have provided a date for an otherwise undated, possibly prehistoric, pit. Unfortunately, all three of these radiocarbon samples were lost in the mail on their way to the University of Georgia and a search by Post Office personnel failed to locate them.

Consequently, two new scatter samples were obtained from remaining analyzed hickory nut shells. The two samples were from the 70-80 cm and the 140-150 cm levels of Excavation Unit 1 and essentially duplicated two of the lost samples. Unfortunately, not enough charcoal remained from Feature 13 to compose another sample. The new samples were also sent to the University of Georgia, where they were successfully dated.

VII. TEMPORAL MEANING OF PREHISTORIC TYPES PRESENT AT EAST ABERDEEN

During the course of the stylistic analysis that was done on projectile points, scrapers, and drills and on prehistoric ceramics, it was found, as expected, that only relatively few of the many possible types were present in the East Aberdeen collections. For example, the projectile point analysis used seven dimensions and 17 attributes to define the types; these can be combined to produce 864 different types. As discussed below, only 36 of these projectile point types were identified in the East Aberdeen assemblage. Once the types actually represented at the site are known, it becomes possible to discuss in greater detail their temporal meaning as known from previous archaeological work. This is a necessary preliminary to using them in relative and cross-dating of the material from East Aberdeen.

LITHIC TOOLS:

Projectile Points. The projectile point types present in the East Aberdeen assemblage are shown in Tables 12 and 13 and in Plates 5-10.

As far as possible the formal types have been matched with named types that are common in the Southeast, particularly in Alabama, Mississippi, and Tennessee. The types found in stratigraphic context at the site have been arranged in approximate stratigraphic order from most recent to oldest, then given code letters that reflect that order (Table 12). Assigning the code letters in order of relative age was intended to make later reference to the point styles, especially those that could not be associated with named types, more meaningful. Once the stratigraphic relationships of unnamed styles have been established they can also be used for relative and cross-dating.

The styles that had no stratigraphic context at the site are listed in Table 13. Although they have been assigned code letters, these have no meaning in terms of relative age. Of the types on this table, only those that could be associated with named types are useful in dating. The projectile points were also measured in several dimensions for descriptive purposes; the ranges and means of the measurements are shown on Table 14.

Many of the named point styles present in the collection either were produced for several thousand years or else their time spans have not been narrowed by their discovery in sites with separable short-term occupations. A short discussion of each named type is presented below to clarify how well understood the temporal range of each of them is.

The most recent style in good stratigraphic context at East Aberdeen is an indented-base variant of the Madison point (Table 12; Plate 5). Several examples of a convex-based variant were also found without good associations (Table 13). The Madison type is illustrated and discussed in Cambron and Hulse (1964:84). It was named by Scully (1951), but the name did not come into frequent use until the 1960s. Before that time the type was often referred to as Mississippi Triangular

TABLE 12. PROJECTILE POINT CLASSES FOUND AT EAST ABERDEEN IN APPROXIMATE STRATIGRAPHIC ORDER.

Overall Shape	Stem Shape	Shoulder Shape	Base Shape	Blade Width	Ser-ration	Code Let-ter	Type Name	Approximate Age
Triangular	---	---	Indented	Broad	None	A	Madison	Late Woodland-Mississippian A.D. 800-contact
Stemmed	Contracting	Straight	Convex	Broad	None	B	Coosa	Middle Woodland A.D. 100-400
Stemmed	Contracting	Rounded	Straight	Narrow	None	C	Gary	Gulf Formational-Woodland 1500 B.C.- 0 A.D.
Side-Notched	---	Rounded	Indented	Broad	None	D	Bakers Creek	Middle Woodland A.D. 100-400
Stemmed	Straight	Straight	Straight	Narrow	None	E	McIntire	Gulf Formational 1000-500 B.C.
Stemmed	Expanding	Straight	Convex	Broad	None	F	Savannah River	Gulf Formational-Woodland 1500 B.C.-0 A.D.
Broad-Stemmed	Straight	Rounded	Straight	Narrow	None	G		
Stemmed	Contracting	Rounded	Convex	Narrow	None	H	Gary	Gulf Formational-Woodland 1500 B.C.- 0 A.D.
Stemmed	Expanding	Rounded	Indented	Narrow	None	I		
Broad-Stemmed	Expanding	Tanged	Convex	Narrow	None	J		
Stemmed	Expanding	Straight	Straight	Narrow	Serrated	K		
Stemmed	Contracting	Rounded	Convex	Narrow	None	L		
Stemmed	Expanding	Tanged	Straight	Narrow	None	M	Benton Stemmed	Late Archaic 3500-1200 B.C.
Triangular	---	---	Convex	Narrow	None	N		
Stemmed	Expanding	Straight	Convex	Narrow	None	O		
Broad-Stemmed	Expanding	Rounded	Straight	Narrow	None	P	Benton Stemmed	Late Archaic 3500-1200 B.C.
Side-Notched	---	Straight	Straight	Broad	None	Q	Motley	Gulf Formational-Early Woodland 1500 B.C.- 0 A.D.
Stemmed	Expanding	Tanged	Indented	Narrow	None	R	Benton	Late Archaic 3500-1200 B.C.

TABLE 12. CONTINUED.

Overall Shape	Stem Shape	Shoulder Shape	Base Shape	Blade Width	Ser-ration	Code Let-ter	Type Name	Approximate Age
Broad-Stemmed	Expanding	Rounded	Indented	Narrow	None	S	Benton Stemmed	Late Archaic 3500-1200 B.C.
Broad-Stemmed	Expanding	Tanged	Straight	Narrow	None	T	Benton Broad-Stemmed	Late Archaic 3500-1200 B.C.
Stemmed	Expanding	Tanged	Convex	Narrow	None	U		
Side-Notched	---	Straight	Convex	Narrow	None	V	Damron	Middle Archaic 6000-3500 B.C.
Stemmed	Straight	Straight	Straight	Broad	None	W	Morrow Mountain Straight Base	Middle Archaic 5000-4000 B.C.
Stemmed	Contracting	Rounded	Straight	Broad	None	X		
Stemmed	Expanding	Straight	Straight	Narrow	None	Y		
Broad-Stemmed	Expanding	Straight	Straight	Narrow	None	Z	Crawford Creek	Middle Archaic 6000-3500 B.C.
Side-Notched	---	Rounded	Indented	Narrow	None	AA	Greenbrier	Early Archaic 7000-5000 B.C.
Lanceolate	---	---	Indented	Narrow	None	BB	Dalton	Early Archaic 7500-6000 B.C.
Side-Notched	---	Straight	Indented	Narrow	None	CC	Big Sandy I	Early Archaic 7500-6000 B.C.
Stemmed	Expanding	Straight	Indented	Narrow	None	DD		

TABLE 13. PROJECTILE POINT CLASSES FOUND AT EAST ABERDEEN WITHOUT STRATIGRAPHIC CONTEXT.

Shape	Stem Shape	Shoulder Shape	Base Shape	Blade Width	Serration	Code Letter	Type Name	Approximate Age
Stemmed	Straight	Straight	Straight	Narrow	Serrated	EE	Kirk Serrated	Early-Middle Archaic 6500-5000 B.C.
Stemmed	Expanding	Barbed	Indented	Narrow	None	FF		
Stemmed	Straight	Barbed	Straight	Broad	None	GG		
Triangular	---	---	Straight	Narrow	None	HH		
Triangular	---	---	Convex	Narrow	None	II	Madison	Late Woodland-Mississippian A.D. 800- contact
Lanceolate	---	---	Straight	Narrow	None	JJ	Guntersville Lanceolate	Late Woodland-Mississippian A.D. 1000-contact

TABLE 14. MEANS AND RANGES OF SELECTED PROJECTILE POINT MEASUREMENTS.

Projectile Point Class	Total #	Length (cm)			Shoulder Width (cm)			Thickness (cm)			Top Width of Stem (cm)			Stem Length (cm)			Width at Widest Spot if other than Shoulders (cm)			
		Mean	Range	# Measured	Mean	Range	# Measured	Mean	Range	# Measured	Mean	Range	# Measured	Mean	Range	# Measured	Spot	Mean	Range	# Measured
A	3	2.0	1.7-2.1	3	1.8	1.7-1.9	3	0.5	0.3-0.7	3	---	---	--	---	---	--				
B	2	3.3	3.1-3.5	2	2.5	2.5	2	0.9	0.7-1.2	2	1.7	1.7	2	0.5	0.5	2				
C	3	4.4	3.9-5.1	3	2.4	2.4	3	0.9	0.8-1.1	3	1.8	1.7-1.9	3	1.0	0.5-1.5	3				
D	1	4.0	4.0	1		2.6	1		0.9	1	---	---	--	---	---	--	base		2.7	1
E	6	5.7	5.4-6.5	4	3.3	2.8-3.7	6	1.0	0.9-1.2	6	2.3	2.0-2.9	6	0.9	0.6-1.2	6				
F	7	4.3	3.8-4.6	5	3.4	3.0-3.6	7	1.1	0.8-1.4	7	2.2	2.0-2.3	7	1.1	0.9-1.2	7				
G	9	4.5	4.2-4.8	3	2.5	2.3-2.7	9	1.1	0.9-1.3	9	1.8	1.5-2.0	9	1.1	0.8-1.3	9				
H	11	5.2	4.3-5.9	3	2.3	2.0-2.7	10	1.0	0.7-1.1	11	1.6	1.3-1.9	11	1.2	0.7-1.5	11				
I	3		broken	0	2.8	2.4-3.2	2	0.9	0.7-1.1	3	2.0	1.8-2.3	3	1.2	1.0-1.7	3				
J	2		broken	0	2.4	2.4	2	0.8	0.7-0.9	2	1.7	1.7	2	1.0	0.9-1.1	2				
K	1		5.3	1		2.5	1		1.2	1		broken	0		0.7	1				
L	1		3.9	1		2.8	1		0.9	1		2.3	1		1.3	1				
M	11	5.9	5.5-6.3	2	3.2	2.5-3.9	10	0.8	0.6-0.9	11	2.1	1.7-2.8	11	1.1	0.8-1.3	11				
N	1		6.5	1		2.5	1		1.1	1	---	---	--	---	---	--				
O	3	4.5	4.3-4.7	3	2.5	2.4-2.6	3	0.8	0.7-0.9	3	1.7	1.4-1.8	3	0.9	0.8-1.1	3	blade	2.6	2.5-2.6	3
P	15	4.6	2.5-5.7	3	2.6	1.5-3.5	13	0.7	0.2-1.1	15	1.9	0.8-2.7	15	0.8	0.3-1.2	15				
Q	1		4.5	1		2.8	1		1.0	1	---	---	--	---	---	--				
R	4		broken	0	3.3	3.2-3.4	4	0.6	0.5-0.6	4	2.0	1.8-2.3	4	1.1	0.7-1.5	4				
S	5		broken	0	3.0	2.9-3.1	5	0.7	0.5-0.8	5	2.3	2.1-2.4	5	1.1	0.7-1.3	5				
T	1		broken	0		4.2	1		0.7	1		3.7	1		0.7	1				
U	1		broken	0		3.7	1		0.9	1		2.0	1		1.0	1				
V	3		broken	0	2.3	2.3	2	0.8	0.7-0.9	3	---	---	--	---	---	--	base	2.7	2.5-3.1	3
W	3	3.7	3.5-3.9	2	2.7	2.3-3.3	3	0.7	0.6-0.9	3	1.8	1.5-2.0	3	0.6	0.5-0.7	3				
X	4	2.7	1.7-5.5	4	2.1	1.2-2.7	4	0.7	0.3-0.9	4	1.5	0.7-1.9	4	0.7	0.3-1.1	4				
Y	2		broken	0	2.7	2.3-3.1	2	1.0	0.7-1.3	2	1.7	1.4-2.0	2	0.9	0.8-0.9	2				
Z	2		5.2	1	2.8	2.5-3.2	2	0.8	0.7-1.0	2	1.8	1.8	2	0.8	0.6-1.0	2				
AA	2		4.1	1		2.0-2.1	1	0.7	0.7	2	---	---	--	---	---	--				
BB	2		5.4	1	3.0	2.8-3.2	2	1.1	0.9-1.2	2	---	---	--	---	---	--				
CC	4		broken	0	2.3	2.2-2.3	3	0.7	0.5-0.8	4	---	---	--	---	---	--				
DD	1		3.6	1		1.9	1		0.8	1		1.1	1		0.7	1				
EE	3	5.5	5.2-6.1	3	3.4	3.2-3.8	3	1.2	0.8-1.4	3	2.1	2.0-2.2	3	1.4	1.2-1.5	3				
FF	2		3.0	1		2.7	1	0.7	0.6-0.7	2		1.5	1	0.8	0.7-0.8	2				
GG	1		2.9	1		2.9	1		0.7	1		1.9	1		0.5	1				
HH	1		broken	0		3.6	1		0.7	1	---	---	--	---	---	--				
II	2		broken	0	1.4	1.3-1.5	2	0.5	0.4-0.5	2	---	---	--	---	---	--				
JJ	5		2.5	1	1.5	1.3-1.7	5	0.4	0.3-0.5	5	---	---	--	---	---	--	blade	1.6	1.3-2.0	5

(Cambron and Hulse 1960a:19; DeJarnette, Kurjack, and Cambron 1962:79). It is similar to a number of other small triangular point types, including Type 46 in the Normandy Reservoir typology (Faulkner and McCollough 1973:91) and some examples of the Hamilton type (Lewis and Kneberg 1946; Kneberg 1956). Madison points are generally attributed to the Late Woodland/Mississippian period and small triangular points have been found throughout most of the Eastern United States in assemblages dating from that time. Some sites that have produced such points in stratigraphic context in the area include Hiwassee Island, Tennessee (Lewis and Kneberg 1946), Stanfield-Worley Bluff Shelter, Alabama (DeJarnette, Kurjack, and Cambron 1962:79), and Russell Cave, Alabama (Griffin 1974:46).

The Coosa point (Plate 5) is a Middle Woodland style named for the Coosa River in east-central Alabama (Cambron and Hulse 1964:29). There it is consistently associated with Early and Middle Woodland pottery types, especially Long Branch Fabric-Marked (DeJarnette, Kurjack, and Keel 1973). It has also been found farther west, for example at the LaGrange site in northwest Alabama (DeJarnette and Knight 1976:16), as well as at East Aberdeen.

Gary points (Plates 5-6) were first described for Texas (Suhm and Krieger 1954:430) but have frequently been found in the Southeast, especially in Mississippi, Alabama, and Tennessee. The two variants of Gary recognized at East Aberdeen, code letters C and H (Table 12), seem to correspond respectively to Types 88 and 90 in the Normandy typology (Faulkner and McCollough 1973:113-114). However, in the Normandy descriptions the straight-based points are indicated to be larger than the rounded-base type, while at East Aberdeen the reverse is the case (Table 14). Gary points may have begun to be made during the Late Archaic, since they have been found in the top of Archaic deposits in Tennessee River sites (Webb and DeJarnette 1948:69). They are most often associated with fiber-tempered pottery, however, and farther south are often found in Poverty Point components (Webb 1968:304) and in those dating from the earlier part of the Woodland tradition (DeJarnette and Knight 1976). At the Flint Creek Rock Shelter in northern Alabama, seven Gary points were found in Stratum I, which was Woodland in age, while only one was found in Archaic Stratum II (Cambron and Waters 1961:9).

Bakers Creek points (Cambron and Hulse 1964:8), referred to as Stemmed Copena in some reports (Cambron and Hulse 1960a:18), are similar to Normandy Type 61 (Faulkner and McCollough 1973:100). They are frequently associated with Middle Woodland Copena assemblages in the Tennessee River valley in northern Alabama (DeJarnette, Kurjack, and Cambron 1962). They were found in Zones One and Two at the Big Bottom site in western Tennessee in association with Adena, Copena, and Gary points (Sims 1971:63-64). The one from East Aberdeen is shown in Plate 5.

The McIntire point style (Plate 6) has been identified mainly in Tennessee River shell mound sites (Cambron and Hulse 1964:86), although it has also been found in the Duck River valley, corresponding to Normandy Type 82 (Faulkner and McCollough 1973:110). It is associated with Late Archaic materials, being most closely identified with levels bearing fiber tempered pottery, so that using Walthall and Jenkins' (1976) scheme it falls in the Gulf Formational tradition.

The Savannah River point (Plate 6) has an easterly association, having been identified in the 1930s and 1940s at Stallings Island, Georgia (Claflin 1931) and in northern Florida (Fairbanks 1942). Coe (1964:44-45) has also described the style from North Carolina examples. He attributes it to the Late Archaic period, believing it to be the same as those types called Benton Stemmed, Kays, and Appalachian Stemmed farther west, in Tennessee and Alabama (1964:45). The Savannah River style illustrated and described by Cambron and Hulse (1964:114) and found at East Aberdeen does not appear to be entirely the same as the style described by Coe. It certainly is not easily confused with the distinctive Benton Stemmed point type, since it lacks a beveled base, while its broad stem sets it apart from the Kays type. The western Savannah River point belongs to Gulf Formational/Woodland times rather than to the late Archaic (Cambron and Hulse 1964:114).

Benton points (Plate 7) are commonly found in the Tennessee River valley and its tributaries in Tennessee and northern Alabama and in northeast Mississippi. The type was described by Kneberg (1956) and a number of examples are illustrated in the Eva site report (Lewis and Lewis 1961). Although five variants of the Benton type (code letters M, P, R, S, and T) have been recognized in the East Aberdeen collections (Table 12), most archaeologists have either lumped all the Benton points in their assemblage together (Lewis and Lewis 1961) cr divided them into broad and narrow-stemmed variants (Cambron and Hulse 1964:12-13). Normandy Reservoir Type 97 includes specimens with both rounded and barbed shoulders (Faulkner and McCollough 1973:118), thus combining East Aberdeen types M, P, R, and S. Benton points date from the late Middle Archaic or early Late Archaic, generally pre-dating the introduction of pottery (Faulkner and McCollough 1973:118; DeJarnette and Knight 1976:28). At Flint Creek Rock Shelter in northwest Alabama, five Benton points were recovered from the Archaic Stratum II and only one was found in Stratum I, which was Woodland in age (Cambron and Water 1961:10). A radiocarbon age of 4595±210 years: 2645 B.C. was obtained on the Benton zone at the Spring Creek site in western Tennessee (Peterson 1973:38). Layer E at Russell Cave, which produced several Benton points, gave a radiocarbon age of 5490±200 years: 3540 B.C., which is acceptable for Benton, and two more recent dates of between 1000 B.C. and 50 B.C., both too late to date the Benton component (Griffin 1974:14).

Motley points (Cambron and Hulse 1964:92) are usually associated with the Gulf Formational period and especially with Poverty Point (Webb 1968:304). They are most commonly found in the Mississippi River valley, being rarer in the lower Tennessee River valley and its tributaries. The Normandy projectile point typology (Faulkner and McCollough 1973) does not include Motley points, nor does the one applied by Futato (1977) to the Bellefonte site in northern Alabama. Motley points are found in western Tennessee, for example at the Big Bottom site at the confluence of the Duck and Tennessee Rivers (Sims 1971:69). The one Motley from East Aberdeen is shown in Plate 10.

Damron points (Plate 8) have been identified mainly in Alabama and Tennessee. Their temporal/spatial distribution is not well understood, since relatively few examples have been found in stratigraphic context, but they appear to date from the Middle Archaic (Cambron and Hulse 1964: 40). A group of points found at Big Bottom, Tennessee, and referred to as Group 5 is similar to Damron; they came from Zone Five and were associated with Early Archaic styles such as Greenbrier, Cypress Creek, Kirk Serrated, and LeCroy (Sims 1971:63), so the style may have begun in that period. One example from the Kellogg site (22C1527) was in a stratum dated at 4900 B.C. (Atkinson, personal communication 1979).

Morrow Mountain Straight-Base points (Cambron and Hulse 1964:91) are a variant of Morrow Mountain, a type first extensively discussed by Coe (1964). The straight-based variant was formally defined by DeJarnette, Kurjack, and Cambron (1962:63). The three Morrow Mountain burials at Stanfield-Worley provide the best evidence of associated artifacts. The burials originated in the lower levels of Zone A; in addition to Morrow Mountain points, they also contained examples of Crawford Creek and White Springs types. This and the lack of ceramics prompted the placement of the burials in the Middle Archaic period (DeJarnette, Kurjack, and Cambron 1962:80). At Russell Cave Layer F, which contained Morrow Mountain points, dated between 4000 and 4400 B.C. (Griffin 1974:14). A Morrow Mountain component at Stucks Bluff Rock Shelter in northwest Alabama produced a radiocarbon age of 6450±120 years: 4500 B.C (DeJarnette, Walthall, and Wimberly 1975:113). These dates coincide fairly well with Coe's (1964) estimate of 4500 B.C. for Morrow Mountain. Plate 8 shows two of the Morrow Mountain Straight-Base points from East Aberdeen.

Crawford Creek points (Plate 8) (Cambron and Hulse 1964:35) appear to be contemporary with Morrow Mountain styles, being Middle Archaic in age. Aside from the above-mentioned association of the two styles at Stanfield-Worley, Crawford Creek points were found in the lowest Archaic level at Flint Creek Rock Shelter, Alabama, below the Benton points (Cambron and Waters 1961:7). They have also been described from Russell Cave in association with Kirk Serrated and Morrow Mountain points (Griffin 1974:97-98), dating from 4000-6000 B.C. (1974:14).

The Greenbrier type (Cambron and Hulse 1964:58) was described by Lewis (1959). It is generally regarded as an Early Archaic style. This is supported by examples found in early contexts. At Flint Creek Rock Shelter, one Greenbrier point was found in the lower part of Stratum II (Cambron and Waters 1961:11) and at Big Bottom the type was found in Zone Five, along with the Damron points mentioned earlier and a variety of other mostly Early Archaic styles (Sims 1971:67). The one Greenbrier point from Russell Cave was found in the oldest layer, Lower Level G (Griffin 1974:38). Plate 9 illustrates the Greenbrier points from East Aberdeen.

Dalton points (Plate 9) have been found at many sites in both the eastern and western parts of the Mississippi River valley and its major tributaries. The style was defined by Chapman (1948:138) in Missouri. Five Daltons were found in the lower, Early Archaic levels of Graham Cave, Missouri (Klippel 1971) and Dalton points occur at a number of sites in northeast Arkansas (Schiffer and House 1975). The specimens are highly variable in size, serration, and base shape, probably partly because of differing degrees of resharpening (Goodyear 1974:27). Some of the Hardaway points described by Coe (1964) grade into the Dalton type, thus extending its distribution to the eastern piedmont. Radiocarbon dates on Dalton components range in age from 6970-7690 B.C. at Stanfield-Worley (DeJarnette, Kurjack, and Cambron 1962) to 8250-8580 B.C. at Rodgers Shelter, Missouri (McMillan 1976). Dalton is sometimes placed in the Early Archaic and sometimes in the Transitonal Paleo-Indian (Cambron and Hulse 1960b).

Although the Big Sandy type (Plate 9) was defined in Tennessee, especially in connection with material from the Eva site and other Archaic shell middens along the Tennessee River (Lewis and Kneberg 1959: Lewis and Lewis 1961), the type has since been revised, being divided into Big Sandy I and II types based on work in Alabama. The Big Sandy I style was found in large numbers at the Quad site, where it was recognized on the basis of grinding on the base and/or in the notches (Cambron and Hulse 1960a:17). Big Sandy I points have been found at many other early sites in southern Tennessee and northern Alabama, leading Cambron and Hulse (1960b:11) to place the type in the Transitional Paleo-Indian period. It is frequently associated with Dalton points, for example at Quad (Cambron and Hulse 1960a:17) and at Stanfield-Worley (DeJarnette, Kurjack, and Cambron 1962:82). Three radiocarbon ages from Lower Layer G at Russell Cave, which produced Big Sandy I points, are 7465±250 years: 5615 B.C., 8095±275 years: 6145 B.C., and 8535±275 years: 6585 B.C. (Griffin 1974:36).

Although none of the Kirk Serrated points (Plate 9) found at East Aberdeen were in stratigraphic context, the temporal range of the type is fairly well established. The type was defined by Coe (1964:70) based on North Carolina material. At the Hardaway site, Kirk Serrated points tended to be found above Palmer and Hardaway types and below Stanly points, leading Coe (1964:70) to estimate their age as between 5000 and 6000 B.C. Of the three Kirk types, Kirk Serrated appears to be the most recent. It was found represented in fairly high numbers at Russell Cave, especially in Upper Layer G, which appears to correspond in age to the Kirk layer at Hardaway, 5000-6000 B.C. (Grinnin 1974:14, 97). A radiocarbon age of 7790±215 years: 5840 B.C. was obtained on a stratum contining two Kirk Serrated points at Icehouse Bottom in Tennessee (Chapman 1977:21).

The only other named type present at East Aberdeen is Guntersville Lanceolate (Plate 5); again, although it was not found in stratigraphic context at the site, the age range of the type is known in general terms. It is similar to Type 43 in the Normandy Reservoir (Faulkner and McCollough 1973:89) and to the Dallas Triangular type (Lewis and Kneberg 1946: Fig. 24). It was frequently found in the most recent components on Tennessee River shell mound sites (Cambron and Hulse 1964:62) and is Late Woodland/Mississippian in age.

Drills and Perforators. Only four types of drills and one type of perforator were recognized in the East Aberdeen collection; measurements for each of these are given in Table 15 and the types are shown on Plate 11. Despite their seeming potential for offering chronological information, drills are not often much discussed in Southeastern archaeological reports. Since no types with well-known temporal meaning have been established, descriptions vary from report to report. However, it is possible to summarize what is known about the temporal span of each

TABLE 15. MEANS AND RANGES OF SELECTED DRILL AND PREFORATOR MEASUREMENTS.

Type	Total	Length			Thickness			Shoulder Width			Width at Widest Spot		
		Mean	Range	# Measured	Mean	Range	# Measured	Mean	Range	# Measured	Mean	Range	# Measured
Stemmed Drills	3	3.0	2.1-4.1	3	0.9	0.7-1.3	3	1.9	1.5-2.5	3	---	---	---
Parallel-Sided Drills	13	4.1	2.0-6.5	5	0.7	0.5-1.1	13	0.8	0.6-1.2	9	1.1 (Shaft)	0.7-1.5	13
Triangular Drills	10	3.9	3.0-5.0	4	0.8	0.7-1.1	10	1.31	1.1-1.7	10	---	---	---
Expanded-Base Drills	10	4.0	2.8-5.3	2	0.6	0.4-0.8	10	1.0	0.7-1.5	10	1.7 (Base)	1.2-2.5	8
Perforators	13	1.7	1.3-2.3	11	0.4	0.2-0.9	13	0.7	0.4-1.0	13	1.3 (Base)	0.9-1.4	13

of the four drill types.

Stemmed drills (Plate 11) have been found in a variety of forms, apparently often either reworked from stemmed projectile points (Goodyear 1974:30) or with stem styles similar to those on contemporary projectile points (Lewis and Lewis 1961:59; Coe 1964:73). Stemmed drills are therefore the easiest to date, by analogy with known projectile point styles. Of the three stemmed drills from East Aberdeen, two appear to be reworked from Benton points and share their chronological placement, while the third is crudely made of Tallahatta quartzite and could not be typed.

Expanded-base drills and triangular drills (Plate 11) have probably sometimes been confounded in the literature, since in both types the base is the widest part of the tool. However, the expanded-base type seems to have a long temporal span. It was found in the Morrow Mountain zone at Stanfield-Worley (DeJarnette, Kurjack, and Cambron 1962:83), throughout the Middle and Late Archaic components at the Eva site (Lewis and Lewis 1961:58-59), in association with Benton points and later material at the Fennel site in northwest Alabama (Brock and Clayton 1966:119), and clustering in the Woodland levels at Russell Cave (Griffin 1974:51). Triangular drills have not been discussed from any of these sites, so it is not certain whether they were not present or were lumped with other types. A triangular drill is illustrated in the Eva site report under the category "shaft drills" (Lewis and Lewis 1961: Plate 24, g).

Parallel-sided drills (Plate 11) have been found in Late Archaic and Woodland contexts in northwest Alabama (DeJarnette, Kurjack, and Cambron 1962:91-110 ; Brock and Clayton 1966:119). They appear to postdate the Middle Archaic period; the type does not appear in the Middle Archaic part of the Eva assemblage but does appear in the Late Archaic Big Sandy component (Lewis and Lewis 1961:59).

The terms graver and perforator have been used interchangeably in the literature to some extent. When they are distinguished, perforators have a more recent time span, dating from the Late Archaic-Woodland period (DeJarnette, Walthall, and Wimberly 1975:16), while gravers are associated with the Dalton and Early Archaic periods (DeJarnette, Kurjack, and Cambron 1962:86). Small perforators from Miller III contexts (Jenkins 1975:144; O'Hear *et al*. 1979:182) resemble those from East Aberdeen.

Scrapers. As is the case with drills, scrapers have received relatively little attention in Southeastern archaeological reports. Of the 12 kinds of scrapers found at East Aberdeen (Plate 12), only a few correspond to types recognized and discussed by other authors. Of these, the most distinctive and consistently identified type is the trapezoidal unifacial end scraper. Such scrapers began with the Paleo-Indian period, being found in the East at such sites as Shoop, Pennsylvania (Whitthoft 1952:29), Hardaway, North Carolina (Coe 1964:73-76), and the Quad site in Alabama (Cambron and Hulse 1960:20). They continued to be made in Dalton times and through at least the Middle Archaic period, since they have been found in a number of Dalton components, including Stanfield-Worley (DeJarnette, Kurjack, and Cambron 1962:85) and the Brand site (Goodyear 1974:46, a-b, f-i), as well as in the

Morrow Mountain burials at Stanfield-Worley (DeJarnette, Kurjack, and Cambron 1962:82), in layers F and G at Russell Cave (Griffin 1974:48), and in the Early Archaic Eva component at the Eva site (Lewis and Lewis 1961:47). Although it may be possible to divide these scrapers into types with shorter time spans, this has not been done and there were too few examples from East Aberdeen to allow such subdivision.

The rectangular unifacial end scraper (Plate 12) also appears to be an early type, appearing at least by Dalton times. Several examples were found at the Brand site (Goodyear 1974:46, c-e-j) and in the Dalton zone at Stanfield-Worley (DeJarnette, Kurjack, and Cambron 1962:85). Flint Creek Rock Shelter produced a number of scrapers of this type, most commonly from the lower levels of the Early Archaic Stratum II, although some were found in Stratum III as well, apparently dating from at least Early Archaic times, since they were found below examples of Greenbrier and Kirk Serrated points (Cambron and Waters 1961:36). They persisted into the Late Archaic period, being associated with Benton points in upper Stratum II (1961:36). Rectangular end scrapers were also found in the Morrow Mountain burials at Stanfield-Worley (DeJarnette, Kurjack, and Cambron 1962:82), demonstrating that they were made in Middle Archaic times as well.

The elongated ovate unifacial end scraper (Plate 12) appears to be less widespread and shorter in temporal span. Members of the type, called "small narrow trapezoidal scrapers," were found predominantly in Layer G in Russell Cave, associated with Big Sandy I, Kirk Serrated, Morrow Mountain, and other Early-Middle Archaic projectile point types (Griffin 1974:48). They were also found at the Eva site, where some of the "uniface ovoid scrapers" (Lewis and Lewis 1961:47, Plate 17, e-j) conform to the elongated ovate type used here; they date mainly from the Early Archaic period Eva component (Lewis and Lewis 1961:49).

The bifacial scraper types are harder to compare with possible examples from other sites, since they may be included in other categories, such as bifaces, bifacial blades, or preforms rather than being identified as scrapers. It is difficult to tell from illustrations whether the edge angles of such specimens are steep or shallow and this is rarely indicated in the text. Such tools apparently do not occur in Paleo-Indian or Dalton components, where stone tools aside from projectile points and adzes are almost entirely unifacial (DeJarnette, Kurjack, and Cambron 1962; Goodyear 1974). The only bifacial end scraper type found at East Aberdeen that has easily identifable examples elsewhere is the hafted scraper reworked from a Big Sandy I point (Plate 9). Such scrapers are common in Tennessee and Alabama, being found in considerable numbers during survey of the Priest Reservoir near Nashville (Morse and Morse 1964:4) and along Cedar Creek in Franklin County, Alabama (Hooper 1964). Because these were surface finds, it is not possible to say whether the reworking was done by people who also made Big Sandy I points or in a later period. At Eva, the three Big Sandy style scrapers were found in Stratum I, where Big Sandy points were less common than in the previous zone (Lewis and Lewis 1961:49).

PREHISTORIC CERAMICS:

Table 16 presents the portions of the two most prevalent systems for naming pottery types in northeast Mississippi which correspond to the combinations of temper, surface treatment, and decoration which occurred at the East Aberdeen site. The tempers found to be present were fiber, sand, grog, and shell. The identifiable surface treatments and decorations were plain, cordmarked, fabric-marked, incised, punctated, check-stamped, dentate-stamped, and pinched. As can be seen from the table, all of the ceramic materials recovered from the site correspond to previously recognized and named types. Type descriptions are given in Jenkins (1978a, 1979a); the most thorough and up-to-date discussions of the temporal meaning of the types can be found in Blakeman, Atkinson, and Berry (1976:12-47) and Jenkins (1979a). Given that no revisions of these are proposed here, it would serve no purpose to repeat them. Plate 13 illustrates some of the prehistoric ceramic sherds found at the site. The plate also shows some fragments of prehistoric ceramic pipes that were recovered from the site, two of which are sand tempered and one fiber tempered. These pipes can be dated primarily by the kinds of temper and decoration they display, which are similar to those of the ceramic types described in the sources mentioned above.

TABLE 16. PREHISTORIC CERAMIC TYPES AND VARIETIES FOUND AT THE EAST ABERDEEN SITE

Temper-Surface Finish Class	Type Name (Blakeman Atkinson, and Berry 1976)	Type Name (Jenkins 1978a)	Variety Name (Jenkins 1978a)	Period and Approximate Date
Fiber Plain	Wheeler Plain	Wheeler Plain	Wheeler	Early Gulf Formational 1000-500 B.C.
Fiber Dentate-Stamped	Wheeler Dentate-Stamped	Wheeler Dentate-Stamped	Warsaw	Early Gulf Formational 1000-500 B.C.
Coarse Sand Plain	O'Neal Plain	Baldwin Plain	Lubbub Creek	Late Gulf Formational 500-100 B.C.
Fine Sand Plain	Baldwin Plain	Baldwin Plain	Blubber Creek	Miller I-II 100 B.C.-A.D. 500
Sand Incised	Alexander Incised	Alexander Incised	Bodka Creek and Unidentified Others	Late Gulf Formational 500-100 B.C.
Sand Pinched	Alexander Pinched	Alexander Pinched	Prairie Farms	Late Gulf Formational 500-100 B.C.
Sand Fabric-Marked	Saltillo Fabric-Marked	Saltillo Fabric-Marked	Tombigbee	Miller I-II 100 B.C.-A.D. 500
Sand Dentate-Stamped	Alligator Bayou Stamped	Alligator Bayou Stamped	Sumter	Early Miller I 100 B.C.-A.D. 100
Sand Cordmarked	Furrs Cordmarked	Furrs Cordmarked	Pickens	Late Miller I-II A.D. 100-500
Grog Plain	Tishomingo Plain	Baytown Plain	Tishomingo	Late Miller II-Early Miller III A.D. 500-900
Grog Cordmarked	Tishomingo Cordmarked	Mulberry Creek Cordmarked	Tishomingo	Early Miller III A.D. 700-800
Grog Check-Stamped	Wheeler Check-Stamped	Wheeler Check-Stamped	Sipsey	Early Miller III A.D. 700-800
Shell Plain	Mississippi Plain	Mississippi Plain	Warrior	Mississippian A.D. 1100-1500

VIII. RESULTS

INTRODUCTION:

The results of analysis presented in this chapter have been organized initially according to the kind of provenience control maintained on the artifacts in the field and secondarily according to whether the proveniences were eventually determined to be meaningful or not. The controlled surface collection, where fairly tight horizontal control was maintained, is discussed first. The analysis of these artifacts has produced considerable information on the spatial distribution of the components, especially the Woodland and historic ones, represented at the site.

A section on natural stratigraphy and disturbance follows as a necessary prelude to discussion of the results of excavation. Certain of the excavation data—those from the repeated box-scraping and the test and excavation units—have provided useful information on the vertical distribution of artifacts within natural strata and arbitrary levels. The artifacts from these units are therefore considered to be the most important excavated materials and are discussed next. Artifacts obtained from a variety of other collection methods—augering, slope cuts, stripping, and miscellaneous uncontrolled surface collections—are then considered. The results of these methods have been placed together because the artifacts either derived from disturbed provenience units or no good provenience information was recovered on them. Finally, the features found during all methods of excavation have been discussed together to allow comparisons and a more coherent consideration of their spatial/temporal distribution at the site.

CONTROLLED SURFACE COLLECTION:

Summary of Materials Recovered. Appendix A, Table 1 presents a summary by general classes of all materials recovered through the controlled surface collection. Column two of the table shows the percentage of the total area collected comprised by each unit. If all parts of the site had been occupied and utilized in a similar manner it would be expected that the percentage distributions of the various artifact classes would conform fairly closely to the areal percentages. This is clearly not the case and the deviations from the expected distributions lead to several general conclusions concerning the apparent differential occupation and use of the site. In overall densities of artifacts the units separate into two groups: Units B, G, I, J, and K generally exhibited higher percentages of materials than would be expected from their areas while Units A, C, D, E, F, and H exhibited lower percentages of materials than would be expected. This indicates two fairly distinct concentrations of prehistoric and historic occupation, one to the east and the other to the west, on the two highest areas of the site separated by an area lower in both artifact density and topography. Within the areas of high artifact densities several further patterns are evident. Lithic materials occurred in higher densities in the western units and virtually all prehistoric ceramic materials were recovered from Units I and J. Unit G was notable for its high percentage of bone which may reflect the presence of the documented early twentieth century "pig stand" located in that area. Materials considered to be particularly diagnostic of historic occupation, i.e. historic ceramic materials, window glass, nails, and coal, were well represented in both the eastern and the western concentrations but they occurred in disproportionately high numbers in Unit B. This pattern is somewhat contrary to the documented and known locations of nineteenth and twentieth century activities within the site. Both areas were cleared with heavy equipment so surface clearing method should not have been a factor in the noticeably higher occurrence of historic materials in Unit B.

Lithic Materials.

Variation Among Units--Table 17 presents the distribution by surface collection units of various types of lithic materials. Prehistoric lithic artifacts were found in all of the units. However, as shown in the table, they were present in negligible amounts in Units A, C, D, E, F, and H. None of these units except H produced diagnostic stone artifacts so little can be said about the meanings of the few lithic materials recovered from them. Five of the six units were fairly small and all were isolated, located in the areas of lower ground between the eastern and western parts of the site.

The projectile points recovered from the surface collection were subjected to a stylistic analysis so that they could be used in relative dating of the assemblages from different parts of the site. As shown in Table 18 six surface collection units, B, G, H, I, J, and K, produced identifiable projectile points. Fifteen could be identified with named types ranging in age from Early Archaic to Late Woodland/Mississippian times. The projectile point occurrences suggest that all parts of the site were used in Gulf Formational and/or early Middle Woodland times, since all the surface collection units except Unit I produced points of types C, F, G, or H which date from this period. Only three more recent points were found, in Unit I, suggesting that Late Woodland/Mississippian occupation of the site was more restricted in space and less intensive. Projectile points from the Early, Middle, and Late Archaic periods were also found on the surface. Their pattern of occurrence is not very meaningful, however, since the deep undisturbed Archaic deposits at the site would not be expected to be well represented on the surface.

Perforators, drills, and scrapers from the surface were also divided into stylistic types, although the temporal meaning of these is not as well understood as that of projectile point styles. The distribution of perforators and drills is shown on Table 19. Only Unit J produced perforators, while identifiable drills came from Units G, I, J, and K. There are too few examples to be useful in temporal placement of the assemblages. The scrapers from the surface collection also showed considerable diversity (Table 20). The fact that seven of the 12 scrapers from the surface are rectangular in shape while none are trapezoidal probably has some temporal significance. Trapezoidal end scrapers are usually thought to date from Paleo-Indian to Middle Archaic times (Lewis

TABLE 17. DISTRIBUTION OF LITHIC MATERIAL TYPES IN SURFACE COLLECTION UNITS.

UNIT	UNIT AS % OF TOTAL COLLECTED	PEBBLES	CHUNKS			CORES	FLAKES							GROUND STONE			DRILLS	PROJECTILE POINTS		PREFORMS & BIFACES	OTHER FLAKED STONE TOOLS
			# Sandstone	# Chert	# Other	# Chert	# Chert Primary Decortication	# Chert Secondary Decortication	# Chert Shatter	# Misc. Shatter	# Chert Biface Thinning	# Chert Undifferentiated	# Tallahatta Quartzite Undifferentiated	# Pitted Stones	# Hammer Stones	# Other Ground Stones	# Chert	# Tallahatta Quartzite	# Chert	# Chert	
A	2	1	2					1	---			3									
B	48	41	40	8	6	2	11	15	80	1	9	80		2		9	1		22	16	5
C	3	4	1					1	8			6					1				
D	2	5	2		1		1		10			6									
E	2	8	5	1	1		3		19			25	1			1				1	
F	2	5	2	8				1	8			14									
G	8	23	31	13	3	12		12	69		2	86				2	4		2	4	3
H	9	35	14	9	2		2	4	35	1		9							2	1	
I	10	29	13	20	3	6	93	85	226	7	23	620		1		3	1		7	13	1
J	9	4	12	11		6	42	46	75	3	18	285	1	1	1	2	4	2	7	11	7
K	5	10	29	2	3		4	3	19		2	74					1		5	12	3
Total		165	151	72	19	26	156	168	549	12	54	1208	2	4	1	17	12	2	45	58	19

TABLE 18. PROJECTILE POINTS RECOVERED FROM SURFACE COLLECTION UNITS.

	Projectile Point Types[1]													
	A	C	F	G	H	I	J	P	V	EE	FF	GG	II	JJ
	Madison	Gary	Savannah River		Gary			Benton Stemmed	Damron	Kirk Serrated			Madison	Guntersville Lanceolate
Unit														
B				1	2	1			1		2	1		
G			1		1									
H					2									
I	1							1					1	1
J		1		1			1	1		1				
K			1	1			1							
Total	1	1	2	3	5	1	2	2	1	1	2	1	1	1

[1]Definitions given on Tables 12 and 13.

TABLE 19. DISTRIBUTION OF PERFORATORS AND DRILLS IN SURFACE COLLECTION UNITS.

Surface Collection Unit	Perforators	Drill Types: Triangular	Parallel-Sided	Stemmed	Expanded-Base	Broken
B						1
C						1
G		1	1			1
I					1	
J	2	1	1		1	1
K		1				
Total	2	3	2	0	2	4

TABLE 20. DISTRIBUTION OF SCRAPERS IN SURFACE COLLECTION UNITS.

Surface Collection Unit	Scraper Types: Rectangular Unifacial End Scraper	Rectangular Unifacial Side Scraper	Semi-Circular Bifacial End Scraper	Irregular Unifacial End Scraper	Irregular Bifacial End Scraper	Elongated Ovate Bifacial End Scraper/Denticulate	Rectangular Bifacial Side Scraper/Denticulate
B		1					1
G		1			1		
I						1	
J	2	2		1			
K			1		1		
Total	2	4	1	1	2	1	1

and Lewis 1961:47; Griffin 1974:48). Their absence in the East Aberdeen surface collection, much of which appears on other grounds to date from Gulf Formational or later times, may indicate that they ceased to be made before the end of the Archaic. The rectangular unifacial side scrapers from East Aberdeen are made on blade-like flakes and seem to be similar to those illustrated by Oakley and Futato (1975:138) and Futato (1977:148). They are described as being made on "rather long, resolved flakes" (Oakley and Futato 1975:95) and date from the Archaic and Woodland periods. At East Aberdeen they appear to be mostly Gulf Formational or later in age, as do the other kinds of rectangular unifacial scrapers found there.

The five surface collection units, B, G, I, J, and K, which had fairly large numbers of lithic artifacts in their surface assemblages show some indication of functional differentiation. Unit B had a very low density of lithics on its surface (Table 17); although it made up nearly half of the total area collected, it produced only 12% of the total stone artifacts recovered in the surface collection. In contrast, lithics in Units I and J were appreciably denser than in any other units; 41% of all stone artifacts from the surface were recovered in Unit I, which comprised 10% of the collected area, and 19% were recovered in Unit J, which made up 9% of the area (Table 17). In Units G and K the proportion of lithics recovered was approximately equal to the percent of collected area they composed.

The lithic collections from the 11 units were placed in the lithic assemblage classes discussed in Chapter VI. The collections from Units A, B, C, D, F, and H fell into Class I (Tables 21 and 22), indicating that these areas saw only low-density occupation during the periods when the surface artifacts accumulated. Unit G produced a relatively large number of sandstone chunks but few other lithics, while Units E and K produced slightly greater than average amounts of sandstone and undifferentiated flakes (Table 21). Since the lithic densities were so low in all of these units, these minor variations may be due to chance rather than to differences in how the areas were used. This is probably not true of assemblages from Units I and J, both of which fall into Class IV (Table 22). Both kinds of flakes were present in these units in appreciably higher than average quantities, while shatter, biface thinning flakes, and bifacial tools, most of which were preforms, were also common (Table 17). This suggests that tool manufacturing was an important activity. The variety of finished tools, including projectile points (Table 18), drills (Table 19), scrapers (Table 20), and ground stone (Table 24), indicates that various tool-using activities also occurred in these areas.

Variation Within Units-- Although lithic materials were recovered from all of the units, evidence of patterning was found in only five of them. These were Units B, G, I, J, and K.

Lithic materials were distributed over most of the surface of Unit B although there were fairly large sections of the unit which had no lithic artifacts. The overall lithic density was so low that most of the artifacts did not fall into well-defined concentrations; although the distributions of various categories of stone artifacts were examined separately at first, their low densities made it impossible to

TABLE 21. QUANTITIES OF SANDSTONE CHUNKS, DECORTICATION FLAKES, AND UNDIFFERENTIATED FLAKES PER M^2 IN SURFACE COLLECTION UNITS.

Unit	Area Collected (m^2)	Sandstone Chunks #	Sandstone Chunks #/m^2	Decortication Flakes #	Decortication Flakes #/m^2	Undifferentiated Flakes #	Undifferentiated Flakes #/m^2
A	176	2	.01	1	.006	3	.02
B	3472	40	.01	26	.007	80	.02
C	204	1	.005	1	.005	6	.03
D	124	2	.02	1	.008	6	.05
E	120	5	.04	3	.025	25	.21
F	120	2	.02	1	.008	14	.12
G	572	31	.05	12	.02	86	.15
H	704	14	.02	6	.009	9	.01
I	716	13	.02	178	.25	620	.87
J	636	12	.02	88	.14	285	.45
K	328	29	.09	7	.02	74	.23
Totals:	7172	151	.305	324	.498	1208	2.16
Average # of artifacts per m^2 for all units:			.03		.05		.20

TABLE 22. PLACEMENT OF SURFACE COLLECTIONS IN LITHIC ASSEMBLAGE CLASSES.

Surface Collection Unit	Classification Criteria: Sandstone Chunks	Decortication Flakes	Undifferentiated Flakes	Class
A, B, C, D, F, H	low	low	low	I
G	high	low	low	V
I	low	high	high	IV
J	low	high	high	IV
E, K	high	low	high	VI

TABLE 23. DISTRIBUTION OF SHAPED FLAKED TOOLS OTHER THAN PROJECTILE POINTS, DRILLS, AND SCRAPERS IN SURFACE COLLECTION UNITS.

Tool Types	Surface Collection Unit: B	G	H	I	J	K	Total
Preform I	2		1	3			6
Preform II				2	1		3
Preform IIIa					1	1	2
Preform IIIb	2			2	1	1	6
Adze	3	1			1		5
Notch					1		1

discern clusters. Each category examined, including flakes, shaped flake tools, sandstone chunks, and ground stone tools, was spread over all of Unit B. Therefore, the only distribution map illustrated, Figure 14, is the one which shows total lithic materials. The map shows one fairly well-defined cluster centering on grid point 82N174E. However, the cluster contained only 30 artifacts in the space of about 100 m^2, a density of only one artifact per 3.3 m^2. Some smaller groups showed slightly higher densities: the one centered on 54N156E had a density of approximately one artifact per 2.5 m^2 and the linear group centering of 48N184E had a density of one artifact per 2 m^2.

The overall impression given by the distribution map is one of a number of fairly distinct but very low density clusters of lithic artifacts. There are several possible explanations for this kind of patterning. The low artifact density may actually reflect a more or less uniform intensity of occupation over the whole of Unit B, with chance differences resulting in the appearance of distinct groups of artifacts. This could have been exacerbated by biases in the collection although this is unlikely since all parts of the unit were collected by the entire crew. Differences in how the area was cultivated might conceivably be responsible for such slight variations. The fairly even distribution of the clusters, not correlated with topography or known field edges, makes this less likely, however.

A third possibility for the evident patterning is that Unit B was occupied a number of times by different small groups, not all of whom camped in exactly the same spot and each of whom left relatively few artifacts. In such a case, the small clusters would be expected to vary in age. A fourth possible explanation is that the unit was occupied simultaneously by a number of small groups of people; if this were so the clusters would be generally contemporaneous. Unfortunately, too few projectile points of datable types were recovered to provide support for either the third or fourth hypothesis and only one prehistoric ceramic sherd was found on the surface of the unit.

The lithic clusters which did appear in Unit B were composed primarily of flakes and flaked tools such as projectile points and other bifaces. The ground stone tools and sandstone chunks tended to be scattered over the entire unit but were located outside the low-density flaked artifact concentrations. This is the only evidence that suggests that Unit B contained two different types of activity areas, i.e. one kind composed mainly of chert objects and one consisting of worked and unworked sandstone. Most of the ground stone tools found in Unit B were grinding stone fragments made of sandstone (Table 24). They had been broken into small pieces and showed evidence of having been subjected to heat. It seems likely that both the sandstone tools and the chunks were once associated with hearths and that this explains their similar distributions.

The distribution of total lithic materials in surface collection Unit G is shown on Figure 15. Five small concentrations are apparent centering on grid points 12N50E, 6N46E, 6N52E, 8N58E, and 10N62E. Although the concentrations in Unit G were of a higher density than those in Unit B, they were similar in being composed mainly of flakes

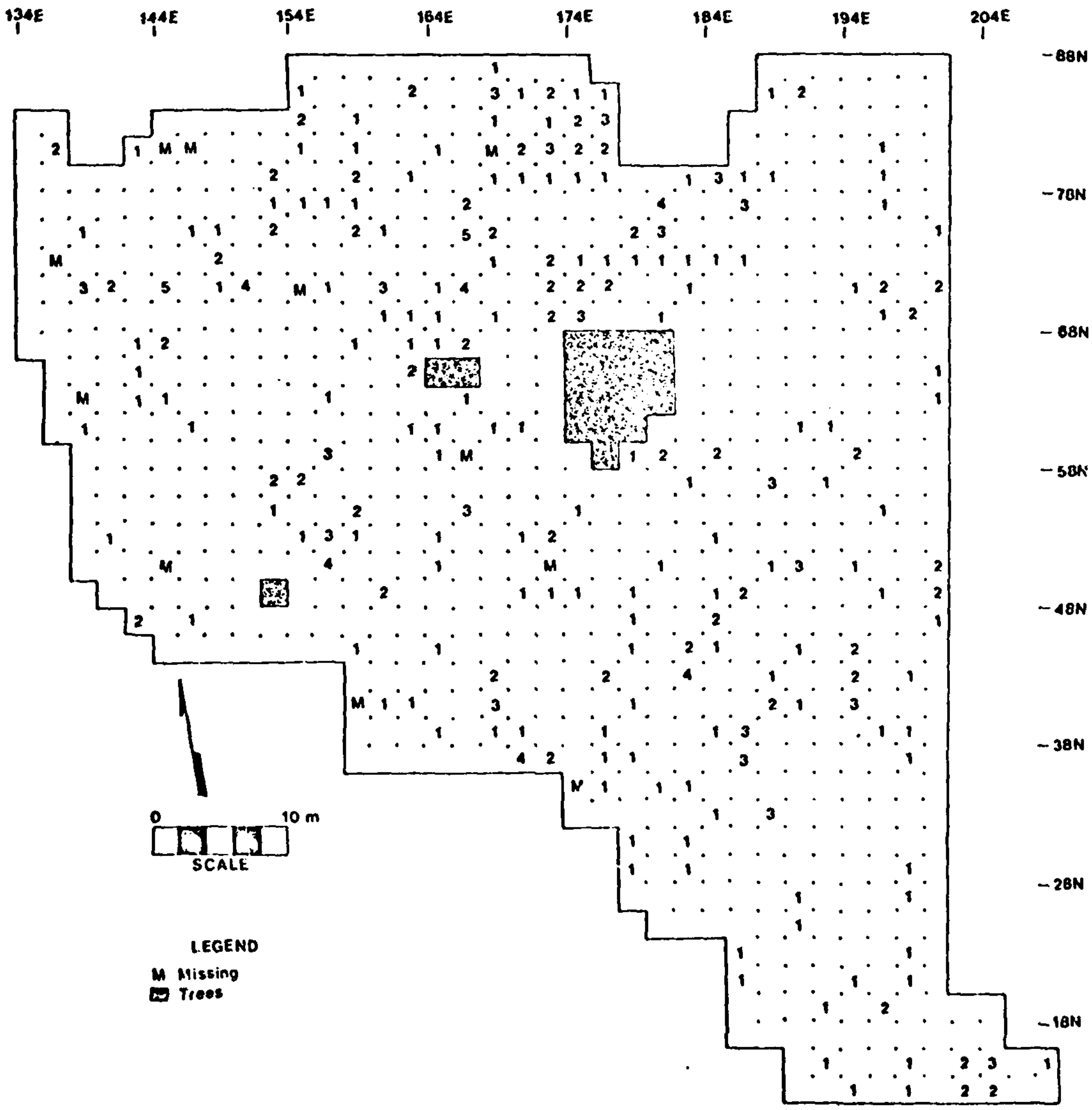

FIGURE 14. DISTRIBUTION OF TOTAL LITHIC MATERIALS IN SURFACE COLLECTION UNIT B.

TABLE 24.
SUMMARY OF GROUND STONE TOOLS RECOVERED FROM SURFACE COLLECTION UNITS

Unit	Type of Tool	#	Provenience
B	Pitted Stone	1	72N184E
	Grinder and Pitted	1	58N166E
	Grinding Stone Fragments	8	76N154E
			66N160E
			66N168E
			52N172E
			50N174E
			86N190E
			42N190E
			40N190E
E	Grinding Stone Fragment	1	24S70E
G	Grinding Stone Fragments	2	12N52E
			2N56E
I	Pitted Stone	1	8S20E
	Grinding Stone Fragments	3	26S2E
			22S22E
			24S24E
J	Pitted Stone	1	10N18E
	Hammerstone and Pitted	1	12N16E
	Grinding Stone Fragments	2	22N22E
			10N26E

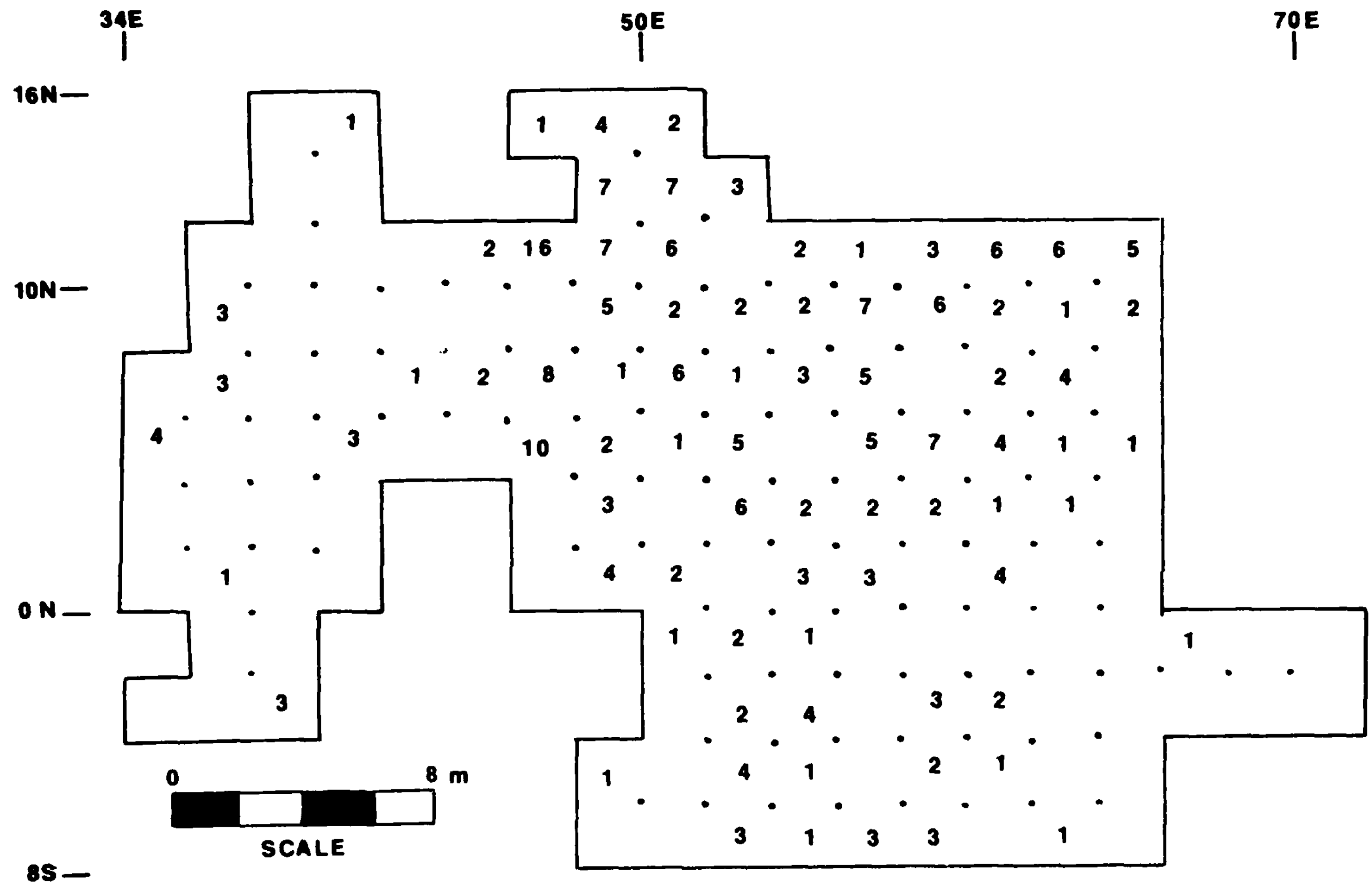

FIGURE 15. DISTRIBUTION OF TOTAL LITHIC MATERIALS IN SURFACE COLLECTION UNIT G.

and chert tools. The primary difference between the two units was that in Unit G the sandstone chunks and ground stone fragments were generalal coincident with the flake clusters.

Unit K was similar to Unit G in its overall lithic contents. The distribution of total lithic materials in the unit is shown in Figure 16. Two concentrations are apparent and they overlap on one side: a small one at grid point 46N4E and a larger one at 50N18E. The cluster density of about 1.5 artifacts per m^2 in the densest sections of Unit K was higher than that found in Unit B and similar to that found in Unit G. The area of the largest cluster, about 100 m^2, was comparable to that of the largest concentrations in Units B and G. It was composed mainly of flakes and flaked tools; the sandstone present in the unit fell mostly in the area between the two concentrations as it did in Unit B. No ground stone tools were found on the surface of Unit K.

The distribution of lithic materials in surface collection Units I and J is discussed together because the units were contiguous. Distribution maps are shown only for decortication flakes and percussion shatter present in these units; see Figures 17 and 18. The distribution of total lithic materials was very similar to that of the decortication flakes except that it was considerably denser. When the two maps for Unit I and J are compared, it can be seen that pieces of percussion shatter exhibited a distribution which differed in several ways from that of decortication flakes.

Decortication flakes displayed two main concentrations, one in Unit I around grid point 12S4E and one in Unit J around 16N20E. A third, smaller concentration was exhibited around 18N6E in Unit J. Shatter also clustered in three areas: one at 10S4E, one at 16N6E, and one at 4S8E. The first two shatter clusters corresponded roughly to decortication flake concentrations but in neither case did they entirely overlap the flakes. In both cases, the shatter tended to be less dense and more widely scattered than the decortication flakes were. The third cluster of shatter at grid point 4S8E was relatively dense and isolated. It did not correspond or even overlap with any flake cluster nor was it associated with finished chert tools. This area seems to represent a somewhat different focus of activity, a separate area of lithic reduction.

The distribution of bifacially flaked tools in Units I and J was also examined and, although the numbers of these tools were low, they seemed to cluster more tightly than the decortication flakes but in the same areas. This series of patterns suggests that successive steps in tool manufacture may have occurred in concentric rings in Units I and J, with the first steps being done on the periphery, the next steps occurring closer to the center, and the final products being produced at the center. Shatter is most often produced in the earlier steps in tool production; the primary and secondary decortication flakes may represent a later step, when the better raw material had been selected; and the bifaces, which include preforms, broken tools, and finished products, represent the final stages in tool production.

<u>Prehistoric Ceramic Materials.</u>

<u>Variation Among Units</u>--Table 25 presents a summary of the types of prehistoric ceramics recovered from the surface collection units. All

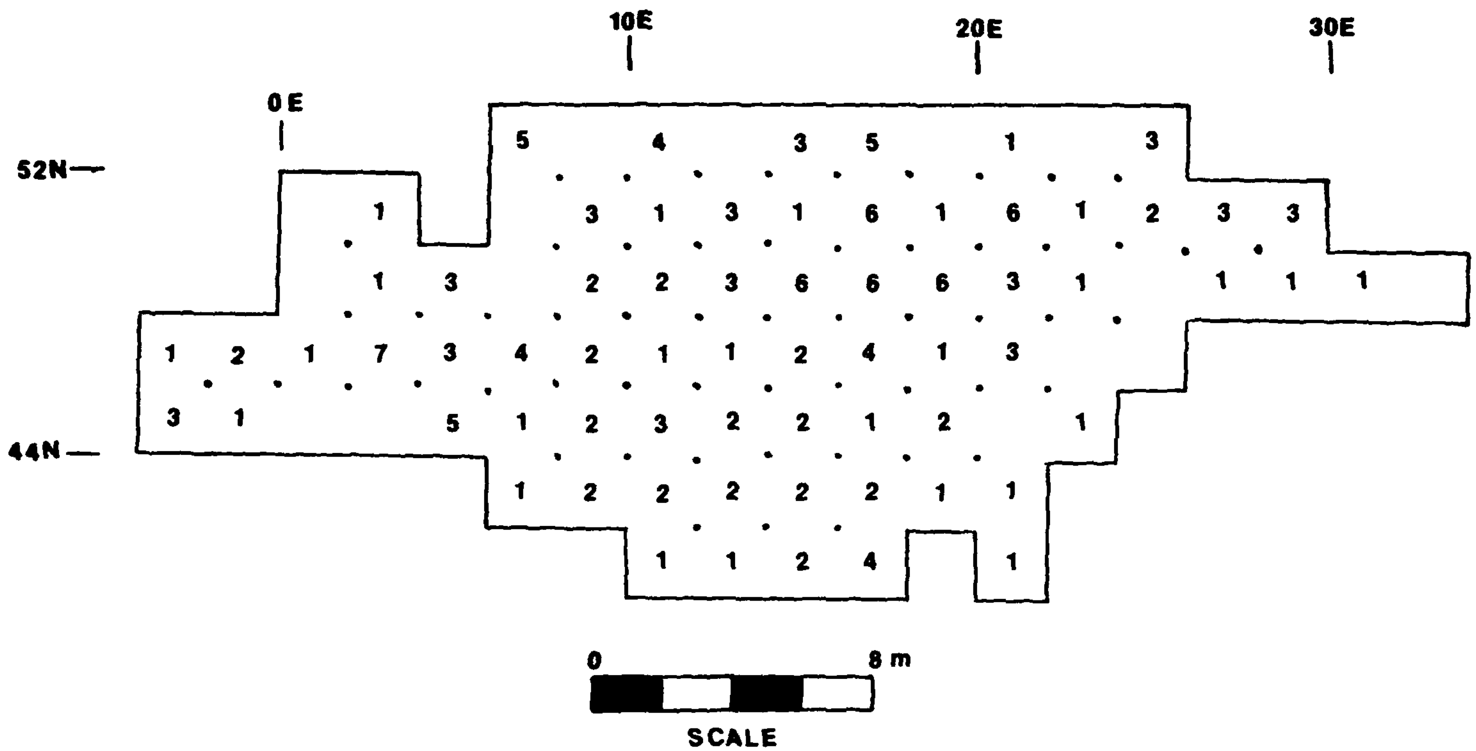

FIGURE 16. DISTRIBUTION OF TOTAL LITHIC MATERIALS IN SURFACE COLLECTION UNIT K.

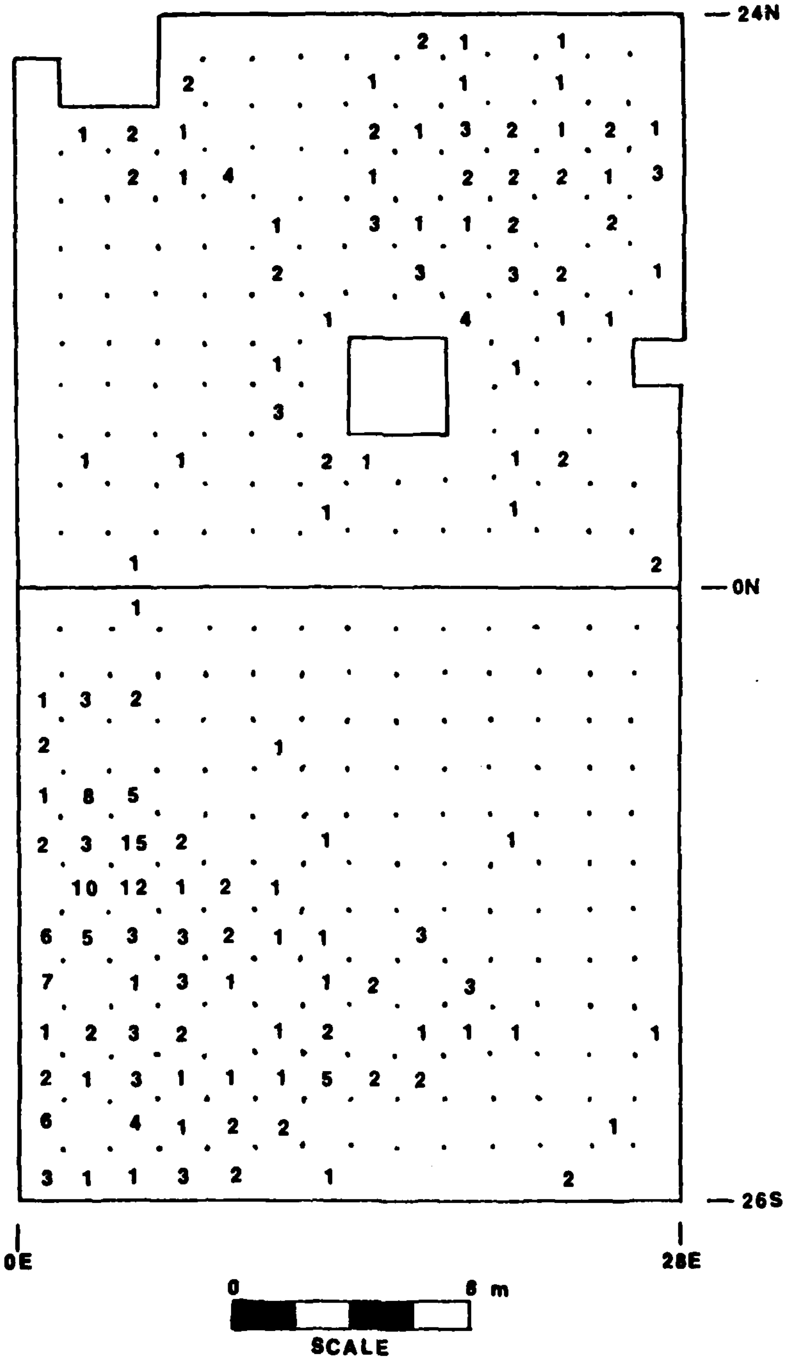

FIGURE 17. DISTRIBUTION OF DECORTICATION FLAKES IN SURFACE COLLECTION UNITS I AND J.

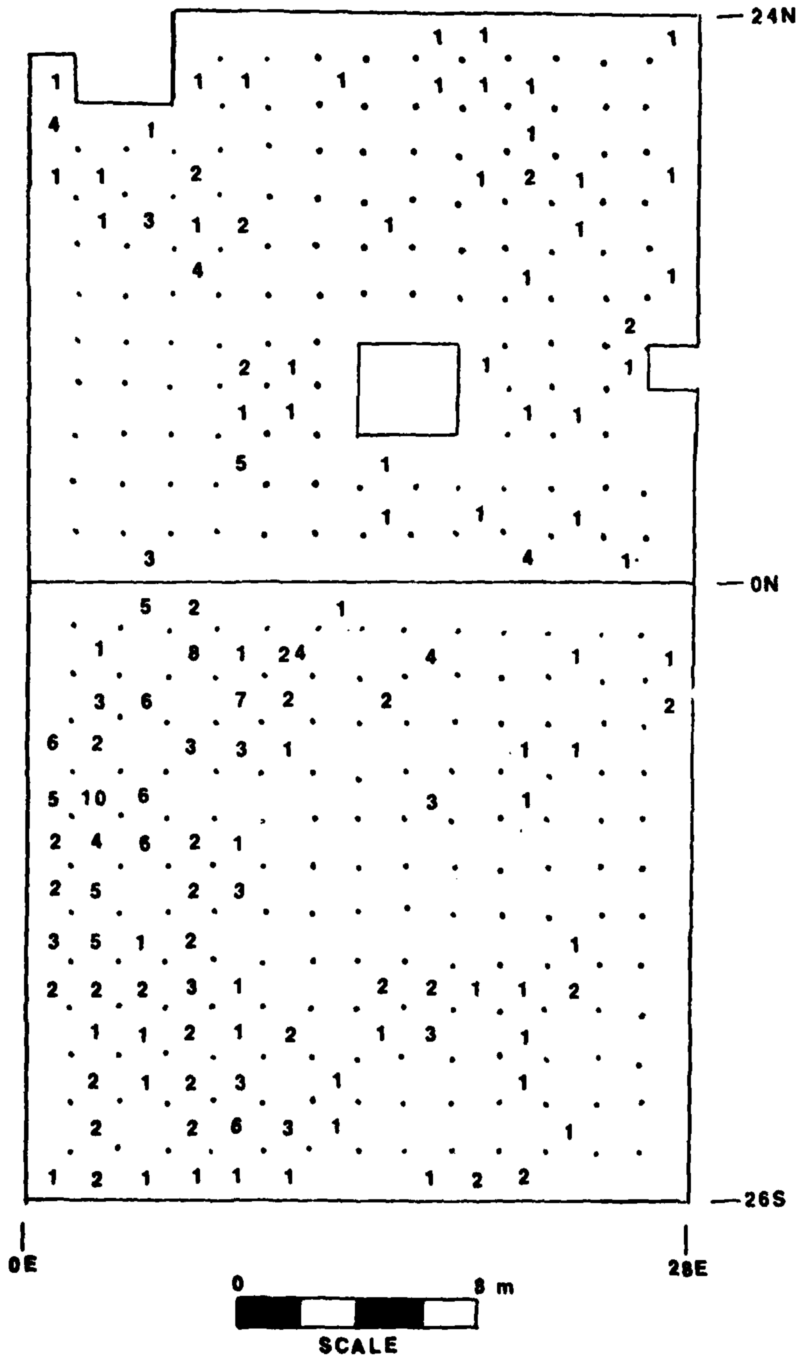

FIGURE 18. DISTRIBUTION OF SHATTER IN SURFACE COLLECTION UNITS I AND J.

TABLE 25. SUMMARY OF PREHISTORIC CERAMIC MATERIALS IN SURFACE COLLECTION BY UNIT.

		Ceramic Types															
Unit	Unit as % of Total Area Collected	Fiber Tempered Plain	Fiber Tempered Dentate-Stamped	Fiber Tempered Unidentifiable	Sand Tempered Plain	Sand Tempered Cordmarked	Sand Tempered Incised	Sand Tempered Dentate-Stamped	Sand Tempered Fabric-Impressed	Sand Tempered Pinched	Sand Tempered Unidentifiable	Grog Tempered Plain	Grog Tempered Cordmarked	Grog Tempered Incised	Grog Tempered Unidentifiable	Shell Tempered Plain	Total
B	48											1					1
G	8				2							7					9
I	10		1	1	28	1	5	2	8	1	2	99	89	1	1		239
J	9	4			5						4	16	4			1	34
Total	75	4	1	1	35	1	5	2	8	1	6	123	93	1	1	1	283

of the fiber-tempered sherds were found in the adjacent western Units I and J. They indicate occupation during middle Gulf Formational times. Sand and grog tempered sherds occurred in appreciably greater numbers but were also nearly totally confined to the western units. Only one grog tempered plain sherd was recovered in the large Unit B. This indicates that occupation during Miller I to Miller III times was concentrated almost wholly in the western part of the site. One shell tempered sherd was recovered from Unit J; the paucity of such pottery probably indicates a late Miller III rather than a Mississippian component, since a few shell tempered sherds have been found elsewhere in Miller III contexts (Jenkins 1979a). The small triangular and lanceolate projectile points found in Unit I may also date to Late Woodland rather than Mississippian times.

Variation Within Units--The distributions of sand and grog tempered sherds in Units I and J are shown in Figures 19 and 20. In both cases there were northeastern and southwestern concentrations, centered around grid points 18N14E and 18S12E and separated by a large area with no pottery. For both temper types the south-western concentration involved considerably larger numbers of sherds, was larger in area, and was more tightly defined. The grog tempered pottery, which dates to late Miller II and Miller III times, exhibits both denser and larger concentrations than the sand tempered sherds. This suggests several possible types of cultural change: increased numbers of people occupying the two areas, more pottery being used by the same number of people, or some combination of these changes.

Historic Structural Artifacts.

Nails: Variation Among Units--Table 26 shows the types of nails recovered in the surface collection units. Most of the nails in all of the units were wire nails and two units, A and H, had only wire nails. Unit A was adjacent to the location of a twentieth century house which had been torn down just prior to field work (Fig. 2, 7) and Unit H was not occupied by any known historic structures. All of the other units except E, F, and K had recent structures which could account for the wire nails found in them. Both Units E and F were a short distance west of the locations of twentieth century stores, Pickle's and Murff's respectively (Fig. 2), so the wire nails found in these units may represent outbuildings or other structures associated with the stores.

Units H and K both had very low numbers of wire nails relative to the amount of area they represented in the controlled surface collection (Table 26). These units, as well as Units G, I, and J, also produced lower than expected percentages of square nails. In the cases of Units H and K, the evidence indicates that neither area ever had any substantial structures on it since the numbers of nails were both absolutely and relatively low. It is possible that salvaging of nails by later inhabitants removed this kind of evidence, but the small quantities of brick and window glass in these units (Appendix A, Table 1) tends to support the contention that these units never contained structures.

As a way of examining how they were used at the site, the nails were also divided into functional types (Table 26). The great majority of all nails, 70% of square nails and 87% of wire nails, were of the common or box type. Such nails are usually used in general construction

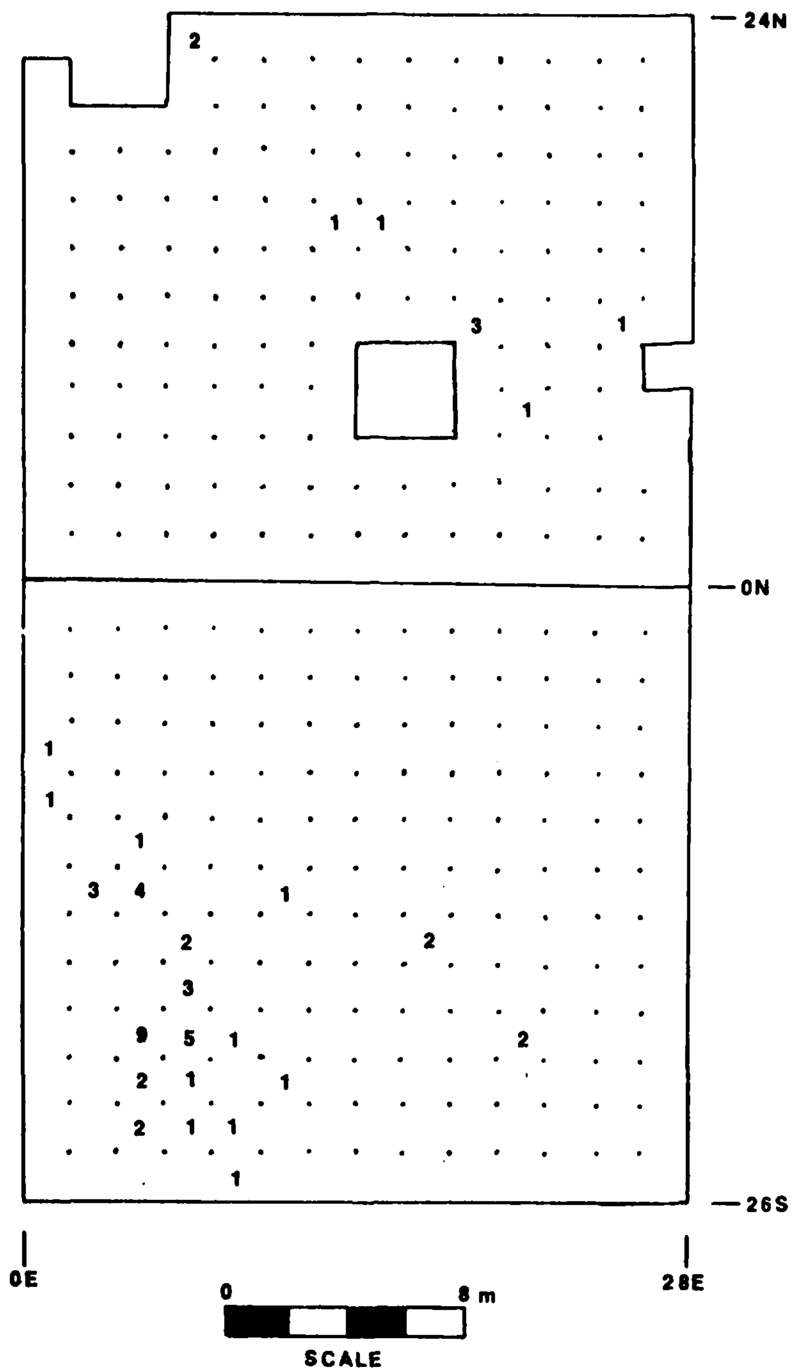

FIGURE 19. DISTRIBUTION OF SAND-TEMPERED CERAMIC MATERIALS IN SURFACE COLLECTION UNITS I AND J.

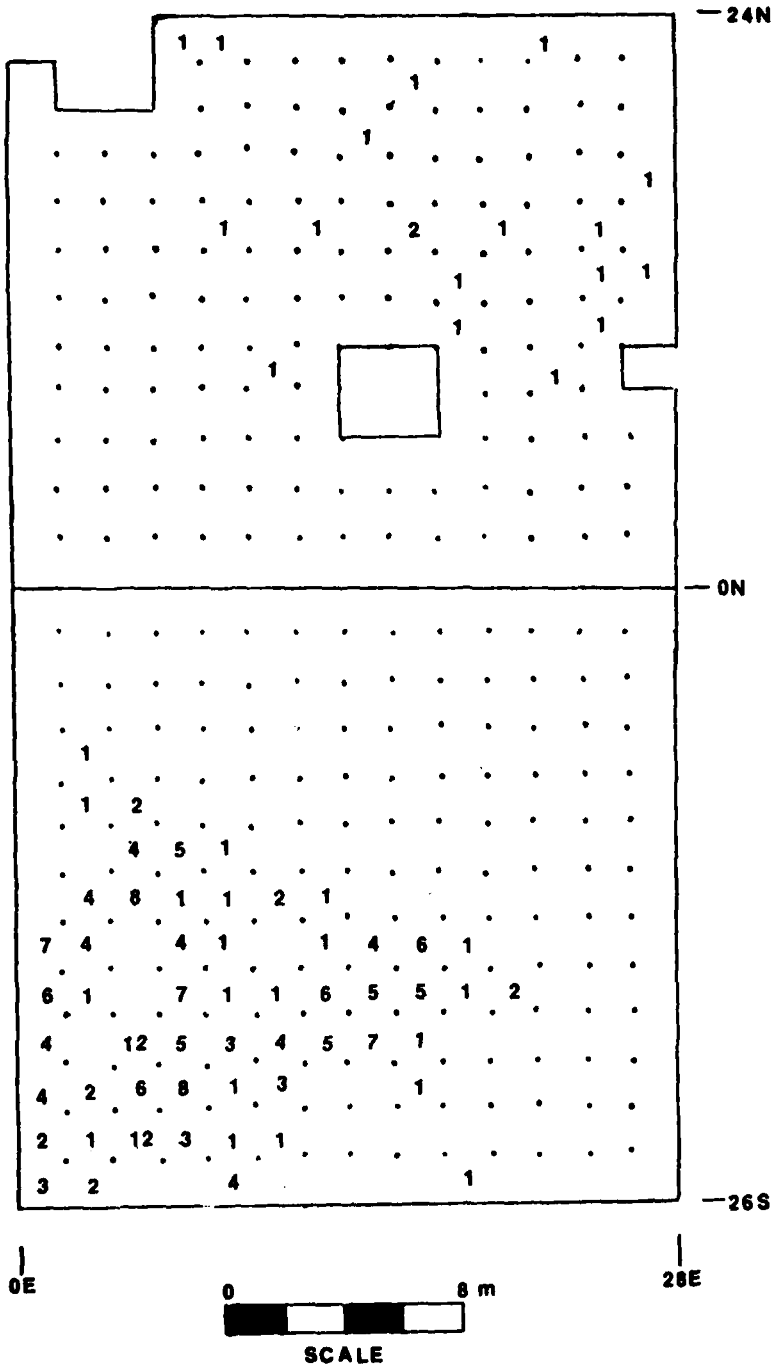

FIGURE 20. DISTRIBUTION OF GROG-TEMPERED CERAMIC MATERIALS IN SURFACE COLLECTION UNITS I AND J.

TABLE 26. SUMMARY OF SQUARE AND WIRE NAIL TYPES IN SURFACE COLLECTION BY UNIT.

Unit	Unit As % of Total Area Collected	Square								Wire									
		Common Box		Finishing		Other		Total		Common Box		Finishing		Roofing		Other		Total	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A	2									23	1					3	1	26	1
B	48	375	90	18	100	76	80	469	88	1950	70	35	45	27	51	170	60	2182	68
C	3	4	1					4	1	37	1	1	1	5	9	8	3	51	2
D	2	2	*					2	*	34	1	2	3	2	4	4	1	42	1
E	2	2	*					2	*	67	2	8	10	7	13	6	2	88	3
F	2	2	*					2	*	13	*							13	*
G	8	10	2			5	5	15	3	252	9	12	15	9	17	17	6	290	9
H	9									36	1	3	4	1	2	4	1	44	1
I	10	8	2			10	11	18	3	200	7	13	17	1	2	31	11	245	8
J	9	17	4			4	4	21	4	162	6	4	5	1	2	40	14	207	6
K	5	3	1					3	*	2	*					2	1	4	*
Total	100	423	100	18	100	95	100	536	100	2776	100	78	100	53	100	285	100	3192	100

*Less than 1 percent.

of house or other building frames. They are not used for fine finishing because they are difficult to conceal, especially since they have large heads that cannot be easily countersunk. All of the surface collection units had a preponderance of wire common nails, varying from 77% of all wire nails collected in Unit E to 100% in Unit F. A similar situation exists for square nails with common nails composing from 44% to 100% of the square nails collected in each unit.

Square finishing nails were found only in Unit B. Wire finishing nails, however, were found in nearly every unit but in low numbers, the highest occurrence being nine percent of the total wire nails in Unit E. Finishing nails should be found most often at the sites of houses, stores, and other finished buildings. Their small heads make it possible to hammer them flush or countersink them so they are used primarily in flooring and under and in trim (Nelson 1968). They would not be expected to be associated with barns or other outbuildings. The absence of finishing nails, however, does not necessarily imply the absence of houses, since not all houses are well-finished on the interior.

No square roofing nails were identified in the surface collection. Roofing nails comprised as much as ten percent of the total wire nails in Unit C and eight percent in Unit E; they were entirely absent in some of the other units. Roofing nails would be expected to be used on any roof that is covered by fairly thin material such as metal, asphalt shingles, or tar paper. Thick wooden shingles usually require longer nails.

The main inference that can be drawn from the kinds of nails found on the surface of the East Aberdeen site is that there were few well-finished buildings present in either the nineteenth or twentieth centuries compared to the number of other types of structures. Although there is no documentary record of it, the wire nails from Unit E may represent a house since 9% of them were finishing nails, 8% were roofing nails, and 76% were common nails. There may have also been finished structures in Units B, G, and I during the twentieth century and in Unit B during the nineteenth century.

As shown in Table 27 technological characterictics of the surface collected nails were examined for purposes of dating. Only a few hand-wrought nails were found, too few on which to base inferences about temporal differences in the uses of different parts of the site. This is particularly the case because some wrought nails were used in the eastern United States well after machine-made nails were introduced (Nelson 1968) so that the few wrought nails found at the site may have been used contemporaneously with machine-cut nails.

Cut nails with wrought heads were slightly more common at the site; they have a more restricted span of manufacture, from the 1790s to the 1820s (Nelson 1968). They were found in low numbers in Units B, E, G, J, and K. In the chapter on the historic background of the site it was proposed that structures were present in Units B, G, J, and K during the nineteenth century but no locations of particular pre-1908 buildings were identified; see Figs. 4 and 8. Since there was no known historic occupation of the site prior to 1830, the cut nails with wrought heads were very likely used after that time. This suggests that they were manufactured in this area after they had been replaced by wholly machine-

TABLE 27. SUMMARY OF SQUARE NAIL SIZES IN SURFACE COLLECTION BY UNIT

Unit	B	C	D	E	F	G	I	J	K	Total
Unit as % of Total Area Collected	48	3	2	2	2	8	10	9	5	89
Hand Wrought	1							2		3
Cut, Wrought Head	8			1		2		1	1	13
Cut, Machined Head										
1" (2d)	5									5
1 1/4" (3d)	15								1	16
1 1/2" (4d)	39									39
1 3/4"	5									5
2" (6d)	80		1	1		1	1			84
2 1/4"	3									3
2 1/2" (8d)	40						1			41
2 3/4"	1									1
3" (10d)	33						1			34
3 1/4" (12d)	7									7
3 1/2" (16d)	2									2
3 3/4" (20d)	2									2
4"	3					1				4
>4"	7						2			9
Unidentified	73		1			1		3		78
Unidentified Square										
1" (2d)	4									4
1 1/4" (3d)	2								1	3
1 1/2" (4d)	6							2		8
2" (6d)	17	1				2	4			24
2 1/4"								1		1
2 1/2 (8d)		2				1				3
3" (10d)	5	1				2				8
3 1/4" (12d)	3									3
3 1/2" (16d)	1							2		3
Unidentified	107				2	5	9	10		133

made nails farther east and in larger population centers.

Cut nails with machined heads made up the great majority of the identifiable square nails found in the surface collection and nearly all of these were recovered from Unit B. These nails have well-made heads, indicating that they date after the late 1830s (Nelson 1968). This suggests that the focus of construction activity at the East Aberdeen site was on the east part of the site after such nails became available in Mississippi. However, cut nails with machined heads were also found in Units D, E, G, I, J, and K but the numbers recovered in Units D, E, and K are so low that it is doubtful that any kind of structure was present in these units. The square nails in any of these six units could have been the result of some non-structural use. For example, boxes, wagons, or some other wooden items could have decomposed and left low density scatters of square nails.

A number of square nails were unidentifiable in terms of their method of manufacture. Since they seemed to occur in the same areas and with the same frequencies as machine-headed nails, most of them are probably that type. The only exceptions to this may be those from Units G and J, which may be a mixture of square nail types because most of the other nails from those units are.

Another aspect of nail function which was examined was nail size. The size distributions for all square nails found on the surface are also presented in Table 27. Although only Unit B had an appreciable number of square nails, most of the identifiable square nails recovered from all units ranged from 1 and 1.5 in to 3 in. These sizes would be suitable for general construction; the small to medium sizes could be used in fastening laths, shingles, and other thin pieces of wood and the 3 in nails could be used in framing. The paucity of large nails suggests that most of the structures were insubstantial, perhaps outbuildings.

Nail sizes were also correlated with the standary penny (d) designations by which they are usually sold today. There has been considerable disagreement over when nails became standardized by length into the categories used today. Some studies have suggested that despite the fact that nails were sold by standard lengths in the nineteenth century, nail measurements do not reflect the expected standards (Ross 1976:886-890). The data from the East Aberdeen site indicate that by the time that cut machine-headed nails became common, nail sizes were fairly standardized with relatively few odd-sized nails being used. This is most apparent in the lengths from 1.5 in (4d) to 3 in (10d), with few nails falling on the odd quarter-inch lengths which do not correspond to standard sizes (Table 27).

Nails: Variation Within Units--Units B, G, I, and J contained enough nails to make it fruitful to examine their distributions in an attempt to define clusters that might represent structures. These four units were also on the highest parts of the site, in areas that seemed most likely on the basis of documentary evidence and situation to have contained nineteenth and early twentieth century structures. The nail clusters were defined using the procedure described in Chapter VI.

There were several clusters of square nails in Unit B that may indicate nineteenth century structure locations (Fig. 21). At least

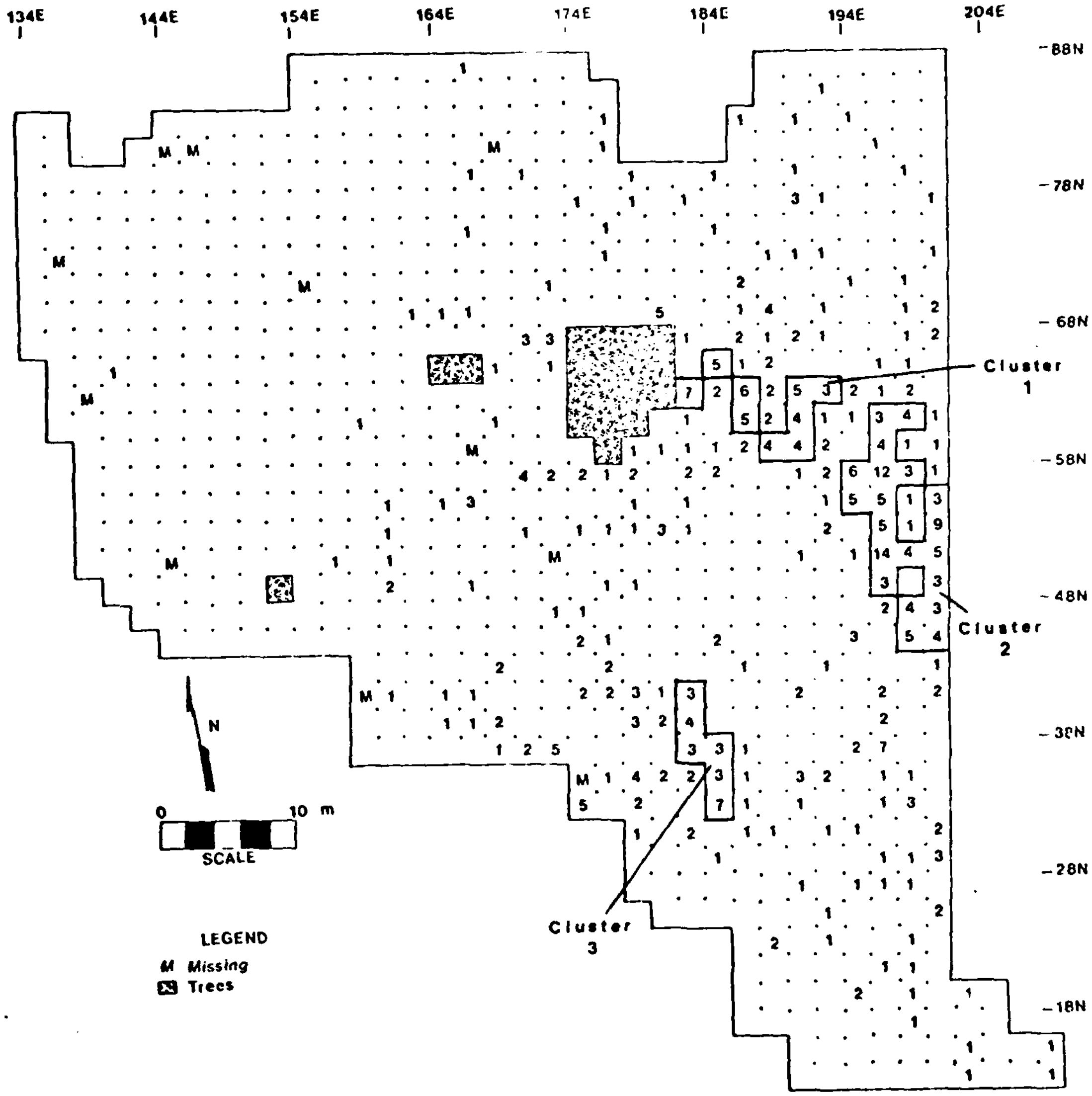

FIGURE 21. DISTRIBUTION OF SQUARE NAILS IN SURFACE COLLECTION UNIT B.

three distinct concentrations were apparent, centering on grid points 26N190E (Cluster 1), 52N200E (Cluster 2), and 34N184E (Cluster 3). Unexpectedly, the clusters were not located on the part of Unit B with the greatest eleveation but to the south and east of it.

Wire nails from Unit B indicated that later structures continued to be concentrated mainly in the eastern and southeastern parts of the unit (Fig. 22). There were six separate wire nail concentrations definable, three of them with overlapping boundaries. Two of these, Clusters 2 and 3, corresponded to square nail clusters. The other four were centered on grid points 36N196E (Cluster 4), 82N156E (Cluster 5), 54N180E (Cluster 6), and 68N198E (Cluster 7). Clusters 2 and 3, defined by both wire and square nails, may indicate either rebuilding of new structures in the spots previously occupied by older buildings or renovation and repair of older buildings with wire nails. A third possibility is that a few cut nails were used in construction of buildings that were largely put together with wire nails. Square nails were favored for certain jobs because they clinched better and were sometimes used after wire nails became common (Nelson 1968). However, the wire and square nails in Unit B were not functionally different, as would be expected in such a case; instead, as was shown on Table 26, common nails predominated in both categories. The third hypothesis, therefore, seems less likely than the first two. The most likely age for the possible structures represented by the combined square-wire nail clusters if sometime after 1850, perhaps several decades later since wire nails predominated in both clusters.

Clusters 4-7 probably represented more recent buildings. The remnants of a house remained in the vicinity of Cluster 6 in the early summer of 1978 and the wire nails found there likely came from that house. The oldest possible structure in the unit seems to have been the one defined solely by square nails, Cluster 1. It had only a few wire nails, suggesting it was built before wire nails came into use at the East Aberdeen site, perhaps before 1850.

The square nails in Unit G did not cluster and probably did not represent a structure, certainly not one of any size (Fig. 23). Wire nails were much more numerous and their distribution was composed of three adjacent clusters at grid points 8N52E (Cluster 8), 8N60E (Cluster 9), and 0N54E (Cluster 10) (Fig. 24). Cluster 11, at 4N42E, was slightly to the west (Fig. 24). Murff's Store, a pig stand, and a grist mill were located in Unit G in the twentieth century and the nails likely represent one or more of these structures.

The square nails in Units I and J did not form any concentrations dense enough to be defined as clusters (Fig. 25). They were so sparse that they may have come from boxes, stored boards, or some other wooden object. The low number of square nails in these units compared to Unit B is notable and somewhat contrary to expectations based on historic background research, which indicated that a store and perhaps other structures such as a warehouse and cotton sheds stood in this area in the second half of the nineteenth century.

The wire nail distribution in Unit J contained one dense concentration at grid point 4N10E (Cluster 12), a second smaller one at 4N2E

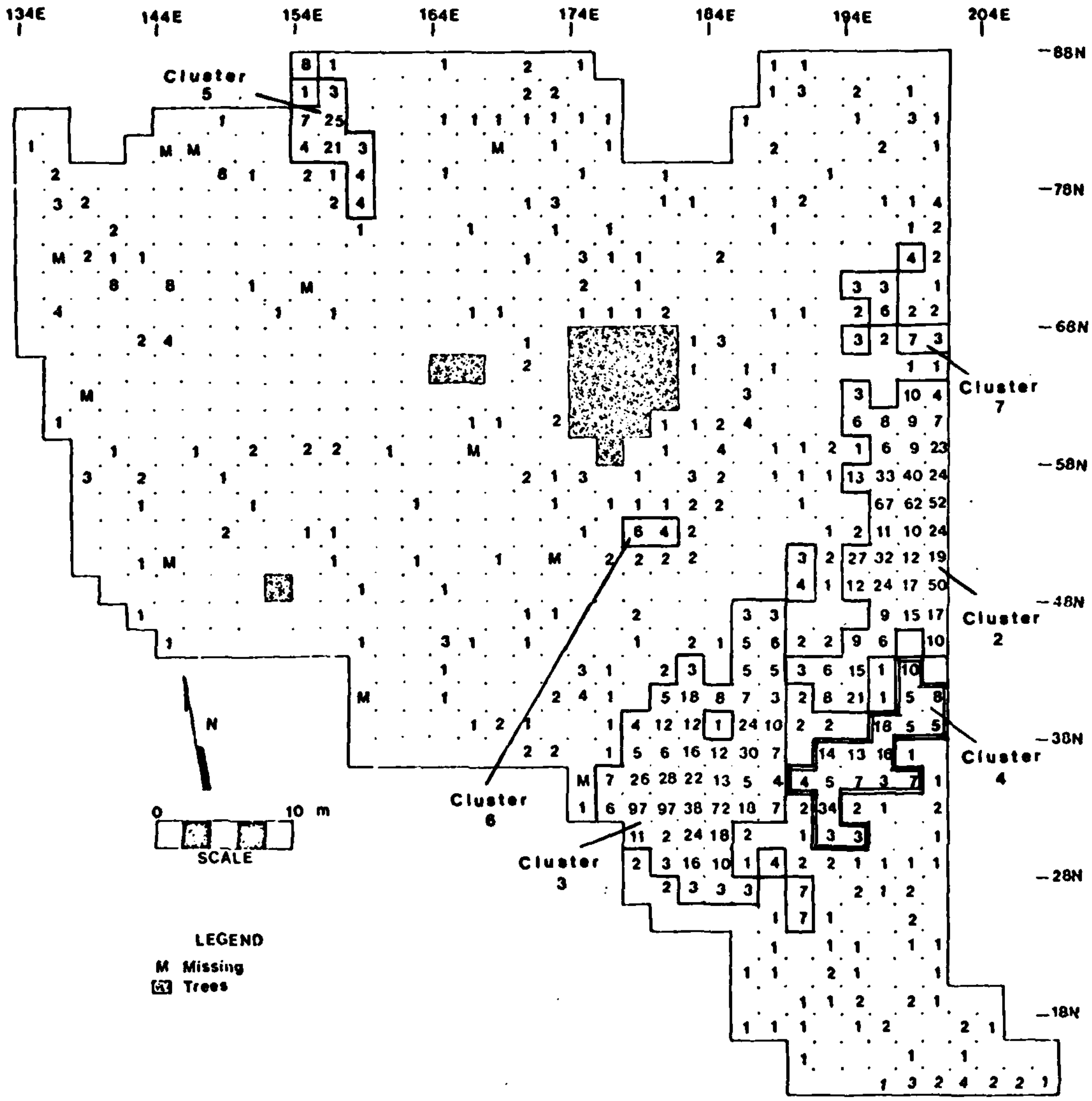

FIGURE 22. DISTRIBUTION OF WIRE NAILS IN SURFACE COLLECTION UNIT B.

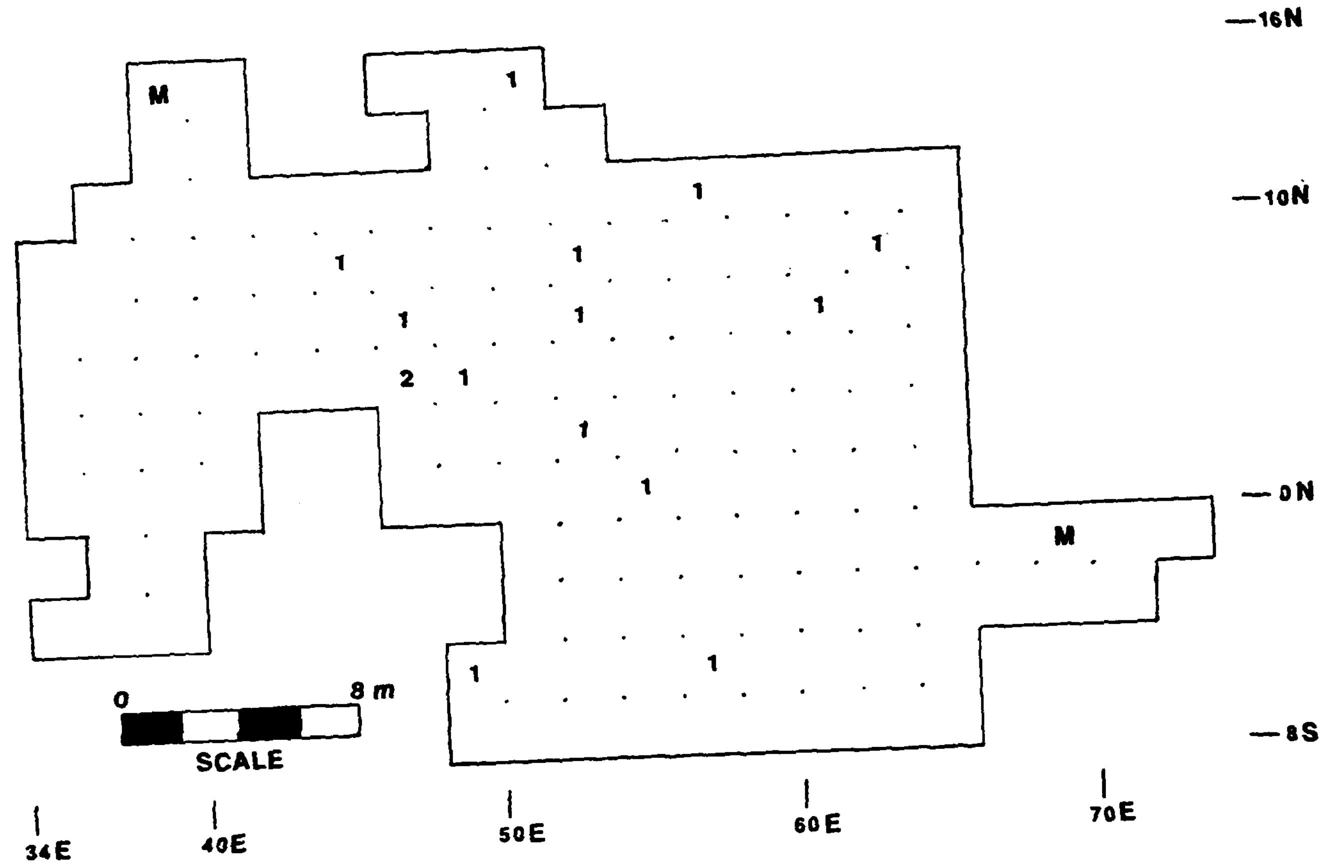

FIGURE 23.
DISTRIBUTION OF SQUARE NAILS IN SURFACE COLLECTION UNIT G.

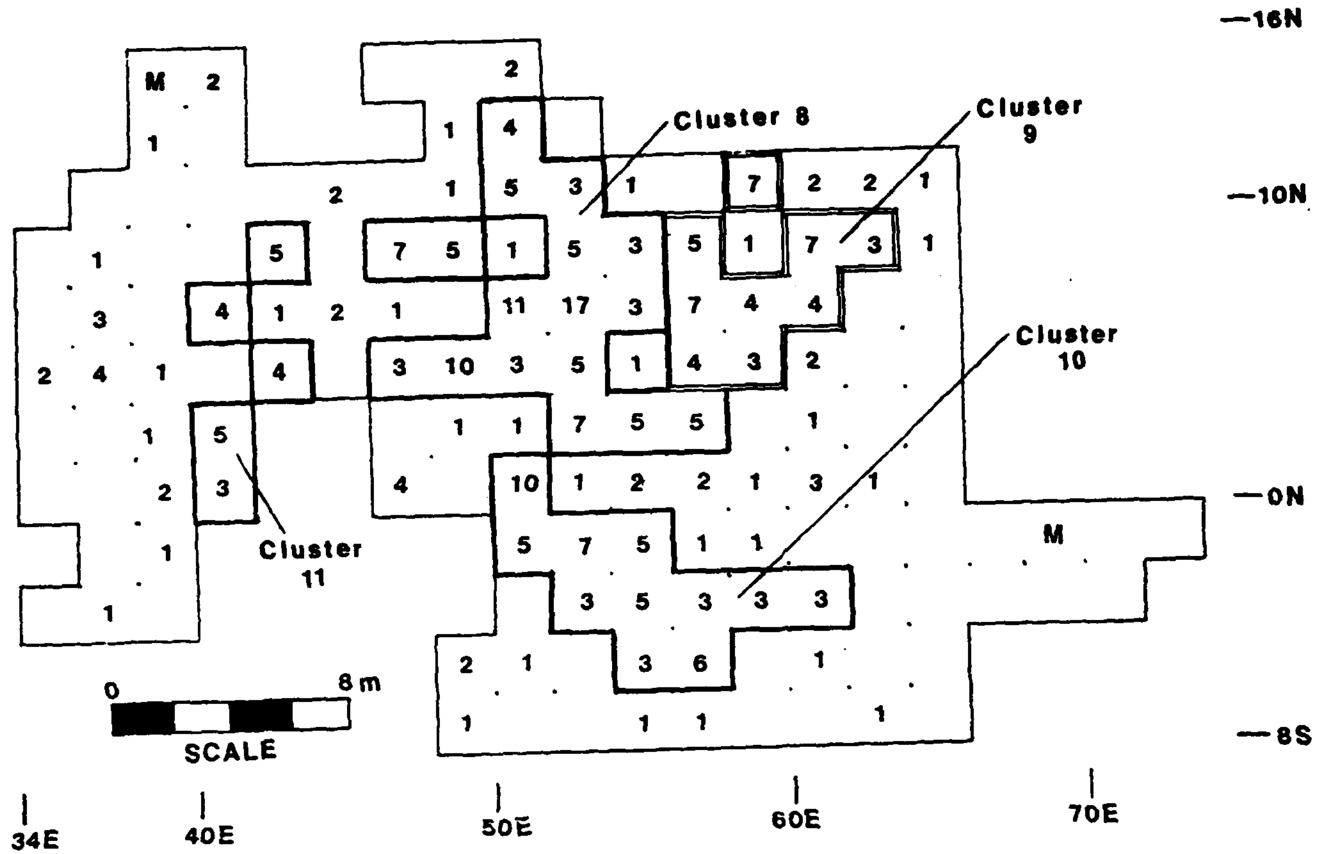

FIGURE 24.
DISTRIBUTION OF WIRE NAILS IN SURFACE COLLECTION UNIT G.

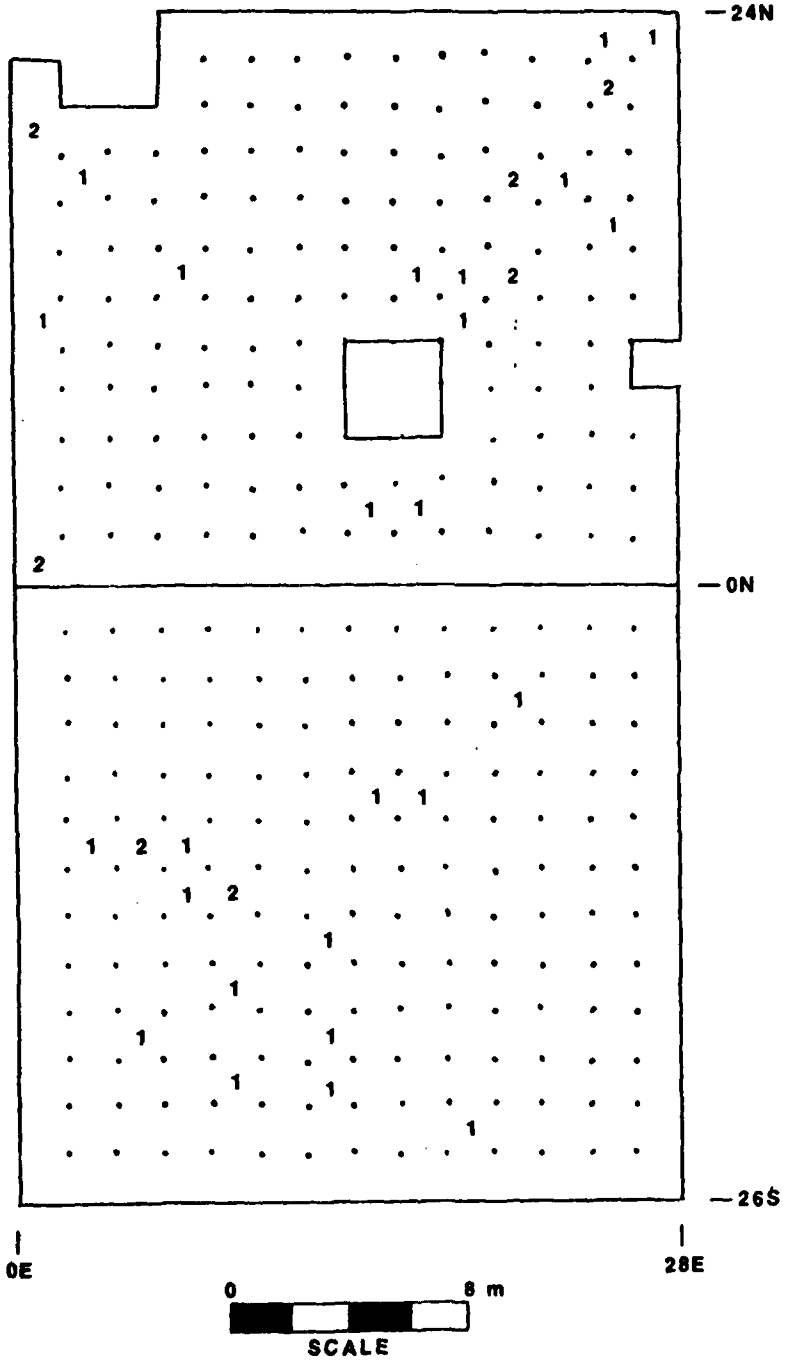

FIGURE 25. DISTRIBUTION OF SQUARE NAILS IN SURFACE COLLECTION UNITS I AND J.

(Cluster 13), and part of Cluster 14, centered at 2S20E in Unit I (Fig. 26). Unit I also contained small clusters at 18S12E (Cluster 15), 24S10E (Cluster 16), and 12S20E (Cluster 17). Since Unit I was the location of Taylor's Store in the twentieth century, many of the nails may have come from it and its outbuildings. Before fieldwork began at the site Taylor's Store still stood in this area, as did a large wooden shed adjacent to it to the north. Unit J contained a cotton gin until the late 1940s and this could have been the source of the wire nails found there.

Brick: Variation Within Units--The distribution of brick fragments will be considered only for Units B, G, I, and J, in order to elucidate which of the nail clusters discussed above were most likely to represent structures. Unit B produced large quantities of brick fragments, with clusters corresponding to five of the seven nail concentrations previously discussed (Table 28). This tends to confirm that these five areas, Clusters 1-4 and 7, held structures, with the bricks derived from piers and/or chimneys. No brick features such as chimney falls or intact piers were identified, however.

In addition to these five clusters, there were several other areas where bricks were concentrated but nails were sparse: around 84N194E, 18N198E, 40N168E, and 52N158E (Clusters 18-21) (Table 28). It is difficult to say from this evidence alone whether these might represent other structures where few nails were used or where the nails were later scavenged or whether they represent dumps or areas where bricks were broken into more fragments by farm equipment. They did tend to have a lower density of bricks than the clusters associated with nails. None of these four brick concentrations contained enough pane glass to qualify as clusters, so the evidence tends to indicate that none of them were the sites of structures.

There were brick clusters in Unit G corresponding to nail clusters 8, 9, and 10 (Table 28). These tend to confirm that the clusters represent a structure or structures, probably those mentioned earlier that were associated with Murff's Store. There were no other brick clusters present in Unit G.

The brick fragment clusters in Units I and J coincided with only one nail concentration, Cluster 15 (Fig. 26, Table 28). Again, this provides support for the hypothesis that this concentration represented a structure, while leaving the status of the other nail clusters in Units I and J unclear. There were three brick clusters, at 18N8E, 16N24E, and 10N18E (Clusters 22-24), which contained few nails. As was the case with Unit B, none of these produced any appreciable amount of pane glass, so it is unlikely that they represented structures.

Pane Glass: Variation Within Units--The distribution of pane glass fragments will be examined primarily in reference to the 17 nail clusters previously identified in Units B, G, I, and J and especially for Clusters 1-4, 7, 8, 10, and 15, which contained large quantities of brick as well as nails.

In Unit B, there were concentrations of window glass that corresponded to nail clusters 2, 6, and 7 (Table 28). These were the only marked pane glass clusters in the unit. Again, this tends to confirm that at least these three clusters represented structures. The glass

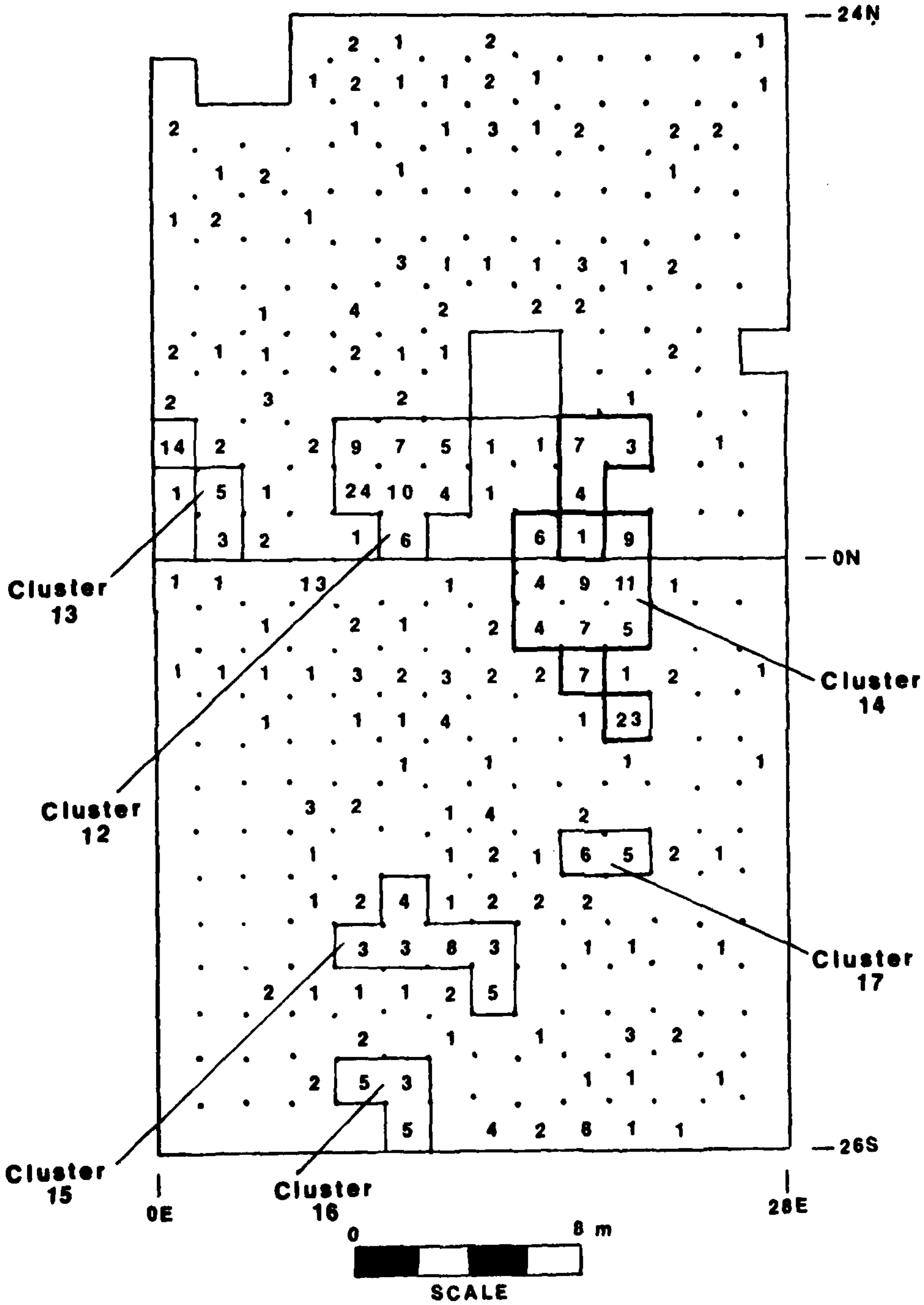

FIGURE 26. DISTRIBUTION OF WIRE NAILS IN SURFACE COLLECTION UNITS I AND J.

TABLE 28. COMPARATIVE CLUSTER DENSITIES FOR STRUCTURAL ARTIFACTS IN SURFACE COLLECTION UNITS B, G, I, AND J.

Unit	Cluster #	Nails[1] Square m^2 in cluster	Square #/m^2	Wire m^2 in cluster	Wire #/m^2	Brick Fragments[2] m^2 in cluster	Brick Fragments #/m^2	Pane Glass[3] m^2 in cluster	Pane Glass #/m^2	Identified as Structure
B	1	36	1.2			72	2.7			yes
	2	80	1.3	156	4.6	40	2.4	36	2.05	yes
	3	24	0.95	208	3.7	112	2.9			yes
	4			68	2.35	20	1.8			yes
	5			32	2.2					no
	6			8	1.25			44	2.7	yes
	7			28	1.0	136	3.05	16	2.6	yes
G	8			52	1.3	36	1.6	84	4.5	yes
	9			36	1.2	52	2.2			yes
	10			60	1.3	28	2.2	20	2.4	yes
	11			20	1.05			20	6.9	yes
I and J	12			28	2.25					no
	13			12	1.8					no
	14			52	1.9					no
	15			24	1.1	16	2.6			yes
	16			12	1.2					no
	17			8	1.4					no
B	18					80	2.4			no
	19					48	1.8			no
	20					20	2.05			no
	21					32	2.0			no
	22					36	2.5			no
	23					32	2.25			no
	24					28	1.9			no
I	25							16	2.1	no
	26							20	1.1	no

[1] Clusters composed of at least one 2x2 m unit with five or more nails, contiguous to units with three or more nails

[2] Clusters composed of at least one 2x2 m unit with 10 or more fragments, contiguous to three or more other units containing at least five fragments

[3] Clusters composed of at least one 2x2 m unit with 10 or more fragments, contiguous to three or more other units containing at least five fragments

tended to be distributed somewhat peripherally to the nails. For example, the glass in Cluster 2 was densest in unit 50N196E and the areas north and south of it, while nails were most common in unit 54N198E and the area east of it. This is a not unexpected pattern, since windows are found only on the outside perimeter of most historic structures, while nails usually occur throughout the building.

There were pane glass clusters present in Unit G corresponding to Clusters 8, 10, and 11 (Table 28). Cluster 11 was the only one of these to have relatively few bricks. There were no other pane glass concentrations present in the unit.

Only two pane glass concentrations were identified in Units I and J, at 18S4E and 24S20E (Clusters 25 and 26), neither one corresponding to a nail or brick cluster. However, they were within a few meters of Clusters 15 and 16 and perhaps were related to the demolition of Taylor's Store.

Summary of Structural Artifacts-- The evidence from nails, bricks, and pane glass indicates that there were at least four structures in Units B, G, I, and J and possibly eleven. The four clusters, 2, 7, 8, and 10, that contained concentrations of all three artifact categories (Table 28) presumably did represent buildings, since it would be very unlikely that the artifacts would otherwise be associated in this way. The four clusters differed mainly in nail density and type, with Cluster 2 having many more nails per square meter and containing numerous square as well as wire nails (Table 28). Cluster 2 appears to date from the second half of the nineteenth century, perhaps representing a small building originally constructed with square nails, then enlarged or rebuilt using wire nails. Cluster 7 dates from the late nineteenth to early twentieth century based on nail types and on the fact that documentary and informant research turned up no mention of a structure in this location in the recent past. Clusters 8 and 10 probably date from the early to mid-twentieth century.

Clusters 1, 3, 4, 9, and 15 contained concentrations of both bricks and nails (Table 28) and therefore also probably represent structure locations. The low densities of pane glass associated with them indicate that they had few or no glass windows. Of all the identified structures, Cluster 1 appears to be the oldest, the only one marked solely by square nails (Table 28) and so its occupation can be inferred to date mostly from the second half of the nineteenth century. Clusters 4, 9, and 15 all were defined by wire nails and therefore should represent late nineteenth to early twentieth century buildings. This is especially likely to be the case with Clusters 9 and 15, situated near the locations of Murff's and Taylor's Stores respectively.

Clusters 6 and 11 are anomalous in containing concentrations of nails and pane glass, but few bricks (Table 28). Nonetheless, Cluster 6 almost certainly is the remains of a building which was documented in the area and which had recently been torn down in 1978. Cluster 11 likewise probably represents a structure associated with Murff's Store, which stood near this spot in Unit G prior to fieldwork at the site.

Household and Subsistence Artifacts. In order to provide information with which to test the hypotheses presented in Chapter IV concerning the function and location of historic structures, the distributions of nineteenth century fineware sherds, all fineware, bottle glass fragments, and pieces of bone were examined for Surface Collection Units B, G, I, and J. These artifact categories are useful mainly in considering the function of previously identified structures, although the ceramics can also confirm or provide new information on their age. Therefore, the only concentrations discussed below are those that correspond to previously recognized artifact clusters (Table 28), especially those identified as representing structures.

Historic Ceramics: Variation Among Units--All surface collection units contained at least a few historic sherds (Table 29). Most units produced low numbers, Units G, I, and J contained moderate amounts, and Unit B exhibited a disproportionately high number. The latter four units all produced a fairly wide variety of historic ceramic types (Table 29). This pattern follows that predicted for areas where residences were present (Table 7). Table 30 shows the results of further analysis for purposes of identifying those areas of the site used during the nineteenth century. Only those types whose manufacture terminated prior to 1900 are included. For East Aberdeen these were all varieties of pearlware and the transfer-printed, spongeware, flow blue, and shell-edge varieties of unspecified fine earthenware. These types are weighted toward the first half of the nineteenth century, since decoration of any kind became less common after 1850 (Lofstrom 1976).

The most intensive nineteenth century occupation of the site was apparently in Units B, I, and J. The western concentration is consistent with documentary evidence that this area was the center of activity during the nineteenth century, while both concentrations support the hypothesis that the high areas of the site were most likely to contain residences during the nineteenth century. The pottery in Unit G, very little of which could be securely dated to the nineteenth century (Table 30), may well have derived from the twentieth century use of Murff's Store, which was located in this area, as a residence.

Historic Ceramics: Variation Within Units--Although nineteenth century sherds were scattered over Unit B, there were two small concentrations evident: one around grid point 60N190E and one around 34N198E (Fig. 27), corresponding to nail clusters 1 and 4 (Figs. 21-22). The concentrations and the total number of nineteenth century sherds contained in them were small. However, they did provide support for the contention that the two structures were in use during the nineteenth century. This is particularly of interest for Cluster 4, which had a low density of square nails, so that its initial occupation could be placed in the nineteenth century only tentatively on the basis of nails alone.

The distribution of all fineware in Unit B, as well as duplicating Clusters 1 and 4, showed two other important concentrations, corresponding to Clusters 2 and 3, with three smaller ones matching Clusters 5, 6, and 7 (Table 31). There was a final concentration of fineware sherds at 42N174E, which matches a previously identified cluster of bricks, Cluster 20 (Table 31). All but Clusters 5 and 20 were identified as buildings on the basis of structural artifact densities (Table 28).

TABLE 29. SUMMARY OF HISTORIC CERAMIC MATERIALS IN SURFACE COLLECTION BY UNIT.

Unit	A	B	C	D	E	F	G	H	I	J	K	Total
Unit as % of Total Area Collected	2	48	3	2	2	2	8	9	10	9	5	100
Pearlware												
Plain	9			1			4	1	18	7		40
Transfer Printed									4	2		6
Sponge-decorated										2		2
Flow Blue		1							1			2
Hand-painted									3			3
Banded									1			1
Other		2										2
Unspecified Fine Earthenware												
Plain	5	725	3	4	8	1	89	7	55	37	5	939
Transfer Printed		4						1	10	1		16
Sponge-decorated		9				1			2	2		14
Flow Blue		2							1	1		4
Hand-painted		21			1		4		17	6		49
Banded		1							5			6
Shell-edged		8							10	1		19
Other	3	35	5	1	1		20	4	1	3	1	74
All Pastes												
Overglazed		32			1		2					35
Whiteware												
All Surface Treatments	1	85			3		21	8	1	1	1	121
Coarseware												
All Surface Treatments	3	232	6	5	1	3	27	3	15	42	10	347
Porcelain												
All Surface Treatments	1	56		1	2	1	10	9	2	3	1	86
Ironstone		231										
All Surface Treatments	1	231	1	1	2		17	6	2	14		275

TABLE 30.
SUMMARY OF CERAMIC MATERIALS DATABLE TO THE NINETEENTH CENTURY IN THE SURFACE COLLECTION BY UNIT.

Unit	Unit as % of Total Area Collected	Pearlware (All Surface Treatments)		Unspecified Fine Earthenware (Transfer Printed, Spongeware, Flow Blue and Shell-edged)		Total	
		#	%	#	%	#	% of Total
A	2						
B	48	12	21	23	43	35	32
C	3						
D	2	1	2			1	1
E	2			1	2	1	1
F	2			1	2	1	1
G	8	4	7			4	4
H	9	1	2	1	2	2	2
I	10	27	50	23	43	50	44
J	9	11	20	5	8	16	15
K	5						
Total	100	56	100	54	100	110	100

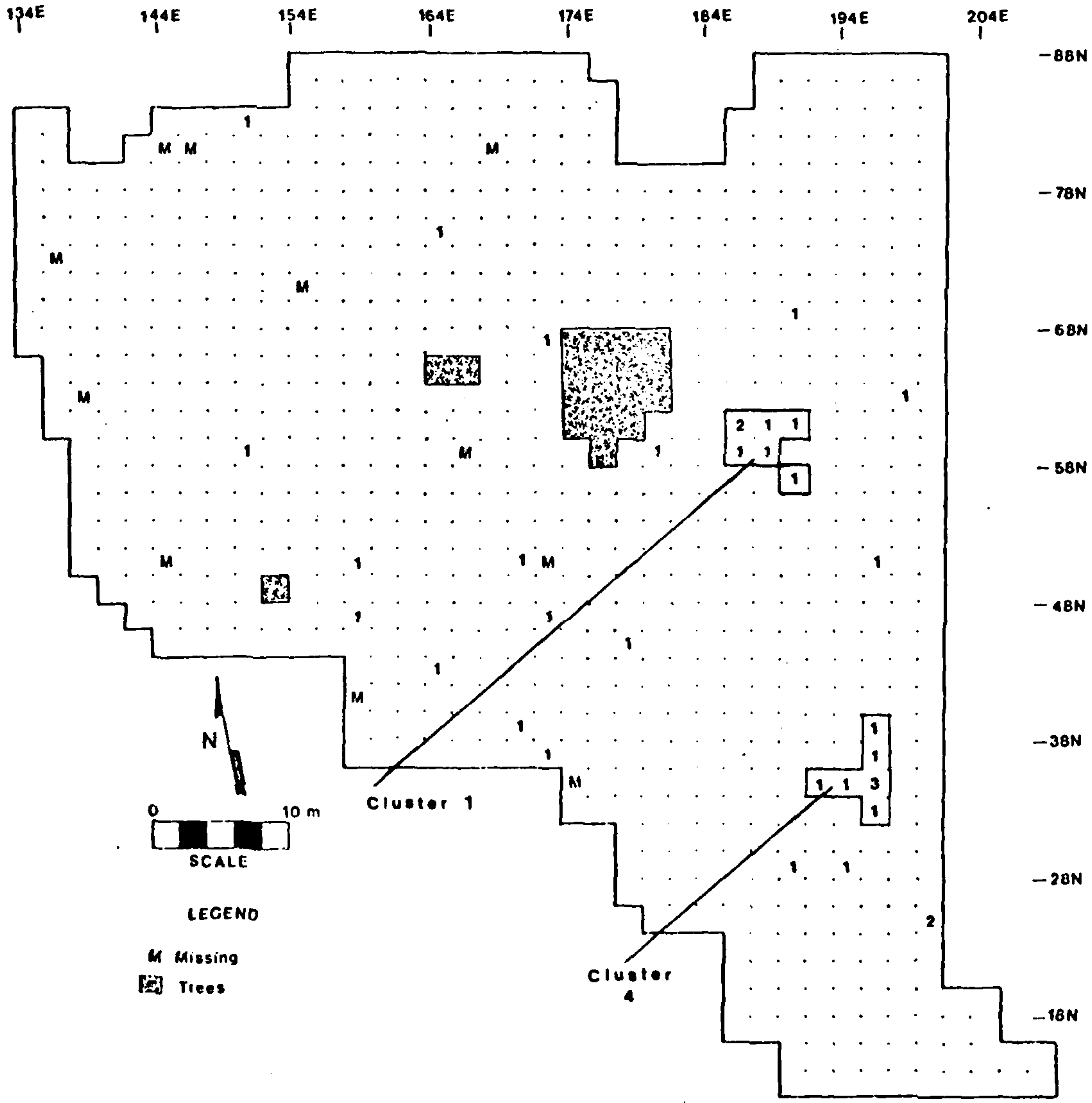

FIGURE 27. DISTRIBUTION OF NINETEENTH CENTURY CERAMIC MATERIALS IN SURFACE COLLECTION UNIT B.

TABLE 31. COMPARATIVE CLUSTER DENSITIES FOR HOUSEHOLD AND SUBSISTENCE ARTIFACTS IN SURFACE COLLECTION UNITS B, G, I, AND J.

		FINEWARE CERAMICS[1]			BOTTLE GLASS[2]			BONE[3]			AVERAGE SIZE OF CLUSTER (m^2)	
Unit	Cluster #	m^2 in cluster	# sherds	#/m^2	m^2 in cluster	# fragments	#/m^2	m^2 in cluster	# pieces	#/m^2	structural artifacts	household and subsistence artifacts
Residences:												
B	1	56	69	1.2				52	35	0.6	54	54
	2	156	399	2.6	144	1015	7.0	124	86	0.7	78	141
	3	144	238	1.7	96	563	5.9	132	62	0.5	114.7	124
	4	36	44	1.2	16	85	5.3	16	8	0.5	44	22.7
G	10	16	27	1.7	64	382	6.0	40	26	0.65	36	40
I	15	28	51	1.8				52	19	0.4	20	40
Other Structures:												
B	6	12	18	1.5	16	74	4.6	36	13	0.4	26	21.3
	7	12	16	1.3							60	12
G	8				64	437	6.8	52	26	0.5	57.3	58
	9				48	299	6.2	64	35	0.5	44	56
	11										20	0
Refuse Pits/ Garbage Dumps:												
B	5	32	33	1.0	24	176	7.3				32	28
	18				12	64	5.3				80	12
	20	24	40	1.7	32	187	5.8	28	30	1.1	20	26
I	16	16	17	1.1							12	16

1 Clusters composed of at least one 2x2 m unit with five or more sherds, contiguous to units with three or more sherds
2 Clusters composed of at least three contiguous 2x2 m units with 15 or more fragments
3 Clusters composed of at least one 2x2 m unit with three or more pieces, contiguous to other units with one or more pieces

Four of these (Clusters 2, 3, 6, and 7) presumably were used primarily during the late nineteenth and twentieth centuries, since they produced little or no pottery definitely identifiable as nineteenth century types. This confirms their ages as indicated by nail types.

Unit B yielded four historic sherds with identifiably backmarks. A sherd from 52N198E probably carried the mark "Flight" or "Flight or Ban," ca 1780-1840 (Kovel and Kovel 1953:47-58). A sherd from 48N200E probably read "Johnson Bros./England," ca 1883-present (Godden 1964:355-356). A sherd from 56N198E probably read "Royal Semi-Porcelain/Alfred Meakin," ca 1875-present (Godden 1964:425-426). Finally, a sherd from 58N202E probably read "W. D. SUGGS/SMITHVILLE, MISS.," date unknown. This backmark was identified only because a whole churn made by the same pottery was known to one of the authors (Elliott). All backmarks are illustrated in Plate 14, with other typical sherds shown in Plate 15.

The amount of pottery associated with them is an indication that some of the structures in Unit B served a residential function. Clusters 2 and 3 showed the greatest density and highest absolute number of sherds, with Clusters 1 and 4 being intermediate in size and number of sherds (Table 31). Clusters 6 and 7 had relatively little pottery, although sherd density was fairly high. The evidence tends to indicate that, while they were structures, Clusters 6 and 7 did not serve as residences.

In Unit G, all four clusters were identified as structures (Table 28). Fineware from Unit G was concentrated in the area of Cluster 10, so it appears that it represented a late nineteenth to twentieth century residence, while Clusters 8, 9, and 11 represented buildings with some other function.

Units I and J displayed only one cluster, 15, that was classified as a structure (Table 28). In attempting to determine its function, two fineware sherd concentrations were discerned, corresponding to Clusters 15 and 16 (Table 31). This tends to indicate that Cluster 15 served as a residence. Although it contained few square nails (Fig. 25), almost half the fineware collected in the area was of identifiable nineteenth century types (Fig. 28). This was also true of the fineware associated with Cluster 16, indicating that both areas were in use in that period. It should be noted here that Feature 23, a large mid-nineteenth century refuse pit, was found in the area of Cluster 16 during stripping; it was probably the source of the nineteenth century sherds found on the surface in this area.

The distribution of nineteenth century ceramic materials in Units I and J somewhat paralleled the distribution of prehistoric ceramics (Fig. 19-20). This suggests that there may have been some disturbance of the southern half of Unit J and the northern half of Unit I that removed both prehistoric and historic sherds from this area. This possibility is further discussed below, along with other evidence of disturbance.

<u>Bottle Glass: Variation Within Units</u>--In order to strengthen the ceramic-based identification of residences, the density of bottle glass fragments was examined for the four surface collection units. Bottle glass concentrations in Unit B corresponded to Clusters 2-6 (Table 31). The highest density was found in Cluster 5, which was not identified as the remains of a structure; it may represent a small dump. The lowest

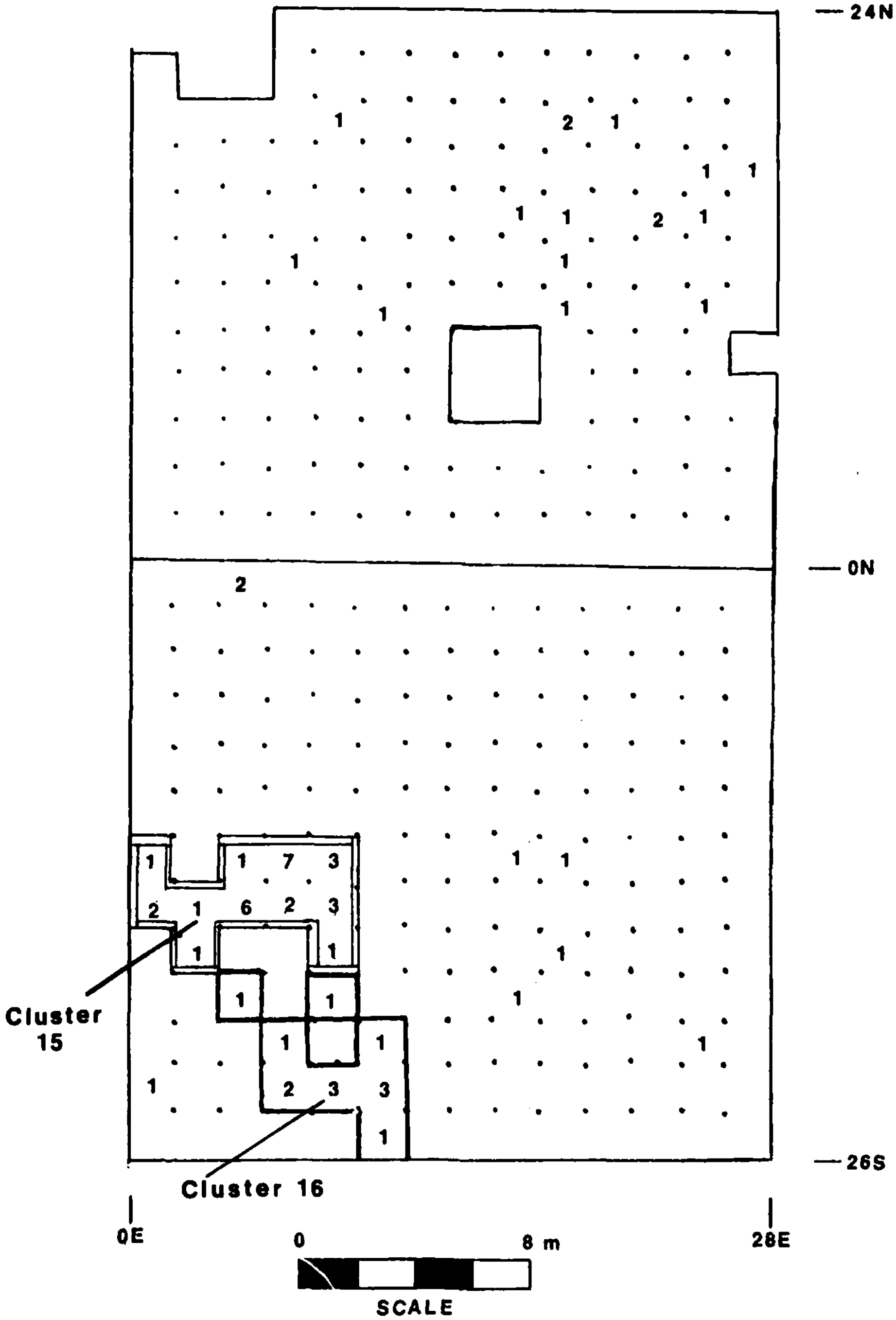

FIGURE 28. DISTRIBUTION OF NINETEENTH CENTURY CERAMIC MATERIALS IN SURFACE COLLECTION UNITS I AND J.

density was found in Cluster 6 (Table 31), which had been classified as a non-residential structure. The four residences varied, with Cluster 1 having too little bottle glass to form a concentration and Clusters 2-4 having intermediate densities (Table 31). The bottle glass evidence, while somewhat ambiguous, tends to partially confirm the tentative identifications of the functions of these structures based on ceramics.

Other bottle glass concentrations in Unit B were associated with Clusters 18 and 20 (Table 31), both of which were marked otherwise only by bricks (Table 28). They presumably represent dumps or refuse areas rather than structures.

There were concentrations of bottle glass in Unit G corresponding to Clusters 8, 9, and 10 (Table 31). The paucity of ceramics and abundance of bottle glass in Clusters 8 and 9 leave some question as to the function of these structures. Cluster 10 is further confirmed to represent a residence. Bottle glass formed no concentrations in Units I and J dense or large enough to qualify as clusters (Table 31).

There was a tendency in all four surface collection units for bottle glass to be most common in the vicinity of residential structures that were used mostly in the late nineteenth to twentieth centuries (Clusters 2, 3, and 10), while the residences that apparently were occupied earlier (Clusters 1, 4, and 15) displayed less bottle glass (Table 31). Bottles and jars would be expected to become more common after bottle-making machines came into use in 1913 (Newman 1970).

Bone: Variation Within Units--The distribution of pieces of bone was also examined for the four surface collection units, since as subsistence-related artifacts they would be expected to be concentrated around residential rather than other kinds of structures (Table 7). In Unit B, four of the five bone concentrations coincided with Clusters 1-4, which had been identified as residences (Table 31), further confirming that identification. The other bone cluster present in the unit was coincident with Cluster 6, the function of which remained ambiguous. One other bone cluster corresponded to Cluster 20, which was not a structure but may instead have represented a refuse pit or dump (Table 31).

Surface Collection Unit G produced three diffuse bone concentrations, corresponding to Clusters 8, 9, and 10 (Table 31). While this tended to confirm the identification of Cluster 10 as a residence, it left the function of the other two structures unclear. Unit I contained one concentration of bone, coincident with Cluster 15 (Table 31). This again tended to confirm its residential function.

Summary of Household and Subsistence Artifacts--Of the structures previously identified, six seem to have functioned as residences on the basis that their locations coincided with concentrations of fineware ceramics, bone, and in four cases, bottle glass. Three of these, Clusters 1, 4, and 15, appear to represent primarily nineteenth century houses judging by the distribution of distinctive decorated pottery types, while the other three (Clusters 2, 3, and 10) were occupied in the span from the late nineteenth to mid-twentieth century, since they contained few examples of earlier pottery styles. Residences 2 and 3 were probably built earlier than Cluster 10 because they were marked by substantial quantities of square as well as wire nails.

Five structures, Clusters 6-9 and 11, could not be assigned functional designations because of ambiguities in the evidence. Despite the low quantity of fineware found there, Cluster 6 might have been residential in nature, since a house apparently stood in the area (Fig. 7, Point I) as recently as 1976 or 1977, when the site was recorded (Elliott 1978a:81, 83). Another line of evidence that might help to identify the function of these structures is their size. For example, if they represented warehouses or cotton sheds, they would be expected to be considerably larger than residences or stores (Table 7). Unfortunately, the average area of all the structural clusters was less than 100 m^2, with the exception of Clusters 2 and 3, which were only slightly larger (Table 31). In most cases there was a good match between size as estimated using structural and household/subsistence artifacts. Surface scatters would be expected to be larger than the structures or features they represent because the artifacts would be dispersed somewhat by cultivation and other disturbance. Therefore, it seems unlikely that any of the unidentified structures (Table 31) were either warehouses or cotton sheds.

Clusters 8 and 9 may have been the remnants of the commercial use of Murff's Store, since they did display some bone but little pottery, as expected for stores (Table 7). The presence of large quantities of bottle glass might be explained for a twentieth century store if bottled soft drinks were consumed there. Twelve identifiable soft drink bottle sherds and 25 metal bottle caps were recovered from Cluster 8, while only five bottle fragments and no caps came from Cluster 9. This tends to confirm Cluster 8 as representing the store, while the function of Cluster 9 remains uncertain. The only structure that had few household or subsistence artifacts of any kind was Cluster 11; this and its small size indicates that it may have been the site of an outbuilding of some kind.

Finally, Clusters 5, 16, 18, and 20 had few structural artifacts aside from bricks but contained varying amounts of household and subsistence artifacts. This and the later discovery of a large pit in the vicinity of Cluster 16 led to the conclusion that they probably represented refuse areas, either dumps or sub-surface pits.

Other Distinctive Historic Materials. In Unit B, horseshoe fragments were found in squares 26N194E, 26N198E, and 30N200E. These units were immediately south of Cluster 4. In Unit I, half of a bridle bit and a portion of a singletree loop and hook were recovered in the vicinity of Cluster 15, as were a metal file, wedge, and wrench. Finally, a total of 10 wire cotton bale clips were recovered from the vicinity of Cluster 12 in Unit J, the site of the twentieth century cotton gin.

NATURAL STRATIGRAPHY AND DISTURBANCE.

Natural Stratigraphy. Several hand-dug auger holes excavated at East Aberdeen in the spring of 1978 by Mississippi State University personnel revealed that there were only three easily identified natural strata. The uppermost stratum was brown to dark brown, grading into a lighter yellowish brown as depth increased. It appeared to be approximately 2 m thick in the eastern part of the site, which was the only area tested. Below it was yellow sand extending as much as 1 m deeper, underlain by white sand.

The systematic augering of the site done during the testing phase of the fieldwork was designated primarily to give more information on the brown upper stratum in which most of the artifacts were being found. Figures 29-31 show the depths at which the dark brown stratum gave way to yellow sand in five of the surface collection units. In two cases, auger holes 24N10E and 0N46E, yellow clay rather than yellow sand was reached. The augering showed that there were two areas in Units I, J, and G where the brown stratum was up to 2 m in thickness; these were separated by an area of thinner deposit. Similarly, in Unit K there were at least two areas showing thicknesses greater than 1 m, while in Unit B only in one area did the stratum display such depth. The areas where the brown stratum was thickest correspond fairly well to the topographic high spots on the modern surface, indicating that the top surface of the yellow sand showed less relief than the modern surface.

The natural stratigraphy at East Aberdeen is generally similar to that at other midden mound sites along the Tombigbee. At Kellogg Mound, the dark culture-bearing deposits were underlain in order by sterile yellow clay, yellow sand, and white sand, while at the Barnes Mound, yellow and brown sand underlay the artifact-bearing layers (Blakeman 1975: 49, 88-89). A similar sequence was found at the Vaughn Mound, with yellow sand and yellow clay recorded under the brown midden deposits (Atkinson 1974:118, 121-123).

Dr. Frank C. Leonhardy examined Test Units 1 through 6 on July 25-26, 1978 and described the profiles of four of them--Test Units 1, 2, 3, and 6--verbally and in a short report to Interagency Archeological Services-Atlanta (Leonhardy 1978). His main purpose was to attempt to clarify the depositional, pedogenic, and cultural alterations in the visible strata. His conclusions were based on visual examination, Munsell color chart readings, and tactile texture and consistence measures. Aside from Leonhardy's observations, the main source of information on stratification was the profiles. Each test and excavation unit and slope cut profile was divided into natural strata on the basis of color, texture, and consistence differences. Most of these differences were not visible during excavation but were apparent upon careful examination of the profiles. These were checked in the field and compared and correlated with Leonhardy's descriptions to produce the profiles shown in Figures 32-34 and described in Tables 32-33. All of the profiles depict the south walls of the units. Plates 16 and 17 show a typical slope-cut profile and one wall of Excavation Unit 2.

Stratification at the East Aberdeen site was described by texture and consistence, with definitions taken from the U. S. Department of Agriculture Soil Survey Manual (1960), and color as determined by comparison with Munsell soil color charts (Munsell Color 1975). Texture gives an indication of particle size, while consistence measures cohesion and resistance to deformation (United States Department of Agriculture 1960:257). The colors of strata in the test and excavation units are shown in Tables 32-33, with both the Munsell notation and the color name given. Closely related colors were combined since there was some variability in the assignment of colors in the field. Texture and consistence are also described in the tables. The strata were given code names, with the letters indicating color from darkest (A) to lightest

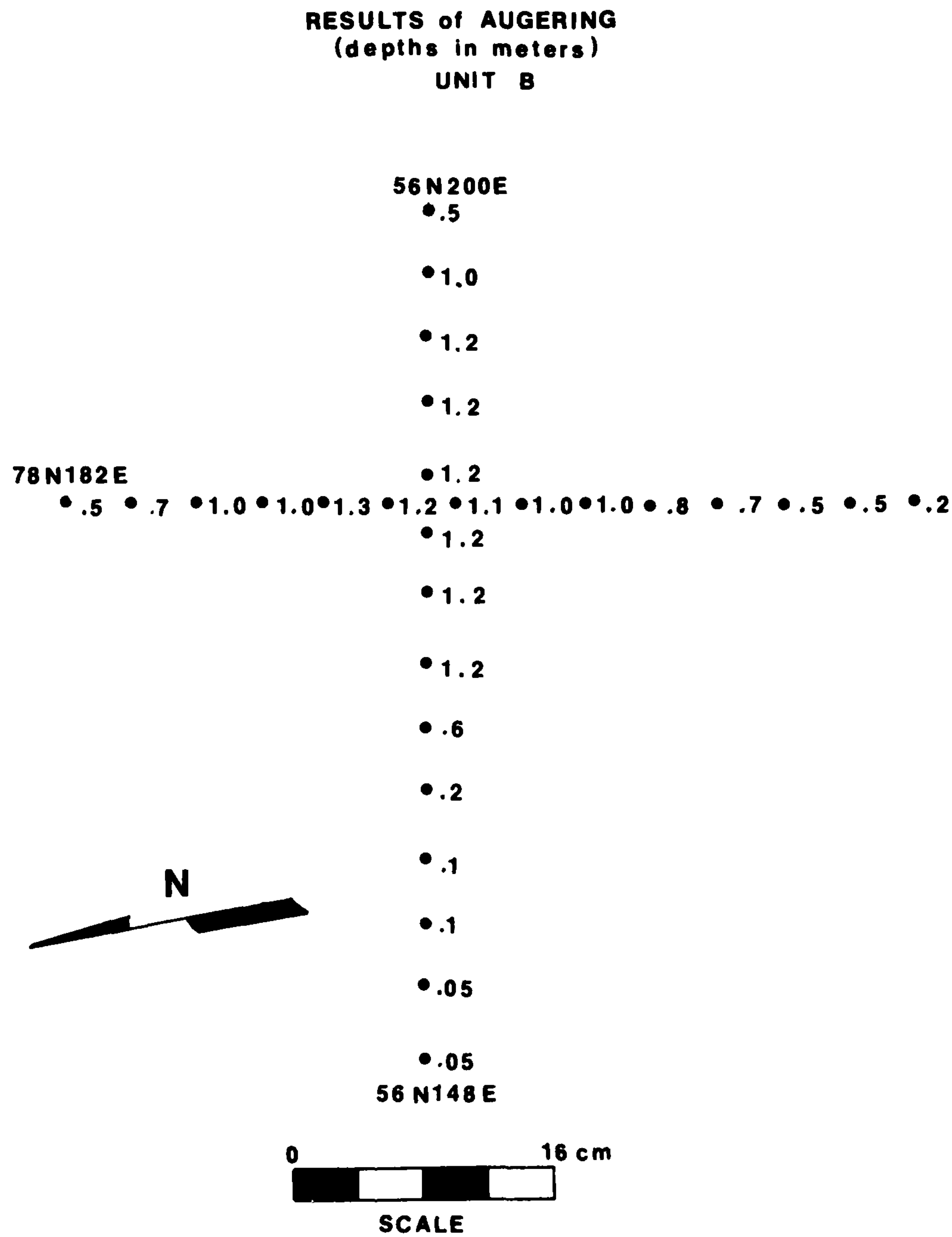

FIGURE 29. RESULTS OF AUGERING
IN SURFACE COLLECTION UNIT B.

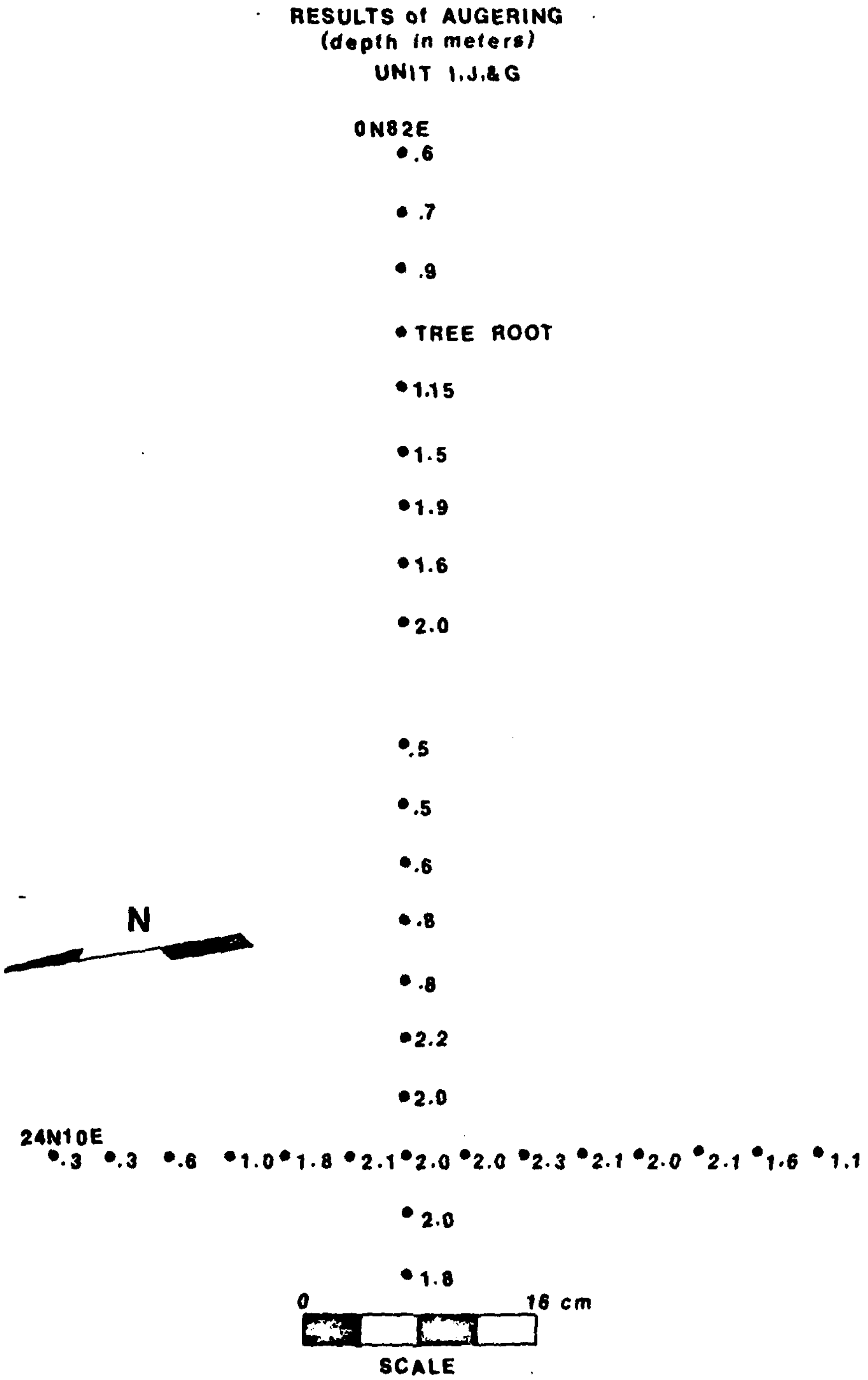

FIGURE 30. RESULTS OF AUGERING
IN SURFACE COLLECTION UNITS I, J, AND G.

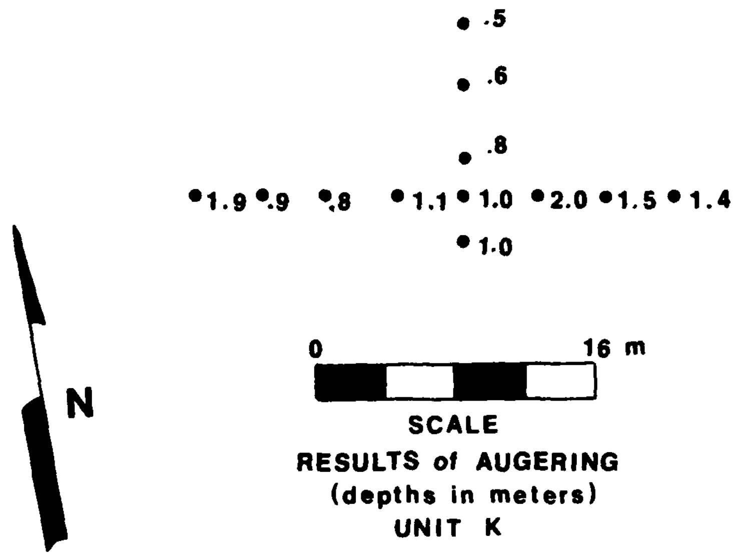

FIGURE 31. RESULTS OF AUGERING IN SURFACE COLLECTION UNIT K.

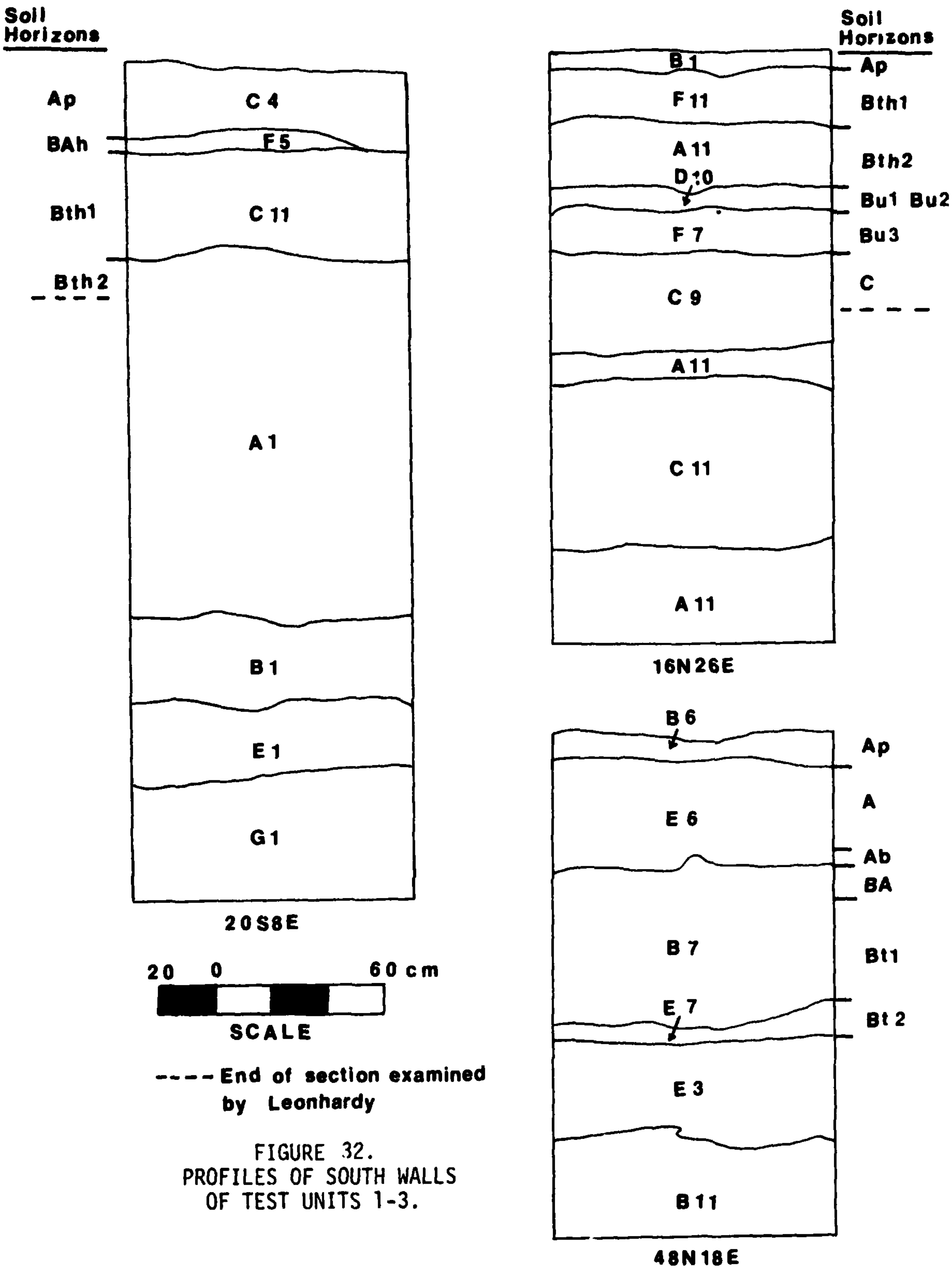

FIGURE 32.
PROFILES OF SOUTH WALLS
OF TEST UNITS 1-3.

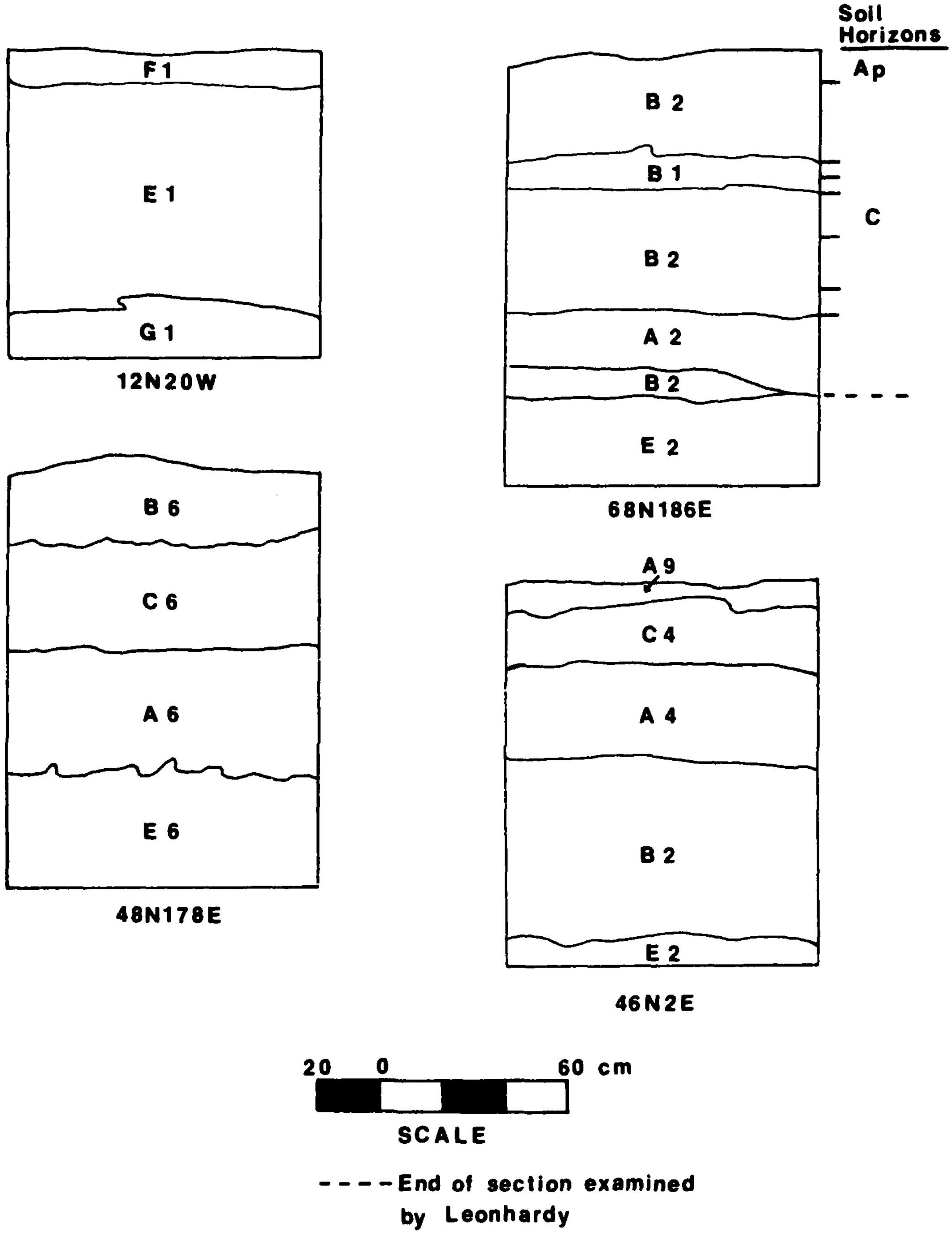

FIGURE 33.
PROFILES OF SOUTH WALLS OF TEST UNITS 4-7.

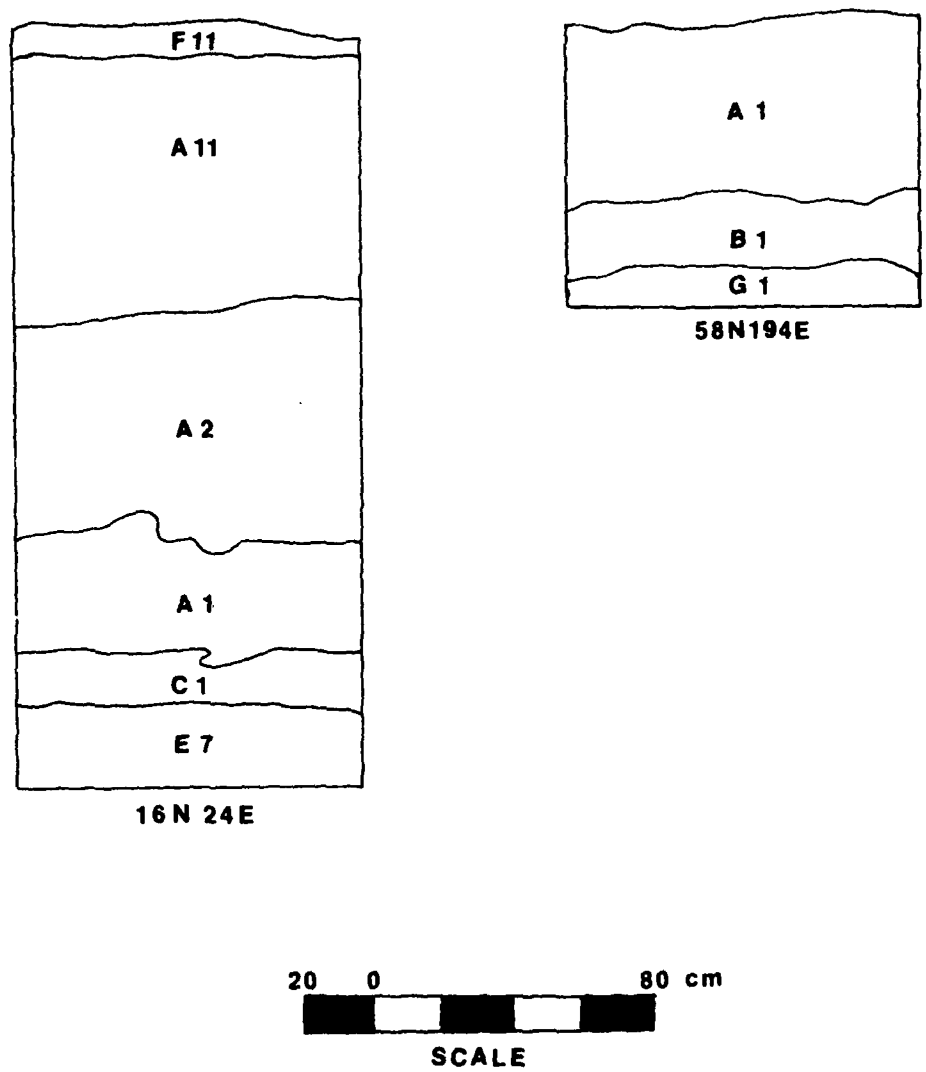

FIGURE 34. PROFILES OF EXCAVATION UNITS.

TABLE 32. PROFILE DESCRIPTION OF TEST UNITS.

Test Unit	Level cm	Figure Nota-tion	Color		Texture
1 (20S8E)	0-30	C4	7.5YR 3/4	Dark Brown	Loamy medium sand; friable; not sticky; not plastic.
	30-35	F5	10YR 2/1-3/2	Grayish Brown to Black	Loamy medium sand; friable; slightly sticky; slightly plastic.
	35-73	C11	7.5YR 3/4	Dark Brown	Sandy clay loam; hard; sticky; plastic.
	73-200	A1	5YR 3/3	Dark Reddish Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	200-230	B1	7.5YR 4/2-6/4	Brown to Dark Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	230-260	E1	10YR 4/4-5/8	Yellowish Brown to Dark Yellowish Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	260-300	G1	10YR 7/6-8/1	Light Yellow to Very Pale Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
2 (16N26E)	0-7	B1	7.5YR 4/2-6/4	Brown to Dark Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	7-25	F11	10YR 2/1-3/2	Grayish Brown to Black	Sandy clay loam; hard, sticky; plastic.
	25-49	A11	5YR 3/3	Dark Reddish Brown	Sandy clay loam; hard; sticky; plastic.
	49-58	D10	7.5YR 6/6 mottled with 5YR 4/4	Reddish Yellow to Reddish Brown	Finely mottled medium sandy loam; hard; slightly sticky; slightly plastic.
	58-71	F9	10YR 2/1-3/2	Grayish Brown to Black	Medium sandy loam; friable; slightly sticky; slightly plastic.
	71-108	C9	7.5YR 3/4	Dark Brown	Medium sandy loam; friable; slightly sticky; slightly plastic.
	108-118	A11	5YR 3/3	Dark Reddish Brown	Sandy clay loam; hard; sticky; plastic.
	118-175	C11	7.5YR 3/4	Dark Brown	Sandy clay loam; hard; sticky; plastic.
	175-210	A11	5YR 3/3	Dark Reddish Brown	Sandy clay loam; hard; sticky; plastic.
3 (48N18E)	0-10	B6	7.5YR 4/2-6/4	Brown to Dark Brown	Fine sandy loam; slightly hard; not sticky; slightly plastic.
	10-50	E6	10YR 4/4-5/8	Yellowish Brown to Dark Yellowish Brown	Fine sandy loam; slightly hard; not sticky; slightly plastic.
	50-105	B7	7.5YR 4/2-6/4	Brown to Dark Brown	Medium sandy loam, hard; slightly sticky; slightly plastic.
	105-110	E7	10YR 4/4-5/3	Yellowish Brown to Dark Yellowish Brown	Medium sandy loam; hard; slightly sticky; slightly plastic.
	110-145	E3	10YR 4/4-5/3	Yellowish Brown to Dark Yellowish Brown	Medium sand; friable; not sticky; not plastic.
	145-170	B11	7.5YR 4/2-6/4	Brown to Dark Brown	Fine clay loam, hard; sticky; plastic.
4 (12N20W)	0-12	[illegible]1	10YR 2/1-3/2	Grayish Brown to Black	Loamy fine sand; slightly hard; not sticky; not plastic.
	12-86	E1	10YR 4/4-5/8	Yellowish Brown to Dark Yellowish Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	86-100	G1	10YR 7/6-8/1	Light Yellow to Very Pale Brown	Loamy fine sand; slightly hard; not sticky; not plastic.

TABLE **32**. PROFILE DESCRIPTION CONTINUED.

Test Unit	Level cm	Figure Notation		Color	Texture
5 (48N178E)	0-32	B6	7.5YR 4/2-6/4	Brown to Dark Brown	Fine sandy loam; slightly hard; not sticky; slightly plastic.
	32-63	C6	7.5YR 3/4	Dark Brown	Fine sandy loam; slightly hard; not sticky; slightly plastic.
	63-102	A6	5YR 3/3	Dark Reddish Brown	Fine sandy loam; slightly hard; not sticky; slightly plastic.
	102-140	E6	10YR 4/4-5/8	Yellowish Brown to Dark Yellowish Brown	Fine sandy loam; slightly hard; not sticky; slightly plastic.
6 (68N186E)	0-38	B2	7.5YR 4/2-6/4	Brown to Dark Brown	Medium sand; slightly hard; not sticky; not plastic.
	38-46	B1	7.5YR 4/2-6/4	Brown to Dark Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	46-105	B2	7.5YR 4/2-6/4	Brown to Dark Brown	Medium sand; slightly hard; not sticky; not plastic.
	105-121	A2	5YR 3/3	Dark Reddish Brown	Medium sand; slightly hard; not sticky; not plastic.
	121-132	B2	7.5YR 4/2-6/4	Brown to Dark Brown	Medium sand; slightly hard; not sticky; not plastic.
	132-140	E2	10YR 4/4-5/8	Yellowish Brown to Dark Yellowish Brown	Medium sand; slightly hard; not sticky; not plastic.
7 (46N2E)	0-10	A9	5YR 3/3	Dark Reddish Brown	Medium sandy loam; friable; slightly sticky; slightly plastic.
	10-28	C4	7.5YR 3/4	Dark Brown	Loamy medium sand; friable; not sticky; not plastic.
	28-69	A4	5YR 3/3	Dark Reddish Brown	Loamy medium sand; friable; not sticky; not plastic.
	69-117	B2	7.5YR 4/2-6/4	Brown to Dark Brown	Medium sand; slightly hard; not sticky; not plastic.
	117-124	E2	10YR 4/4-5/8	Yellowish Brown to Dark Yellowish Brown	Medium sand; slightly hard; not sticky; not plastic.

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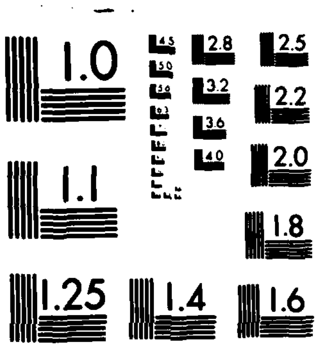
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1.8
1.25
1.4
1.6

TABLE 33. PROFILE DESCRIPTIONS FOR EXCAVATION UNITS.

Excavation Unit	Level cm	Figure Notation	Color		Texture
1 (16N24E)	0-21	Not on Figure	Removed by Box-Scraping		
	21-30	F11	10YR 2/1-3/2	Grayish Brown to Black	Sandy clay loam; hard; sticky; plastic.
	30-108	A11	5YR 3/3	Dark Reddish Brown	Sandy clay loam; hard; sticky; plastic.
	108-168	A2	5YR 3/3	Dark Reddish Brown	Medium sand; slightly hard; not sticky; not plastic.
	168-200	A1	5YR 3/3	Dark Reddish Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	200-216	C1	7.5YR 3/4	Dark Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	216-240	E7	10YR 4/4-5/8	Yellowish Brown to Dark Yellowish Brown	Medium sandy loam; hard; slightly sticky; slightly plastic.
2 (58N194E)	0-21	Not on Figure	Removed by Box-Scraping		
	21-73	A1	5YR 3/3	Dark Reddish Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	73-96	B1	7.5YR 4/2-6/4	Brown to Dark Brown	Loamy fine sand; slightly hard; not sticky; not plastic.
	96-103	G1	10YR 7/6-8/1	Light Yellow to Very Pale Brown	Loamy fine sand; slightly hard; not sticky; not plastic.

(G) and the numbers texture from coarse (1) to fine (11).

All of the site matrix indicated by the test and excavation units appears to be of natural origin, with no stratum largely or entirely due to human activity. As discussed in the earlier chapter on the site's environment, there is some evidence that deposition ceased on the eastern part of the site more recently than on the western part near the river. The only other information bearing on depositional history comes from the texture of the deposits as revealed in the units. The profiles consistently showed an increase in particle size from top to bottom, with sandy loams and sandy clay loams in the upper strata grading into fine and medium samds in the lower parts of the units. This is typical of terraces where water deposits smaller-sized particles as the terrace builds higher and is flooded less frequently. Any micro-stratigraphy that once may have been present in the deposits had been obscured by soil formation and cultural activity. The only exceptions were Test Unit 4 and the slope-cuts, which were located in low parts of the site sloping toward the intermittent stream to the west. The stratification reflected this situation, with the second stratum of Test Unit 4 in particular being composed of many small sandy bands which appeared to be the result of slope wash from the hill above.

It seems that many of the differences which are discernible in the profiles of the test and excavation units represent different soil horizons rather than different depositional events. The correlation of soil horizons, as determined by Leonhardy (1978), with strata drawn on the profiles is shown in Figures 32-33 for Test Units 1, 2, 3, and 6. The match is particularly good for Test Units 1 and 2.

Test Unit 1 had only reached a depth of 70 cm at the time of Leonhardy's visit, so he was not able to identify the bottom of the B horizon there. However, his description of the soil horizons correlates well with the strata identified on the south wall of the unit. The Ap horizon represents the plowzone, the BAh is transitional between the A and B horizons with the "h" indicating that humic matter has been illuviated into the layer, and the Bth1 and Bth2 designations are subdivisions of the B horizon. The "th" postscripts indicate that both clay and humic matter from above have moved downward into the B horizon.

Test Unit 2 showed considerable similarity to Test Unit 1 in the soil horizons present, since it also displayed an Ap and Bth1 and Bth2 horizons. The subdivisions Bu1, Bu2, and Bu3 made in the B horizon reflect the effects of human activity, since the "u" postscript indicates disturbance (Bunting 1967:104). At the time of Leonhardy's visit, Test Unit 2 had only been excavated to a depth of 85 cm, but presumably the strata below this were all part of the C horizon he recognized as beginning at a depth of 71 cm from the surface.

A less exact correlation of visible strata with soil horizons was shown in Test Unit 3. All of the stratigraphic differences mapped on the profile correspond to horizon boundaries except for the one at ca. 145 cm which is within the C horizon. However, neither the top of the Ab horizon nor the bottom of the BA horizon were seen in the profile by those who drew it. The Ab designation indicates the presence of a buried A horizon, with another A and Ap forming over it. Again, the B horizon of the area is clay-enriched, as indicated by the "t" postscript;

it did not contain illuviated humic material, however, in contrast to the units previously described. The unit located closest to Test Unit 3 was Test Unit 7. Its strata matched those in Test Unit 3 fairly well and so also represented soil horizons rather than depositional events (Fig. 33). The boundary between the A and Ab horizons was apparently visible in the wall of this unit, while the top of the Bt2 horizon was not seen.

Test Unit 4, 12N20W, was isolated from all the others and was not examined for soil horizon formation. However, it is doubtful that it displayed any horizonation since, as discussed above, its contents were recent slope-wash deposits.

Test Unit 6 was also examined by Leonhardy. The only horizons he noted were an Ap and a C, which he divided into seven parts based on slight differences in color and texture (Leonhardy 1978). All of the distinctions made on the profile to a depth of 100 cm correspond with Leonhardy's divisions in the C horizon (Fig. 33). This also seems to be true of strata noted in Test Unit 5. However, in each case not all of the distinctions noted by Leonhardy were seen when the profile drawings were made, a fact not hard to understand given the slight differences that were used to subdivide the horizons (Leonhardy 1978).

The stratigraphy of the excavation units was generally similar to that of the test units located near them (Fig. 34, Table 33). The top 20+ cm of Excavation Unit 1, removed during repeated box-scraping, apparently contained the Ap, the Bth1, and part of the Bth2 horizons exhibited in the adjacent Test Unit 2. In recording the profile, the bottom of the Bth2 horizon was recognized but not the other subdivisions of the B horizon or the top of the C horizon, which were identified in the test unit. Excavation Unit 2, located near Test Units 5 and 6, also had approximately 20+ cm of deposit removed by box-scraping prior to its excavation. Its stratigraphy was comparable to that of Test Unit 6 except that the excavation unit reached the deeper very pale brown, loamy fine sand of the C horizon.

In all of the profiles of the test units, strata that seem to correlate were sometimes discrepant in color and/or texture from one another and from Leonhardy's horizon descriptions. Some of these discrepancies can be ascribed to differences in field recording due to the number and inexperience of people drawing the profiles. Slight differences did exist; these may have represented mis-correlations or variable strata. The lack of continuous profiles in most cases makes it impossible to decide which. A case in point is the correlation of strata in Test Units 5 and 6. Depths and colors matched fairly well but textures in the two units were completely different, with Test Unit 6 composed almost entirely of medium sand while Test Unit 5 was composed of fine sandy loam.

Although it is no doubt true that pedogenesis had obscured or obliterated much of the visible cultural layering at the East Aberdeen site, some cultural strata were apparent. This was especially true of Test Unit 2. In the test unit, Leonhardy noted Bu1, Bu2, and Bu3 divisions within the B horizon, all reflecting cultural activity. This conclusion is confirmed by the fact that these layers contained large numbers of artifacts. The subdivisions drawn within the C horizon on the profile of Test Unit 2 and Excavation Unit 2 also represent cultural strata. Similar although less marked divisions occur in the C horizons of Test Units 1, 5, and 6. These differences also tended to correspond to differences in artifact density.

Disturbance. Because stratigraphic boundaries of any kind were hard to discern at East Aberdeen, they provide few obvious clues to disturbance. Therefore, most of the inferences about the presence and degree of disturbance of the assemblages must come from the artifacts themselves. One exception to this was the stratification in the slope-cuts (Fig. 35, Table 34), which reflects the slumping and slope wash that were important causes of the mixed artifact associations found in the slope-cut levels. Another exception is evidence retained in the stratigraphy of extensive earth-moving that may have occurred during the historic period in the area of Surface Collection Units I and J, initially suggested by soil profiles in those areas. According to Leonhardy (1978), 40 to 50 cm of soil representing the A horizon must have been removed from the area, since Bt horizons do not develop at the surface. Both Test Unit 1 and Test Unit 2 had Bt horizons immediately below the plowzone, although in Test Unit 1 the Ap was as much as 25 cm deep (Fig. 32).

The cultural content of the first 50 cm of Test Unit 1 tended to belie Leonhardy's conclusions, at least for that area. A large number of prehistoric ceramic sherds, many of which were grog tempered, were found in these levels (Appendix A, Table 4). Any extensive removal of soil would have had the greatest effect on the most recent material. Grog tempered sherds represent one of the most recent prehistoric occupations of the site; they date after about A.D. 600 (Jenkins 1978b). Given Leonhardy's other statement that this part of the site area was an old surface because of the advanced pedogenesis it displayed, it seems unlikely that much soil could have been removed since the sherds were deposited. Grog tempered pottery was less common in Test Unit 2 and the sherds were largely confined to the upper 20 cm. Similarly, the box-scraping of the top of Excavation Unit 1 produced few grog tempered sherds (Appendix A, Table 11). These data are consistent with the possibility that up to 30 cm of earth had been removed from the surface in this area before investigations were begun by the Mississippi State University crew.

In his report, Leonhardy (1978) suggests another possible explanation for the presence of Bt horizons close to the surface—that they may have developed because of human activity. In describing Test Unit 1 he says:

> The color of the B horizon and the pronounced difference in color from the inside to the outside of the peds are indicative of illuvial humus. The combination of color, degree of structural development, and the effervescence of the upper part of the profile are characteristics which I associate with salt affected soils in the arid United States. These characteristics are not compatible with the environment of Mississippi (Leonhardy 1978).

He offers as an hypothesis the possibility that sodium salts have been

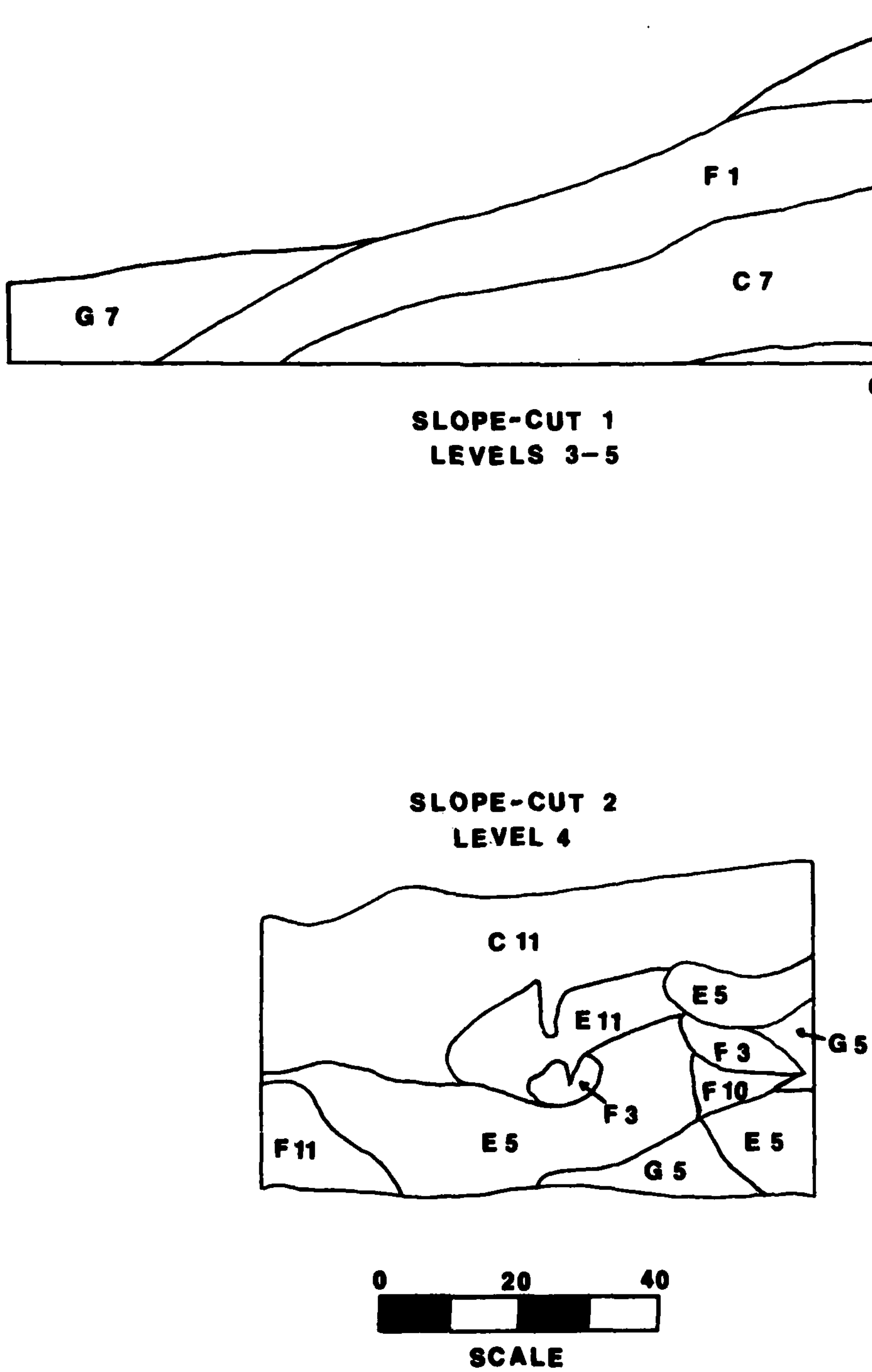


FIGURE 35. PROFILES OF SLOPE-CUTS.

TABLE 34. PROFILE DESCRIPTIONS FOR LEVELS 3 TO 5 OF SLOPE-CUT 1 AND LEVEL 4 OF SLOPE-CUT 2.

Slope-Cut	Figure	Notation	Color	Texture
1	G7	10 YR 7/6-8/1	Light yellow to very pale brown	Medium sandy loam; hard; slightly sticky; slightly plastic.
	F1	10 YR 2/1-3/2	Grayish brown to black	Loamy fine sand; slightly hard; not sticky; not plastic.
	C7	7.5 YR 3/4	Dark brown	Medium sandy loam, hard; slightly sticky; slightly plastic.
	G2	10 YR 7/6-8/1	Light yellow to very pale brown	Medium sand; slightly hard; not sticky; not plastic.
2	C11	7.5 YR 3/4	Dark brown	Sandy clay loam; hard; sticky; plastic.
	E11	10 YR 4/4-5/8	Yellowish brown to dark yellowish brown	Sandy clay loam; hard; sticky; plastic.
	L5	10 YR 4/4-5/8	Yellowish brown to dark yellowish brown	Loamy medium sand; friable; slightly sticky; slightly plastic.
	F3	10 YR 2/1-3/2	Grayish brown to black	Medium sand; friable; not sticky, not plastic.
	G5	10 YR 7/6-8/1	Light yellow to very pale brown	Loamy medium sand; friable; slightly sticky; slightly plastic.
	F10	10 YR 2/1-3/2	Grayish brown to black	Finely mottled red, yellow and black medium sandy loam; hard; slightly sticky; slightly plastic.
	F11	10 YR 2/1-3/2	Grayish brown to black	Sandy clay loam; hard; sticky; plastic.

introduced into the soil in this area by the historic inhabitants. "Free sodium would flocculate clay and organic matter and translocate it into a pre-existing solum . . . . The result would be a B2th horizon which weakens laterally away from the occupied area" (Leonhardy 1978). Since this area of the site had no doubt experienced intense historic use, it is certainly possible that chemicals could have been dumped on the soil. However, the source of such chemicals has not been identified.

The buried A horizon that was apparent in Test Units 3 and 7 helps to provide some support for the hypothesis that soil was removed from parts of the site, since one possible explanation of the buried horizon is that it was created by depositing dirt removed from the area to the south. If this had occurred, it would be expected that historic artifacts and other evidence of disturbance would be present in Units 3 and 7 above the Ab horizon, but not below it. One hundred three historic artifacts were found in the first 40 cm of Test Unit 3 and 108 in the top five levels of Test Unit 7, above the Ab horizon. In both cases, the historic artifacts were most common in the top two levels and decreased markedly in the underlaying levels. Only seven historic artifacts were found below 40 cm in Test Unit 3 and only one below 50 cm in Test Unit 7 (Appendix A, Tables 6 and 10). Another indication of possible disturbance in the upper levels of Test Units 3 and 7 is the lack of features there. Finally, the projectile point distributions, as detailed below, tend to confirm that at least the first 20 cm of Test Unit 3 and the first 30 cm of Test Unit 7 were disturbed.

Earth-moving may also serve to explain the lack of prehistoric and nineteenth century ceramics and square nails on the surface in the south part of Surface Collection Unit J and the north part of Unit I (Figs. 19, 20, 25, 26), while wire nails were found there (Fig. 26). If enough dirt was removed from these areas during the second half of the nineteenth century, such an artifact distribution would be a likely result. The nails and ceramics found in the top levels of Test Unit 3 are consistent with this possibility, with the nails being predominantly square and the ceramics mainly fine earthenwares (Appendix A, Table 6). Test Unit 7 had too few objects in these categories to provide a useful test. To summarize, it seems fairly likely that dirt was removed from some parts of Surface Units I and J, probably in the late nineteenth century, and that at least some of it was deposited on Surface Unit K, where Test Units 3 and 7 were located. It is probable that the area of Test Unit 1 was not much affected by the dirt moving, but some earth was probably removed from the vicinity of Test Unit 2 and Excavation Unit 1.

The other major type of disturbance is the mixing of historic and prehistoric artifacts in the upper levels of all units. The top 30 cm of this can be attributed to cultivation, since all areas that were excavated except the slope cuts displayed a plow zone. However, in the two excavation units the plow zone was removed by box-scraping before hand excavation began. Test Unit 4 and the slope cuts contained historic materials and prehistoric ceramics in most levels and without evident patterning. This was due to their position on or below the edge of the hill on which the site was situated, with recent slope wash and garbage disposal over the bank combining to produce the mixed deposits. The presence of historic artifacts and in some cases prehistoric ceramics below the plow zones in the other units must be explained in other ways.

Test Unit 1 does not appear to have been much disturbed below 40 cm or so. The 40-50 cm level contained no prehistoric sherds, while the next level produced only seven and succeeding levels had even fewer (Appendix A, Table 4). If there had been extensive disturbance of these levels, more pottery would probably have been introduced from above. Only 19 historic artifacts were found below 40 cm, while 1407 were found in the first four levels--554 in the 0-10 cm level, 725 in the 10-20 cm level, 115 in the 20-30 cm level, and only 13 in the 30-40 cm level. The first features were recognized at the top of the 40-50 cm level, again indicating that major disturbance had not affected the levels below that. The projectile point styles in the first levels, although potentially spanning a period from the end of the Late Archaic through the Mississippian, do not indicate that extensive mixing had occurred there. The few historic artifacts and the few prehistoric ceramics below 40 cm could have been carried downward by root action or in animal borrows, since both kinds of disturbance were noted in places during excavation of the unit.

In Test Unit 2 most of the prehistoric ceramics were concentrated in the top two levels, where 70 sherds were found, while only six sherds were recovered from lower levels (Appendix A, Table 5). None of these, with the exception of the fine sand tempered plain sherd from the 100-110 cm level, are necessarily indicative of disturbance, That sherd might have been moved downward by root action into the Benton zones, where it was certainly out of place. The historic materials, although most frequent in levels one and two, persisted in fairly large numbers to 80 cm and then decreased abruptly. This pattern is not due to general mixing of the unit but to the penetration of a large loosely filled root or tree hole from the surface deep into the earth in the south wall of the unit. Historic artifacts were apparent in this hole and those in the unit were included in the levels as they were excavated. Judging from the presence of both wire and square nails and the absence of early nineteenth century ceramic styles, it appears that this hole dated from the second half of the nineteenth century or later. That no general mixing occurred is borne out by the fact that features were recognized in the unit beginning at 40 cm and that the projectile point types are in the correct temporal relationships.

The anomalous artifacts found below the buried A horizon in Test Unit 3 (Appendix A, Table 6) are not evidence of any important disturbance. The presence of two sand tempered sherds and a piece of metal in the 70-80 cm level may have been due to a rain which washed in part of the side walls before the level was excavated, while the other historic objects could have been transported downward by roots or other local disturbances. The one feature in the unit originated at the 40 cm level and the projectile point sequence does not indicate disturbance below 40 cm.

Test Unit 5 contained three small pieces of brick and one of amber glass in the levels below 30 cm (Appendix A, Table 8). The brick may have fallen or been washed in from the surface, since bricks were used to weight down the plastic that covered the square each night. All four pieces are small enough to have been translocated down root holes, which were noted as present during excavation. There were no prehistoric ceramics and the only feature found was an historic pit originating near the surface.

Although the deposits appeared to be undisturbed, Test Unit 6 produced historic artifacts from as deep as 70-80 cm, with ten coming from the 30-40 cm level and three from lower levels (Appendix A, Table 9). It may be that Feature 13 in this unit was historic in origin and intruded a few historic artifacts deep into it. The top of the feature was very indistinct; although a concentration of charcoal flecks was first noted in the 60-70 cm level, it was not until 90-100 cm that this became distinct enough to define the feature. If the pit did originate near the surface, any historic artifacts it contained above 90-100 cm would have been included in the general level bags. The lower part of the feature did not contain any artifacts beyond a large quantity of wood charcoal, so its identification as historic cannot be confirmed. A radiocarbon sample from the pit was lost on its way to the lab.

Test Unit 7 appears, on the grounds discussed above, to have been disturbed to a depth of 50 cm. Only one historic artifact was found below that (Appendix A, Table 10), so other disturbance was probably minimal.

Excavation Unit 1 appears from the artifact summary (Appendix A, Table 11) to have been rather badly disturbed to a depth of 40 or 50 cm, with historic artifacts found in fairly large quantities. When it is remembered that box-scraping removed approximately 20-25 cm from the top of the unit before hand excavation began, disturbance appears to have been even more extensive. However, an examination of the distribution of historic artifacts revealed that 354 of the 377 that were found below 20 cm were concentrated in squares 18N23E and 18N24E. This suggests a localized disturbance such as an historic feature that was not recognized during excavation, so that its contents were included in the general level bags. Unfortunately, several of the relevant unit/level record sheets, which showed plan views of the bottom of each level, were lost and along with them any record of disturbances noted in these two squares during excavation. The profile of the north wall of the unit does not show any such disturbance, but it would not necessarily have to have intruded into the wall. The evidence seems to support the contention that, despite first impressions, Excavation Unit 1 was relatively little disturbed.

Few historic artifacts were found below 10 cm in Excavation Unit 2 and none at all below 20 cm (Appendix A, Table 12). Most of the historic deposits were removed in box-scraping and it is apparent that the historic component had caused little disturbance of the underlying prehistoric materials. The projectile point sequences from both Excavation Unit 1 and 2 tend to confirm that disturbance was minimal in prehistoric times as well. Although there are too few prehistoric ceramic sherds to be very useful in examining disturbance, those that were present occurred more or less in the correct temporal sequence in both units.

Radiocarbon Dates. Two radiocarbon dates were obtained on samples from East Aberdeen. Because the three best samples had previously been lost in the mail on the way to the radiocarbon lab and because there were few features at the site, the replacements had to be obtained from flotation samples. The only sources containing enough charcoal for radiocarbon dating were two lots of floated and analyzed hickory shells from the 60-70 cm and 140-150 cm levels of Excavation Unit 1. The flotation samples were obtained from the balk for stake 16N24E in the southeast corner of the unit.

The radiocarbon samples were processed by the University of Georgia Center for Applied Isotope Studies. The uncorrected dates, plus tree-ring corrected ones based on data from Damon et al. (1974), are shown on Table 35. The sample from the 60-70 cm level was expected to provide a date for stratum A11, as shown on the profile of Excavation Unit 1, while the date from the 140-150 cm level should apply to the bottom of stratum A2 and the top of stratum A1 (Fig. 34). The two dates that were obtained are rather close together, with only 120 years separating the uncorrected versions and 127 years the corrected dates (Table 35). The question arises as to whether the dates should be regarded as essentially contemporaneous or whether they actually date two discernably separate events. The t-test described by Long and Rippeteau (1974:211) was applied to the corrected dates as a measure of whether they are significantly different in age. The result was a t value of .450, indicating that there is a probability of between 60% and 70% that the dates do not date significantly different temporal events.

To examine this possibility further, the archaeological context of the samples was considered. The 60-70 cm level contained one Benton projectile point and one large triangular point (style N), placing it in the top of the series of Benton occupations which extended from ca. 40 cm to 130 cm in Excavation Unit 1. The date from this level, 3575 B.C., is in the range of other uncorrected Benton dates. For instance, a date of 3540 B.C. was obtained from a zone containing Benton points at Russell Cave (Griggin 1974:14). The East Aberdeen date of 3695 B.C. from the 140-150 cm level is somewhat later than the range usually assigned to the associated Middle Archaic point styles but is not necessarily unacceptable, since the temporal limits of the styles are not yet well-established.

The differences in associated projectile points and the 70 cm difference in depth between the two samples' provenience indicate that the C^{14} dates should correspond to temporally-distinct events. If both dates are accepted in this light, it is necessary to attempt to explain why they are so similar. One possibility is that rapid deposition occurred in the area in the interval. Stratum A2, which was located between the two dated levels, was composed of medium sand while the dated strata both contained a predominance of finer particles, including fine sand and clay. This indicates that the particles were carried by slower-moving water than was the medium sand of stratum A2. Deposition might well have progressed more rapidly at East Aberdeen under such circumstances of greater stream competence.

The level of human activity remained high throughout most of Strata A1, A[illegible] and A[illegible], with large quantities of fired clay and other artifacts recovered from the levels making up the strata (Appendix A,

TABLE 35. RADIOCARBON DATES.

Unit	Level cm	U. of Georgia Sample No.	Flotation Sample No.	Date (Radiocarbon Years)	Uncorrected B.C./A.D. Date	Corrected B.C./A.D. Date
Excavation Unit 1	60-70	UGA-2633	321	5525±75 B.P.	3575 B.C.	4398±194 B.C.
Excavation Unit 1	140-150	UGA-2634	340	5645±100 B.P.	3695 B.C.	4525±205 B.C.

Table 11). This indicates that any rapid deposition that took place either occurred in the form of frequent small increments during the period of human habitation or was composed of a few intermittent events with the site reoccupied in the intervals. Given the homogenous color and texture of the A2 layer, the former possibility seems more likely.

BOX-SCRAPED UNITS:

Materials Recovered. Although the primary goal of box-scraping was to locate historic features, few were found. A secondary outcome, however, was the collection of surface-exposed materials at the conclusion of each approximately 5 cm of box-scraping. Appendix A, Tables 14 and 15 present a summary of the materials recovered from the two units. Since disturbance caused by the box-scraping equipment negated the aims of the controlled collection, all materials have been combined by levels.

Unit A (12N24E) produced fairly consistent types and amounts of lithic materials throughout the eight levels excavated. Historic ceramic materials occurred through Level 7 and prehistoric ceramic materials occurred only in Levels 7 and 8. This suggests that the box-scraping did proceed through at least most of the historic component and should have exposed historic features which were present. On the other hand, glass, nails, and other miscellaneous historic artifacts were recovered in appreciable numbers throughout all of the levels. Seven identifiable projectile points were recovered: two Benton Stemmed (P) points in Level 3, a Kirk Serrated (EE) point in Level 4, Type G and Benton Stemmed (M) points in Level 7, and a Savannah River (F) point in Level 8. The occurrence of the Savannah River point, dating to Gulf Formational times, beneath the other projectile points, all of which date to the Archaic period, suggests that the area had undergone some type of disturbance which has altered the artifact relationships. One rectangular unifacial end scraper came from Level 3 of Unit A.

Unit B (56N202E) differed considerably from Unit A in the types and numbers of materials it contained. Lithics were much sparser and the various types present occurred sporadically among levels. Two pitted hammerstones were found in Level 7 but no projectile points were recovered from the unit except one, that had been reworked into a perforator/denticulate, found in Level 2. No prehistoric ceramic materials were found in the unit. Historic ceramics occurred in all levels but were densest above Level 6. Glass, nails, and most miscellaneous types of artifacts occurred throughout the levels.

TEST AND EXCAVATION UNITS:

Summary of Materials Recovered. The materials recovered through the excavation of the seven test units and two excavation units are summarized in Appendix A, Tables 4-12. Amounts of all categories except fired clay are given in absolute numbers; due to the large numbers of various-sized pieces of fired clay which were recovered, their amounts are given in grams. In the following sections, many of the material categories will be further examined in terms of trends both within and among units.

In reading the tables, it should be kept in mind that the units and their levels were of unequal sizes. Test Unit 1 measured 4x4 m at the surface and the other six test units measured 2x2 m at the surface, while the two excavation units measured 4x5 m at the surface. Also, level sizes diminished as excavation proceeded. For example, the first 100 cm of Test Unit 1 encompassed a 16 m^2 area, the levels from 100 to 200 cm consisted of 4 m^2 in area each, and the final levels, from 200-300 cm, were each 1 m^2 in area. In the tables, each comparable group of levels has been totaled separately.

Lithic Materials.

Projectile Points- As was the case in the controlled surface collection, the main stylistic analysis of lithic materials was conducted on projectile points. Twenty-one point classes, ranging in age from the Early Archaic to the Late Woodland/Mississippian periods, were represented in the test and excavation units. Six of the seven test units produced identifiable projectile points, as did both of the excavation units. Test Units 5 and 6, both located in the eastern part of the site, had only one identifiable point each, which will be discussed in the text; the other identifiable points are summarized in Tables 36-41. All of the units will be discussed together so that the correlations indicated among levels in the different units can be discussed most efficiently. Table 42 shows the correlations among the arbitrary excavation levels that can be made using the point types. The general period in which each set of types predominated is also indicated on the table. From the correlations, a number of changes in projectile point style within one named type can be seen, as can some areas of apparent disturbance of the expected depositional sequence.

The projectile point sequences from the first few levels of Test Units 1, 2, and 3 suggest that the two kinds of Gary points found in them, one having a straight base (C) and one having a convex base (H), differ in age. The straight-based style appears to be later since it occurred alone in the 0-10 cm level of Test Unit 1 and in association with Savannah River (F) and McIntire (E) points in Test Units 1 and 3. Style H occurred in the lower levels of Test Units 2 and 3 in association with style I points. The expanding-stemmed styles M, P, R, S, and T that comprise the types Benton, Benton Stemmed, and Benton Broad-Stemmed also sppear to have somewhat different temporal distributions. Style M was found above style P in Test Unit 3, although they occurred together in Test Unit 7 and Excavation Unit 1; style P does seem to originate earlier than M, however, since it occurs in association with other apparently earlier point styles in Test Unit 3 and Excavation Unit 1. The broad-stemmed styles S and T seem to appear earliest in the Benton sequence, although it is not possible to tell from the East Aberdeen materials whether they overlapped the narrow-stemmed Bentons in time.

Judging from the projectile point styles found there, the first 20 cm of Test Unit 3 and the first 30 cm of Test Unit 7 appear to be disturbed. The 10-20 cm level of Test Unit 3 had an expending-stemmed point (O) found elsewhere in association with Benton points and Test Unit 7 produced a Middle Archaic Damron point (V) from the 10-20 cm

TABLE 36. PROJECTILE POINTS RECOVERED FROM TEST UNIT 1 (20S3E) 0 TO 230 cm.

	Projectile Point Types[1]								
	A	C	E	F	G	P	Z	BB	CC
	Madison	Gary	McIntire	Savannah River		Benton Stemmed	Crawford Creek	Dalton	Big Sandy I
Level									
0-10		2							
10-20	1	1	1	1	1				
20-30					2				
30-40								1	
100-110						1			
140-150							1		
160-170								1	
190-200									1
220-230									1
Total	1	3	1	1	3	1	1	2	2

[1]Definitions given on Table 12 .

TABLE 37. PROJECTILE POINTS RECOVERED FROM TEST UNIT 2 (16N26E) 0 TO 180 cm.

	Projectile Point Types[1]							
	G	H	I	P	V	X	Y	Z
		Gary		Benton Stemmed	Damron			Crawford Creek
Level								
0-10	1							
10-20		1	1					
30-40				1				
50-60				1				
80-90					1			
140-150						1		
160-170							1	
170-180								1
Total	1	1	1	2	1	1	1	1

[1]Definitions given on Table 12 .

TABLE 38. PROJECTILE POINTS RECOVERED FROM TEST UNIT 3 (48N18E) 0 TO 140 cm.

	Projectile Point Types[1]												
	B Coosa	C Gary	F Savannah River	G	H Gary	I	L	M Benton Stemmed	O	P Benton Stemmed	Q Motley	S Benton Stemmed	U
Level													
0-10	1												
10-20									1				
20-30		1	2	1									
30-40					1								
40-50						1							
50-60							1						
70-80								2					
80-90										2	1		1
120-130										1			
130-140												1	
Total	1	1	2	1	1	1	1	2	1	3	1	1	1

[1]Definitions given on Table 12.

TABLE 39 . PROJECTILE POINTS RECOVERED FROM TEST UNIT 7 (46N2E) 0 TO 80 cm.

	Projectile Point Types[1]					
	D	F	M	P	R	V
	Bakers Creek	Savannah River	Benton Stemmed	Benton Stemmed	Benton	Damron
Level (cm)						
0-10						
10-20	1					1
20-30					1	
30-40		1				
40-50						
50-60			1	1		
Total	1	1	1	1	1	1

[1]Definitions given on Table 12 .

TABLE 40. PROJECTILE POINTS RECOVERED FROM EXCAVATION UNIT 1 (16N24E) 0 TO 170 cm.

	Projectile Point Types[1]														
	E	F	J	K	M	N	O	P	R	S	T	V	W	X	CC
	McIntire	Savannah River			Benton Stemmed			Benton Stemmed	Benton	Benton Stemmed	Benton Broad-Stemmed	Damron	Morrow Mountain Straight Base		Big Sandy I
Level (cm)															
20-30	1														
30-40		1	1												
40-50				1				1							1
50-60					5			1	2						
60-70					1	1									
70-80							1								
80-90													1		
90-100								1	1	1					
120-130											1				
140-150												1	1		
150-160													1		
160-170														1	
Total	1	1	1	1	6	1	1	3	3	1	1	1	3	1	1

[1]Definitions given on Table 12.

TABLE 41 . PROJECTILE POINTS RECOVERED FROM EXCAVATION UNIT 2 (54N194E) 0 TO 80 cm.

	Projectile Point Types[1]						
	S Benton Stemmed	U	X	Y	AA Greenbrier	CC Big Sandy I	DD
Level (cm)							
0-10							
10-20							
20-30	1						
30-40							
40-50							
50-60							
60-70		1	2	1	2		
70-80						1	1
Total	1	1	2	1	2	1	1

[1]Definitions given on Table 12 .

TABLE 42. CORRELATIONS OF TEST AND EXCAVATION UNIT LEVELS BASED ON PROJECTILE POINT TYPES.

Test Unit 1 Level	Test Unit 1 Point Types	Test Unit 2 Level	Test Unit 2 Point Types	Test Unit 3 Level	Test Unit 3 Point Types	Test Unit 5 Level	Test Unit 5 Point Types	Test Unit 6 Level	Test Unit 6 Point Types	Test Unit 7 Level	Test Unit 7 Point Types	Excavation Unit 1 Level	Excavation Unit 1 Point Types	Excavation Unit 2 Level	Excavation Unit 2 Point Types	
										10-20	1 D 1 V					Gulf Formational/Woodland
				0-10	1 B											
										20-30	1 R					
				10-20	1 O											
0-10	2 C									30-40	1 F	20-30	1 E			
				20-30	1 C 2 F 1 G											
10-20	1 A 1 C 1 E 1 F 1 G											30-40	1 F 1 J			
20-30	2 G	0-10	1 G													
30-40	1 BB															
		10-20	1 H 1 I	30-40 40-50	1 H 1 I											
												40-50	1 K 1 O 1 P 1 CC			Late Archaic
										50-60	1 M 1 P	50-60	5 M 1 P 2 R			
				70-80	2 M			50-60	1 P							
100-110	1 P	30-40	1 P	80-90	2 P 1 Q											
		50-60	1 P									60-70	1 M 1 N			
				120-130	1 P											
												70-80	1 O			
												80-90	1 W			
												90-100	1 P 1 R 1 S	20-30	1 S	
				130-140	1 S	60-70	1 S									
												120-130	1 T			
												140-150	1 V 1 W	60-70	1 U 2 X 1 Y 2 AA	Middle Archaic
		80-90	1 V									150-160	1 W			
		140-150	1 X									160-170	1 X			
140-150	1 Y	160-170	1 Y													
		170-180	1 Z													
160-170	1 BB													70-80	1 CC 1 DD	Early Archaic
190-200	1 CC															
220-230	1 CC															

level and a Benton (R) from the 20-30 cm level. One Coosa (B) and one Bakers Creek (D) point were also found respectively in Test Unit 3 and Test Unit 7 at these levels; both are Middle Woodland styles that do not appear to be out of place stratigraphically compared to the lower levels of the units. Other possible indications of disturbance include the Early Archaic Dalton point found in the 30-40 cm level of Test Unit 1 and the Big Sandy I point (CC) found in the 40-50 cm level of Excavation Unit 1. The Dalton point is broken near the base but is basally thinned or fluted. It appears to be similar to the basal section of a Dalton point illustrated in the Eva site report (Lewis and Lewis 1961:41). It also resembles the base of a Clovis point. In either case, it is obviously out of context in the level where it was found. However, since the levels above and below it do not show a great deal of mixing, at least in point styles, it is possible that the Dalton was displaced aboriginally due to some local disturbance. A similar explanation is offered for the Big Sandy I point found in association with Late Archaic styles in Excavation Unit 1.

There are several non-Benton style points found in levels where Benton points predominated. One example is a Motley point (Q) found in the 80-90 cm level of Test Unit 3. This style is usually associated with the Poverty Point and Gulf Formational periods which may have overlapped with the end of the Late Archaic Benton styles. Therefore, the Motley point does not appear to have been out of context. Similarly, style O, an expanding-stemmed point style that lacks the distinctive Benton beveled base, occurred twice in Benton zones in Excavation Unit 1, in the 40-50 cm and 70-80 cm levels. Since it could not be associated with a named type, its temporal placement is unknown and the style O points are assumed to have been in their correct context in the excavation unit. The one Morrow Mountain point (W) that was also found in association with Benton points in Excavation Unit 1 may merely be a late example of the style or may have been displaced by aboriginal activity.

There were no projectile points more recent than Late Archaic in Excavation Unit 2. The first identifiable point found was a Benton Stemmed (R), which may have been displaced upward since it was found in association with ceramics. Below that there was a considerable gap, than an increase in activity as six points were found in the 60-70 cm level: one style U, three Middle Archaic points (X and Y), and two Early Archaic Greenbrier points (AA). This mixture suggests that deposition may have been slow in the area at this time since the points may span a considerable amount of time. However, the time spans of these point styles are not totally understood; they may overlap toward the beginnings and ends of their popularity to a greater extent than is now believed. Greenbrier points are usually associated with the late Early Archaic period (Cambron and Hulse 1964:66). The specimens from East Aberdeen are very similar to those called Hardaway Side-Notched in the Stanfield-Worley excavation report, however, where they have been dated as early as 7500 B.C. (DeJarnette, Kurjack, and Cambron 1962:84). The style X and Y points were not identified with named types; they may belong to the early Middle Archaic period, since they occurred lower in Excavation Unit 1 than the Middle Archaic Morrow Mountain (W) points. The radiocarbon date of 3695 B.C. from the 140-150 cm level of Excavation

Unit 1, which contained one Damron and one Morrow Mountain point, indicates that these styles date from the late Middle Archaic at East Aberdeen.

Aside from Greenbrier, the other Early Archaic styles found were Dalton (BB), Big Sandy I (CC), and an unnamed expanded-stem style (DD). The one Dalton that appeared to be in correct association came from the 160-170 cm level of Test Unit 1, while two of the Big Sandys came from lower levels of the same unit (Table 36). Although the Dalton tradition, lasting from 8500 to 7000 B.C., largely predates the peak of popularity of Big Sandy I points, which apparently occurred sometime between 7500 and 6000 B.C. (Griffin 1974:94059), the point styles overlapped in time. Since only one Dalton and two Big Sandys were found in the test unit, the stratigraphic occurrence of the Dalton point above the Big Sandys is not necessarily indicative of disturbance. Both of the Big Sandy I points from Test Unit 1 had been reworked into hafted scrapers, presumably after having been broken.

The distribution of Gulf Formational/Woodland points in the test and excavation units confirms the evidence from the surface collection that almost the entire western area of the site was intensively occupied during this period. The area of Test Unit 1 seems to have been used most heavily, followed by the area around Test Unit 3. The vicinity of Test Unit 2 and Excavation Unit 1 produced surprisingly few points from this period, although it must be remembered that the top 40 cm of Excavation Unit 1 were removed during box-scraping. In all areas up to 50 cm of deposition occurred in the Gulf Formational/Woodland period. The test and excavation units in Surface Collection Unit B produced no points from the period, although several were collected from the surface. This may be due to a combination of factors, including the less intense occupation that occurred in this area and the box-scraping of the top 35 cm of deposits from the top of Excavation Unit 2.

The number and wide distribution of Benton points at East Aberdeen indicates that the site was repeatedly occupied during the Late Archaic, with the high parts of both the eastern and western portions of the site having experienced some use. The more intensive occupation probably occurred in the western area, judging by the large number of Benton points covering a range of styles that were found there. Only two Benton points were found in the surface collection, so the size and intensity of the Late Archaic occupation only became apparent during testing and excavation. As much as 80-90 cm of deposition may have occurred in the western part of the site during Benton times. That this happened fairly rapidly is indicated by the two radiocarbon dates, which show that a *minimum* of 70 cm of deposits accrued in a period that may have been as long as 200 years or may have encompassed very little time, since the standard deviations of the dates overlap.

Middle Archaic components were recognized in Excavation Units 1 and 2 and Test Units 1, 2, 3, and 7, making the use of the site during this period nearly as extensive as the later ones, although perhaps less intense. The impression of less intense use may be false, however, since most of the Middle Archaic levels fell below 100 cm in depth and therefore less area was excavated in them in the western part of the site.

Early Archaic components were found at the site with certainty only in Test Unit 1 and Excavation Unit 2. The most prominent Early Archaic component was represented by the Big Sandy I points which occurred in both areas of the site. However, the sample was very small, four points in all, of which only three appeared to be in primary context. The amount of this component excavated was fairly small, especially in Test Unit 1, where the Big Sandy levels fell below 200 cm in depth.

Drills and Perforators- The distribution of excavated drills and perforators is shown on Table 43. That perforators were found only in the western part of the site, both on the surface and during excavation, is an indication that they probably date exclusively from the ceramic period, since prehistoric ceramics were much more common near the river than in the eastern site area. In addition, all of the excavated perforators came from the upper levels of the units (Table 43) and nearly all were in association with Miller III ceramic complexes. This tends to confirm the evidence from other Miller III components such as those at Tibbee Creek (O'Hear et al. 1979:182-183) and 1Gr2 (Jenkins 1975:144) that the small perforators were made primarily during that period.

Triangular and expanded-base drills were found in levels dating from Middle Archaic to Miller III times (Table 44). Although the sample size is small, both types appear to have become more common through time; this is especially true of the expanded-base style, which predominates in the Miller III assemblages. The data for expanded-base drills accord well with those from Russell Cave and other sites in the region which suggested (as discussed in Chapter VII) that the style lasted from Middle Archaic to Late Woodland times.

Of the three stemmed drills from the excavation units at East Aberdeen, two appeared to be reworked Benton points; one of these was from the 70-80 cm level of Test Unit 3, where Benton points were also found, while the other was from the 140-150 cm level of Test Unit 2, along with a style X Middle Archaic point. The parallel-sided drills appeared to be most popular in the Late Archaic period (Table 44) Their distribution at East Aberdeen tends to confirm that they postdate the Middle Archaic, as data from other sites discussed in Chapter VII had previously suggested.

Scrapers- Only three scraper types have enough excavated and dated examples to make discussion fruitful (Table 45). Only two rectangular bifacial end scrapers were found, but both were in levels dating to Benton times. Similarly, both securely-dated unifacial end scrapers were in levels containing Benton points. A third trapezoidal scraper came from the plowzone of Test Unit 1, which contained a Miller III ceramic assemblage, but the scraper may well have been out of context. The other two trapezoidal scrapers came from levels without projectile points but both may have dated to Benton times; the 50-60 cm level of Test Unit 3 lay just above Benton levels, while the 90-100 cm level of Test Unit 5 was below a level containing a Benton point (Table 42). The two stemmed bifacial end scrapers are made on reworked Big Sandy I points and both date from the Early Archaic period.

Other Shaped Flaked Tools- The distribution of other excavated shaped flaked tools is shown on Table 46. Only the preform classes

TABLE 43. DISTRIBUTION OF PERFORATORS AND DRILLS IN TEST AND EXCAVATION UNITS.

	Perforators	Drill Types				
		Triangular	Parallel-Sided	Stemmed	Expanded-Base	Broken-Unidentifiable
20S8E						
0-10 cm	1					1
10-20	2					
20-30			1		1	
30-40			1			
50-60					1	
60-70		1				
80-90						1
90-100			1			
110-120		1				1
130-140					1	1
16N26E						
0-10	1					
10-20	1	1			2	
20-30				1		
50-60						1
140-150				1		
48N18E						
0-10			1			1
30-40		1				1
70-80				1		1
80-90			1		1	
120-130						1
12N20W						
70-80			1			
48N178E						
10-20		1				
68N186E						
10-20						1
46N2E						
0-10			1			
20-30	1	1				1
30-40	1					
50-60						2
16N24E						
10-20	1					
20-30	1					
30-40					1	
50-60			1			
60-70						1
70-80						1
160-170		1				
58194E						
10-20			1			
50-60					1	
Total	9	7	9	3	8	15

TABLE 44. DISTRIBUTION OF PERFORATOR AND DRILL TYPES WITHIN CULTURAL PERIODS.

	Periods				
Perforator and Drill Types	Middle Archaic	Late Archaic	Gulf Formational/ Woodland	Miller III	Unknown
Perforator				7	2
Triangular	1	1	1	1	2
Expanded-Base	1	1	1	3	2
Stemmed	1	1			1
Parallel-Sided		3	1	1	4

TABLE 45. DISTRIBUTION OF SCRAPERS IN TEST AND EXCAVATION UNITS.

Test and Excavation Units	Scraper Types										
	Rectangular Bifacial End Scraper	Trapezoidal Unifacial End Scraper	Elongated Ovate Unifacial End Scraper	Elongated Ovate Bifacial End Scraper	Semi-Circular Unifacial Side Scraper	*Semi-Circular* Bifacial End Scraper	Stemmed Bifacial End Scraper	Irregular Unifacial End Scraper	Irregular Bifacial End Scraper	Elongated Ovate Bifacial End Scraper/Denticulate	Rectangular Bifacial Side Scraper/Denticulate
20S8E											
10-20 cm		1									
70-80			1								
80-90											1
150-160			1								
190-200							1				
220-230							1				
48N18E											
50-60		1									
80-90	1										
90-100	1										
48N178E											
40-50				1							
90-100		1									
68N186E											
10-20								1			
50-60		1									
80-90					1						
16N24E											
20-30				1							
40-50						1			1		
70-80										1	
58N194E											
20-30		1									
Total	2	5	2	2	1	1	2	1	1	1	1

TABLE 46. DISTRIBUTION OF SHAPED FLAKED TOOLS OTHER THAN PROJECTILE POINTS, DRILLS, AND SCRAPERS IN TEST AND EXCAVATION UNITS.

* Tallahatta quartzite

Test and Excavation Units	Preform I	Preform II	Preform IIIa	Preform IIIb	Adze	Unifacial Knife	Bifacial Knife	Notch	Unifacial Denticulate	Bifacial Denticulate
	Tool Types									
20S8E										
0-10 cm	1			1						
20-30										1
90-100				1						
110-120		1								
150-160			1						1	
16N26E										
20-30				1*						
40N18E										
20-30						1				
120-130					1					
12N20W										
10-20					1					
40N178E										
20-30				1*						
30-40				1						
90-100	1									
68N186E										
90-100							1			
46N2E										
40-50		1								
70-80		1	1							
16N24E										
10-20		1								
70-80						1				
80-90			2							
90-100		1								
100-110								1		
160-170	1									
58N194E										
50-60			1							
60-70	1	1								
Total	4	6	5	5	2	2	1	1	1	1

have enough examples to be of interest. Although not all of them can be assigned to a cultural period, it is interesting to note that nearly all the specimens of preform types I, II, and IIIa were found in Archaic levels (Table 42 and 46). Of the 15 objects in these categories, only three may have derived from Gulf Formational or Woodland levels, while the others were scattered through the Archaic deposits but concentrated in levels below those containing Late Archaic points. In contrast, four out of the five preform IIIb specimens were found in the upper 40 cm of the units. This suggests that the entire sequence of biface manufacture was occurring at the site before Late Archaic times. By the Late Archaic and later periods the predominance of late-stage preforms may indicate that the earlier stages were being produced elsewhere.

Ground Stone Tools- The types of ground stone tools and the levels in which they occurred are presented in Table 47 and shown in Plates 18-19. None was recovered from Test Units 4 or 7. The four units which contained the most ground stone tools, Test Units 1, 2, and 3 and Excavation Unit 1, were all located in the western portion of the site. Grinding stone fragments were the most common type of ground stone tool in all four units, with pitted stones and hammerstones next in importance. The concentrated occurrence of these types of artifacts in the west part of the site suggests that this area was a center of food-processing activities. That other types of activities were also carried out in this area is indicated by the presence of axes in Test Unit 1 and Excavation Unit 1 and atlatl weights in Test Units 1 and 2 and Excavation Unit 1.

Few ground stone tools were found in the eastern test or excavation units. Those recovered from Excavation Unit 2 were located in three separate levels and may represent three distinct occupations in that area. The ones from the 20-30 cm level were associated with a Benton point, while those from 70-80 cm were found in the same level with two Early Archaic points. If all the test and excavation units are considered, grinding stone fragments were found in levels representing components from the Gulf Formational/Woodland to Early Archaic periods, as were hammerstones. One axe each was found in Middle Archaic, Late Archaic, and Gulf Formational/Woodland components, while pitted stones came only from Late Archaic and Gulf Formational/Woodland levels. As might be expected, the atlatl weight fragments were all found in or below the Late Archaic Benton levels in both the eastern and western units. Their highly fragmented state precluded identification of shape. They, along with most of the grinding stones, were apparently broken by heat action. This is in contrast to the sandstone axes, the hammerstones, and the pitted stones, which were all recovered whole.

Raw Materials of Lithic Artifacts- All the shaped flaked stone tools from the site were classified by material type. The results of this analysis are shown on Table 48 for projectile points. Most of the points were made of red/pink chert, the color of which probably indicates heat-treating. The major exceptions to this pattern are the Benton and associated types M through T, 76% of which are made from blue-gray chert. Although some of these points had obviously also been heat-treated, the raw material was still identifiable as gray rather

TABLE 47. SUMMARY OF GROUND STONE OBJECTS RECOVERED FROM TEST AND EXCAVATIONS UNITS.

Unit	Level cm	Type of Object	Number
Test Unit 1 (20S8E)	0-10	Pitted Stone	1
		Grinding Stone Fragment	1
	30-40	Axe	1
		Grinding Stone Fragments	2
	60-70	Bead	1
	100-110	Atlatl Weight Fragments	3
	140-150	Axe	1
		Hammerstone	1
		Grinding Stone Fragment	1
Test Unit 2 (16N26E)	20-30	Pitted Stone	1
	50-60	Atlatl Weight Fragment	1
	110-120	Grinding Stone Fragment	1
	170-180	Grinding Stone Fragment	1
	200-210	Atlatl Weight Fragment	1
Test Unit 3 (48N18E)	20-30	Grinding Stone Fragments	3
	90-100	Grinding Stone Fragment	1
	120-130	Grinding Stone Fragments	2
Test Unit 5 (46N178E)	10-20	Grinding Stone Fragment	1
	90-100	Hammerstone	1
Test Unit 6 (68N186E)	50-60	Atlatl Weight Fragment	1
		Bead	1
Test Unit 7 (46N2E)	30-40	Bead	1
Excavation Unit 1 (16N24E)	10-20	Hammerstone	1
	70-80	Hammerstone	2
		Grinding Stone Fragment	1
		Atlatl Weight Fragments	2
	90-100	Axe	1
		Pitted Stone	1
		Grinding Stone Fragment	1
	100-110	Pitted Stone	1
		Grinding Stone Fragments	2
	120-130	Hammerstone	1
		Grinding Stone Fragment	1
	150-160	Grinding Stone Fragment	1
	160-170	Grinding Stone Fragments	2
Excavation Unit 2 (58N194E)	0-10	Pitted Hammerstone	1
	20-30	Pitted Grinding Stones	2
		Grinding Stone	1
	70-80	Grinding Stone Fragments	3

TABLE 48. RAW MATERIAL OF PROJECTILE POINTS.

Raw Material Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ
Yellow Chert				1	1	1											1								1									1		
Red/Pink Chert	2	1	1		4	3	4	6	2	2	1		2		1	6					1	3	2	3	1	1	2	1	4	1		2			2	4
Blue/Gray Chert			1		1	1	3	3	1				9	1	2	9		4	5	1			1			1										
Cream/Brown Chert	1																																1			1
Banded Chert																															3					
Other Chert			1					1																												
Tallabatta Quartzite		1				2	2	1				1												1				1								
Total	3	2	3	1	6	7	9	11	3	2	1	1	11	1	3	15	1	4	5	1	1	3	3	4	2	2	2	2	4	1	3	2	1	1	2	5

than yellow chert. The marked preference for Fort Payne chert during Benton times has been noted at other sites with Benton components, expecially some in the vicinity of Florence, Alabama (O'Hear 1979, personal communication). However, Benton assemblages from the Divide Cut section of the Tennessee-Tombigbee Waterway in Tishomingo County, Mississippi do not appear to reflect such a marked preference, despite being much closer than East Aberdeen to the sources of Fort Payne chert (O'Hear 1979, personal communication). Although projectile points were rarely made from blue/gray chert before Benton times at East Aberdeen, it continued to be a moderately common material in Gulf Formational and Woodland times.

Tallahatta quartzite, although never common, seems to have been used more often to make projectile points in the Gulf Formational period than previously. The other interesting feature of the projectile point materials is that all three Kirk Serrated points are made of banded chert. The bands are broad and distinct, even when the chert has been heated, and are similar to the bands in Pickwick chert, which is found in northern Mississippi and Alabama and southern Tennessee.

The other shaped tools from the site follow a similar pattern (Table 49), with few made of the non-heated local yellow chert. The adzes are the only exception. They are thick in cross-section, so perhaps it was not necessary to heat them to allow flaking into the desired shape. Certain drill and scraper types show a slight predominance of gray over red chert (Table 49). The ones made of gray chert and found in undisturbed contexts tended to cluster in Benton levels. Of the 41 shaped artifacts other than unidentifiable bifaces and projectile points that are made from Fort Payne chert, 13 came from the surface or disturbed contexts. Of the remaining 28, 18 were from levels where Benton points were also found and five more were from immediately adjacent levels with no diagnostic artifacts in them. This again shows a very strong association of Fort Payne chert with the Benton Component. One of the other five gray chert artifacts was found in an Early Archaic level, two were from Middle Archaic levels, and two came from Gulf Formational/Woodland levels.

The only use of Tallahatta quartzite in tools other than points was in making drills and preforms (Table 49). Two of these were from disturbed contexts or the surface, while three were from Gulf Formational/Woodland levels, supporting the projectile point data on the use of Tallahatta quartzite.

All of the lithic debitage from two test units, Test Unit 2 in the western part of the site and Test Unit 5 in the eastern part, was analyzed to identify the raw materials present and their distributions. Both units were the same size, 2x2 m at the surface and 1x1 after a depth of 100 cm was reached. The main difference between them was in total depth, as Test Unit 2 was excavated to 210 cm and Test Unit 5 was only excavated to 130 cm.

As shown in Tables 50 and 51, the analysis of raw material types produced similar results for both test units. Most of the chert that was recovered had been heated, especially that representing the earlier reduction stages, i.e. cores, chunks, shatter, and primary and secondary decortication flakes. This was less true of the material from

TABLE 49. RAW MATERIAL OF SHAPED FLAKED TOOLS OTHER THAN PROJECTILE POINTS.

Tool Types

Raw Material Type	Perforator	Perforator/Denticulate	Drills: Triangular	Drills: Parallel-Sided	Drills: Stemmed	Drills: Expanded-Base	Drills: Broken	Scrapers: Rectangular Unifacial End	Scrapers: Rectangular Bifacial End	Scrapers: Rectangular Unifacial Side	Scrapers: Trapezoidal Unifacial End	Scrapers: Elongated Ovate Unifacial End	Scrapers: Elongated Ovate Bifacial End	Scrapers: Semi-Circular Bifacial End	Scrapers: Semi-Circular Unifacial Side	Scrapers: Semi-Circular Bifacial Side	Scrapers: Stemmed Bifacial End	Scrapers: Irregular Unifacial End	Scrapers: Irregular Bifacial End	Scrapers: Elongated Ovate Bifacial End Scraper/Denticulate	Scrapers: Rectangular Bifacial Side Scraper/Denticulate	Preforms: Preforms I	Preforms: Preforms II	Preforms: Preforms IIIa	Preforms: Preforms IIIb	Adze	Unifacial Knife	Bifacial Knife	Unifacial Notch	Bifacial Notch	Unifacial Denticulate	Bifacial Denticulate
Yellow Chert							1	1						1	1											4						
Red/Pink Chert	10	1	6	5		7	4	2	2	4	2	2	1			1	2	2	3	2	1	10	11	6	8	3	1	2	3		1	1
Blue/Gray Chert			4	7	2	2	12				3		2								1	1	1	2	2		1			1		
Banded Chert																								1								
Cream/Brown Chert	3			1																						1						
Tallahatta Quartzite			1		1	1	2																		2							
	13	1	11	13	3	10	19	3	2	4	5	2	3	1	1	1	2	2	3	2	2	11	12	9	12	8	2	2	3	1	1	1

TABLE 50. SUMMARY OF RAW MATERIAL TYPES OF LITHIC DEBITAGE RECOVERED FROM TEST UNIT 2 (16N26E)

Raw Material Type	Type of Debitage											
					Flakes							
					Decortication							
	Chunk or Shatter		Core		Primary		Secondary		Biface Thinning		Undifferentiated	
	#	%	#	%	#	%	#	%	#	%	#	%
Yellow Chert	55	23	1	50	7	19	8	17	4	5	34	8
Red/Pink Chert	165	70	1	50	29	78	37	81	39	50	294	72
Blue/Grey Chert	16	7			1	3	1	2	34	44	80	19
Other Chert	1	*							1	1	2	*
Tallahatta Quartzite											5	1
Total	237	100	2	100	37	100	46	100	78	100	415	100

*Less than 1 percent.

TABLE 51. SUMMARY OF RAW MATERIAL TYPES OF LITHIC DEBITAGE RECOVERED FROM TEST UNIT 5 (48N178E)

Raw Material Type	Type of Debitage											
					Flakes							
					Decortication							
	Chunk or Shatter		Core		Primary		Secondary		Biface Thinning		Undiffer-entiated	
	#	%	#	%	#	%	#	%	#	%	#	%
Yellow Chert	11	11			1	7			4	8	29	11
Red/Pink Chert	ˋ85	87	3	100	14	93	8	100	38	74	225	81
Blue-Grey Chert	1	1							7	14	18	7
Other Chert	1	1							1	2	2	1
Tallahatta Quartzite									1	2		
Total	98	100	3	100	15	10	8	100	51	100	274	100

Test Unit 2 than that from Test Unit 5; in Test Unit 2 yellow chert made up as much as 17%-23% of the artifacts in the early manufacturing stages while in Test Unit 5 the percentage varied from 0%-11%.

In both test units the frequency of both yellow and red/pink chert drops appreciably in the later reduction stages, represented by undifferentiated flakes and biface thinning flakes. However, this is not due to a change in the number of flakes in the two categories but to the addition of significant quantities of blue/gray chert. Gray chert was apparently being introduced in large amounts toward the end of the tool production process, either as bifacial preforms or large flakes without cortex which could be made into tools. The increase in gray chert is more marked in Test Unit 2, although it did occur in both units and presumably throughout the site.

Tallahatta quartzite was rare in both test units. It occurred only as biface thinning flakes and undifferentiated flakes so it may also have been imported in the form of finished or semi-finished objects.

As is the case with the projectile points and other shaped flaked tools, most of the Fort Payne debitage was from Benton levels. This supports the earlier observation that during this period most of the flaked tools were made from this imported chert, while during earlier and later periods they were made predominantly from local cherts.

Since the blue/gray chert is non-local, its importation in the form of partially shaped objects would be more economical than bringing it in in tabular or nodular form. It was probably imported because of its superior quality since good pieces are finely grained, do not contain inclusions, and are easy to work. The larger sized pieces that would have been available may also have been a factor in its importation; the local yellow chert is generally found in fairly small pebbles while Fort Payne chert can be found in large nodules and angular pieces. This leaves unexplained the fact that this chert was used extensively only in the Benton component rather than throughout the site's span of occupation.

It is possible to partially test the hypothesis that the exotic materials were being brought in either as bifaces or large flakes by examining the materials out of which preforms were made. It would be expected that, if Fort Payne chert and Tallahatta quartzite were being imported as bifaces, proportionately more preforms than cores would be made of these materials. The paucity of cores in the two test units makes this hard to test, although it is true that all five cores found in them are made of local chert, while nine of the 44 preforms found at the site are made of the two non-local materials (Table 49). Seven of these are late-stage preforms, which tends to support the suggestion that exotic materials were being introduced into the area as bifacial blanks.

Other Lithic Materials-- The unshaped lithic assemblages from the test and excavation unit levels were classified as described in Chapter VI. The data on which these assignments were made are shown on Tables 52 and 53, while Tables 54 and 55 present the resulting classes. A few collections are likely to have been the result of mixing (Tables 54-55), either during excavation of the arbitrary levels or aboriginally. The collections identified in this way are those that could have resulted

TABLE 52. QUANTITIES OF SANDSTONE CHUNKS, DECORTICATION FLAKES, AND UNDIFFERENTIATED FLAKES PER CUBIC METER IN TEST UNITS.

Test Unit	Level in cm	Sandstone Chunks		Decortication Flakes		Undifferentiated Flakes	
		#	#/m^3	#	#/m^3	#	#/m^3
1	0-10	31	19.38	76	47.50	694	433.75
(20S8E)	10-20	110	68.75	68	42.50	685	428.13
	20-30	83	51.88	25	15.63	307	191.88
	30-40	95	59.38	2	1.25	107	66.88
	40-50	29	18.13	4	2.50	52	32.50
	50-60	128	80.00	3	1.88	111	69.38
	60-70	89	55.63	8	5.00	46	28.75
	70-80	71	44.38	1	0.63	50	31.25
	80-90	264	165.00	15	9.38	147	91.88
	90-100	230	143.75	11	6.88	93	58.13
	100-110	106	265.00	0	0.00	22	55.00
	110-120	72	180.00	3	7.50	27	67.50
	120-130	88	220.00	1	2.50	85	212.50
	130-140	54	135.00	0	0.00	83	207.50
	140-150	68	170.00	0	0.00	42	105.00
	150-160	43	107.50	2	5.00	23	57.50
	160-170	0	0.00	0	0.00	45	112.50
	170-180	24	60.00	0	0.00	25	62.50
	180-190	14	35.00	0	0.00	43	107.50
	190-200	11	27.50	0	0.00	35	87.50
	200-210	2	20.00	0	0.00	0	0.00
	210-220	1	10.00	2	20.00	8	80.00
	220-230	0	0.00	2	20.00	7	70.00
	230-240	0	0.00	0	0.00	2	20.00
	240-250	0	0.00	0	0.00	1	10.00
2	0-10	24	60.00	16	40.00	66	165.00
(16N26E)	10-20	21	52.50	27	67.50	92	230.00
	20-30	14	35.00	7	17.50	23	57.50
	30-40	22	55.00	3	7.50	15	37.50
	40-50	3	7.50	0	0.00	1	2.50
	50-60	23	57.50	1	2.50	27	67.50
	60-70	0	0.00	0	0.00	1	2.50
	70-80	24	60.00	6	15.00	56	140.00
	80-90	39	97.50	5	12.50	23	57.50
	90-100	27	67.50	2	5.00	14	35.00
	100-110	11	110.00	0	0.00	7	70.00
	110-120	22	220.00	4	40.00	6	60.00
	120-130	20	200.00	0	0.00	6	60.00
	130-140	24	240.00	0	0.00	3	30.00
	140-150	30	300.00	0	0.00	3	30.00
	150-160	15	150.00	3	30.00	9	90.00
	160-170	8	80.00	1	10.00	12	120.00
	170-180	9	90.00	0	0.00	2	20.00

TABLE 62. QUANTITIES PER CUBIC METER CONTINUED

Test Unit	Level in cm	Sandstone Chunks #	Sandstone Chunks #/m^3	Decortication Flakes #	Decortication Flakes #/m^3	Undifferentiated Flakes #	Undifferentiated Flakes #/m^3
	180-190	25	250.00	0	0.00	17	170.00
	190-200	9	90.00	4	40.00	25	250.00
	200-210	3	30.00	1	10.00	6	60.00
3	0-10	10	25.00	0	0.00	31	77.50
(48N185)	10-20	17	42.50	3	7.50	80	200.00
	20-30	74	185.00	5	12.50	67	167.50
	30-40	64	160.00	2	5.00	29	72.50
	40-50	24	60.00	0	0.00	27	67.50
	50-60	18	45.00	0	0.00	5	12.50
	60-70	17	42.50	0	0.00	14	35.00
	70-80	45	112.50	0	0.00	18	45.00
	80-90	32	80.00	0	0.00	27	67.50
	90-100	19	47.50	1	2.50	27	67.50
	100-110	4	40.00	0	0.00	6	60.00
	110-120	10	100.00	0	0.00	6	60.00
	120-130	3	30.00	4	40.00	1	10.00
	130-140	0	0.00	0	0.00	4	40.00
	140-150	5	50.00	0	0.00	15	150.00
	150-160	0	0.00	0	0.00	8	80.00
5	0-10	1	2.50	0	0.00	3	7.50
(48N178E)	10-20	55	137.50	4	10.00	21	52.50
	20-30	9	22.50	4	10.00	18	45.00
	30-40	11	27.50	1	2.50	27	67.50
	40-50	8	20.00	2	5.00	30	75.00
	50-60	10	25.00	2	5.00	13	32.50
	60-70	33	82.50	0	0.00	34	85.00
	70-80	5	12.50	1	2.50	13	32.50
	80-90	4	10.00	5	12.50	43	107.50
	90-100	0	0.00	5	12.50	97	242.50
	100-110	0	0.00	0	0.00	5	50.00
	110-120	0	0.00	0	0.00	3	30.00
	120-130	0	0.00	0	0.00	0	0.00
6	0-10	4	10.00	0	0.00	0	0.00
(68N186E)	10-20	4	10.00	0	0.00	8	20.00
	20-30	19	47.50	0	0.00	39	97.50
	30-40	7	17.50	1	2.50	25	62.50
	40-50	40	100.00	3	7.50	27	67.50
	50-60	74	185.00	3	7.50	13	32.50
	60-70	21	52.50	4	10.00	15	37.50
	70-80	4	10.00	0	0.00	8	20.00
	80-90	3	7.50	0	0.00	9	22.50
	90-100	6	15.00	7	17.50	40	100.00
	100-110	0	0.00	0	0.00	1	10.00

TABLE 52. QUANTITIES PER CUBIC METER CONTINUED.

Test Unit	Level in cm	Sandstone Chunks #	Sandstone Chunks #/m^3	Decortication Flakes #	Decortication Flakes #/m^3	Undifferentiated Flakes #	Undifferentiated Flakes #/m^3
	110-120	0	0.00	0	0.00	1	10.00
	120-130	0	0.00	0	0.00	2	20.00
	130-140	0	0.00	0	0.00	0	00.00
7	0-10	58	145.00	5	12.50	32	80.00
(46N2E)	10-20	28	70.00	1	2.50	16	40.00
	20-30	45	112.50	3	7.50	7	17.50
	30-40	42	105.00	1	2.50	14	35.00
	40-50	35	87.50	0	0.00	30	75.00
	50-60	14	35.00	6	15.00	36	90.00
	60-70	11	27.50	0	0.00	19	47.50
	70-80	14	35.00	5	12.50	46	115.00
	80-90	4	10.00	9	22.50	53	132.50
	90-100	0	0.00	0	0.00	56	140.00
	100-110	0	0.00	0	0.00	0	0.00
	110-120	1	10.00	0	0.00	1	10.00
Average #/m^3			82.125		7.19		114.46

TABLE 53. QUANTITIES OF SANDSTONE CHUNKS, DECORTICATION FLAKES, AND UNDIFFERENTIATED FLAKES PER CUBIC METER IN EXCAVATION UNITS.

Excavation Unit	Level in cm	Sandstone Chunks		Decortication Flakes		Undifferentiated Flakes	
		#	#/m³	#	#/m³	#	#/m³
1	0-10	8	4.00	2	1.00	26	13.00
(16N24E)	10-20	36	18.00	38	19.00	56	28.00
	20-30	46	23.00	6	3.00	63	31.50
	30-40	82	41.00	8	4.00	34	17.00
	40-50	82	41.00	8	4.00	45	22.50
	50-60	319	159.50	3	1.50	112	56.00
	60-70	328	164.00	7	3.50	154	77.00
	70-80	469	234.50	15	7.50	250	125.00
	80-90	841	420.50	9	4.50	254	127.00
	90-100	139	69.50	20	10.00	65	32.50
	100-110	41	102.50	9	22.50	13	32.50
	110-120	20	50.00	5	12.50	61	152.50
	120-130	38	95.00	3	7.50	45	112.50
	130-140	45	112.50	1	2.50	38	95.00
	140-150	122	305.00	0	0.00	52	130.00
	150-160	280	700.00	3	7.50	37	92.50
	160-170	44	110.00	2	5.00	24	60.00
	170-180	287	717.50	10	25.00	111	277.50
	180-190	84	210.00	1	2.50	29	72.50
	190-200	55	137.50	4	10.00	0	0.00
	200-210	3	30.00	0	0.00	3	30.00
	210-220	0	0.00	0	0.00	0	0.00
	220-230	0	0.00	0	0.00	0	0.00
	230-240	0	0.00	0	0.00	0	0.00
2	0-10	74	37.00	4	2.00	133	66.5
(58N194E)	10-20	74	37.00	8	4.00	85	42.5
	20-30	83	41.50	7	3.50	128	64.00
	30-40	16	8.00	4	2.00	99	49.50
	40-50	4	2.00	1	0.50	42	21.00
	50-60	30	15.00	4	2.00	230	115.00
	60-70	47	23.50	13	6.50	490	245.00
	70-80	23	11.50	25	12.50	306	153.00
	80-90	4	2.00	3	1.50	21	10.50
	90-100	4	2.00	0	0.00	9	4.50
Average #/m³			82.125		7.19		114.46

TABLE 54.
PLACEMENT OF TEST UNIT COLLECTIONS IN LITHIC ASSEMBLAGE CLASSES.

Level in cm	Test Unit 1	Test Unit 2	Test Unit 3	Test Unit 4	Test Unit 5	Test Unit 6	Test Unit 7
0-10	IV	IV	D	D	I	I	D
10-20	IV	IV	D	D	VII	I	D
20-30	IV	III	D	D	(III)	I	D
30-40	I	III	D	D	I	I	D
40-50	I	I	I	D	I	VII	D
50-60	I	I	I	D	I	VII	III
60-70	I	I	I	D	V	III	I
70-80	I	IV	V	D	I	I	IV
80-90	VII	VII	I	D	(III)	I	IV
90-100	V	I	I	D	IV	III	(II)
100-110	V	(V)	I		I	I	NC
110-120	VII	VII	V		I	I	I
120-130	VI	V	III		NC	I	
130-140	VI	V	I			NC	
140-150	V	V	II				
150-160	V	(VII)	I				
160-170	I	IV	NC				
170-180	I	V					
180-190	I	(VI)					
190-200	I	VIII					
200-210	I	III					
210-220	III						
220-230	III						
230-240	I						
240-250	I						
250-260	NC						

____ end of excavation

( ) possibly a result of mixing

NC not classified

D disturbed

TABLE 55.
PLACEMENT OF EXCAVATION UNIT COLLECTIONS IN LITHIC ASSEMBLAGE CLASSES.

Level in cm	Excavation Unit 1	Excavation Unit 2
0-10	I	I
10-20	III	I
20-30	I	I
30-40	I	I
40-50	I	I
50-60	V	II
60-70	V	II
70-80	VIII	IV
80-90	VI	I
90-100	III	I
100-110	VII	
110-120	IV	
120-130	(VII)	
130-140	V	
140-150	VI	
150-160	VII	
160-170	V	
170-180	VIII	
180-190	V	
190-200	VII	
200-210	I	
210-220	NC	
220-230	NC	
230-240	NC	

____ end of excavation

( ) possibly a result of mixing

NC not classified

from combining adjacent assemblages. For example, as in the 100-110 cm level of Test Unit 2 (Tables 52 and 54), a Class V assemblage might result from mixing preceding and following collections classified into Classes I and VII. There were relatively few such cases, although of course mixing of thin but artifactually distinct layers could not be detected using this method.

On the basis of the evidence previously discussed, the top levels of Test Units 3 and 7 and all of Test Unit 4 were judged to be disturbed and therefore the assemblages from them cannot be classified meaningfully (Table 54).

There are a number of instances in which assemblages from several adjacent levels of a unit have been placed in the same class. Low intensity occupation may explain this in the case of Class I assemblages; for Classes II-VIII some other explanation must be sought. There are at least two possibilities, that the artifacts from each series of levels were actually the result of many re-uses of the same area for the same general purpose or that they reflect one continuous use. This problem cannot be solved for the East Aberdeen site because of the lack of visible strata. Any argument must be based on analogies with other sites in which the natural and/or cultural stratigraphy was clearer.

Another problem is to explain the evident changes in function from level to level of a unit, particularly when they were not separated by Class I occupations and are not likely to have resulted from mixing. Such changes presumably represent occupations or series of occupations that were functionally distinct, indicating changing site use over time and space. In most of these sequences of levels, while a steady increase or decrease is evident when one category of artifacts such as sandstone chunks is examined, the other categories do not begin to change in the same levels. An example is found in the 160-210 cm levels of Test Unit 2 (Table 52), where the density of sandstone chunks peaked in the 180-190 cm level, while those of decortication and undifferentiated flakes peaked one level lower. These levels were placed in five different classes, only one of which could have derived from mixing (Table 54). Because of the classification system used, such cases must represent functional differences, not arbitrary divisions of uniform sequences of change into different classes.

In order to test the hypotheses about the functional meanings of the classes that were proposed in the data analysis chapter of this report, it will be useful to examine not only the distribution of the classes themselves but also to what degree the distributions of other kinds of lithic artifacts correlate with them. To illustrate this, bar graphs showing the frequencies of shatter, biface thinning flakes, and shaped flaked tools and the occurrence of ground stone tools have been prepared for Test Unit 1 and Excavation Units 1 and 2 (Figs. 36-38). The frequencies were calculated using groups of 10 comparably-sized levels in each unit so the expected frequency in each category would be 10% if the levels were homogeneous. These artifact categories were chosen because they were the most commonly occurring and/or the most suitable for testing the functional hypotheses; similarly, the three units were chosen to be graphed because they involved the largest

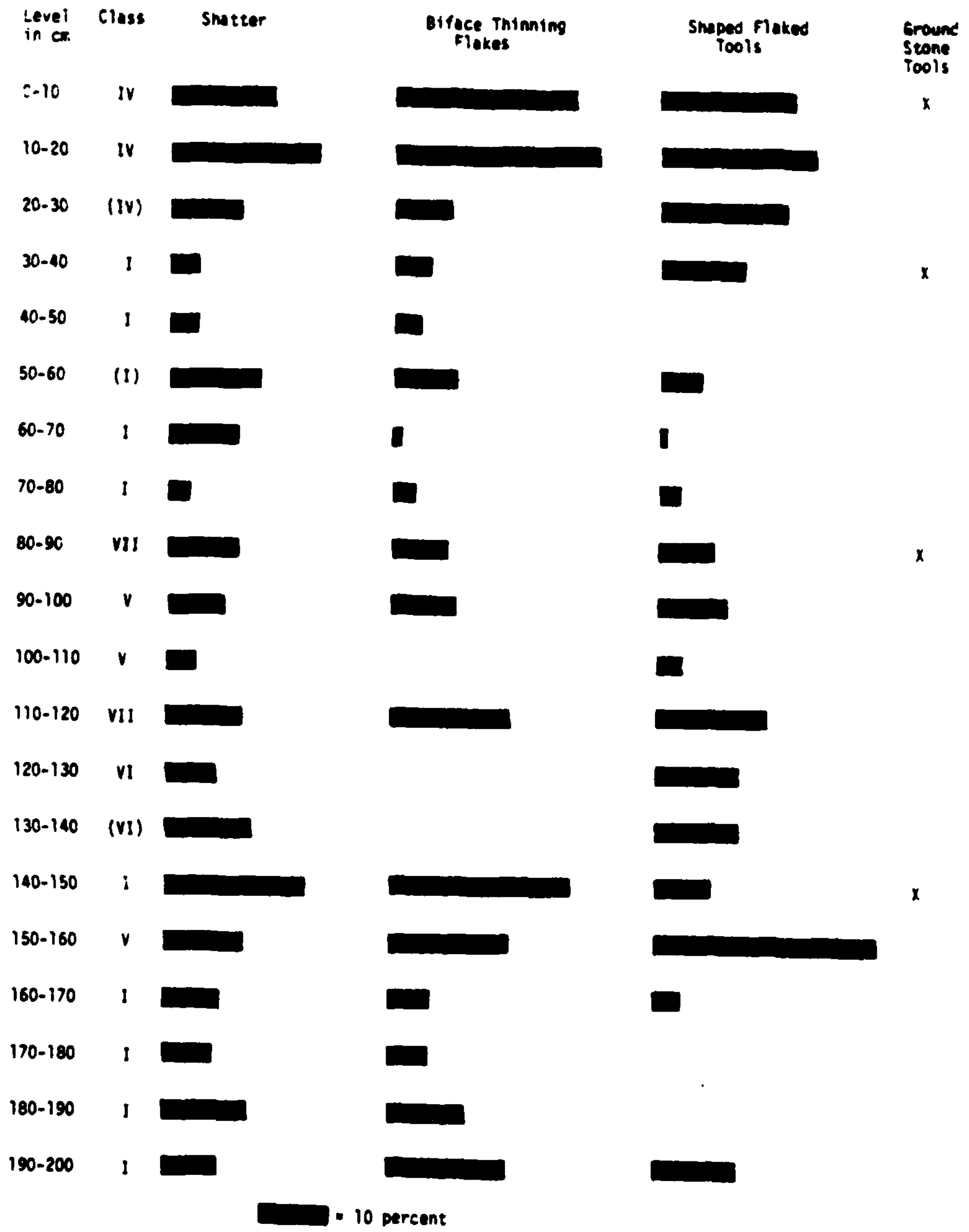


FIG. 36. PERCENTAGES OF SELECTED LITHIC CATEGORIES IN TEST UNIT 1 TO 200 cm.

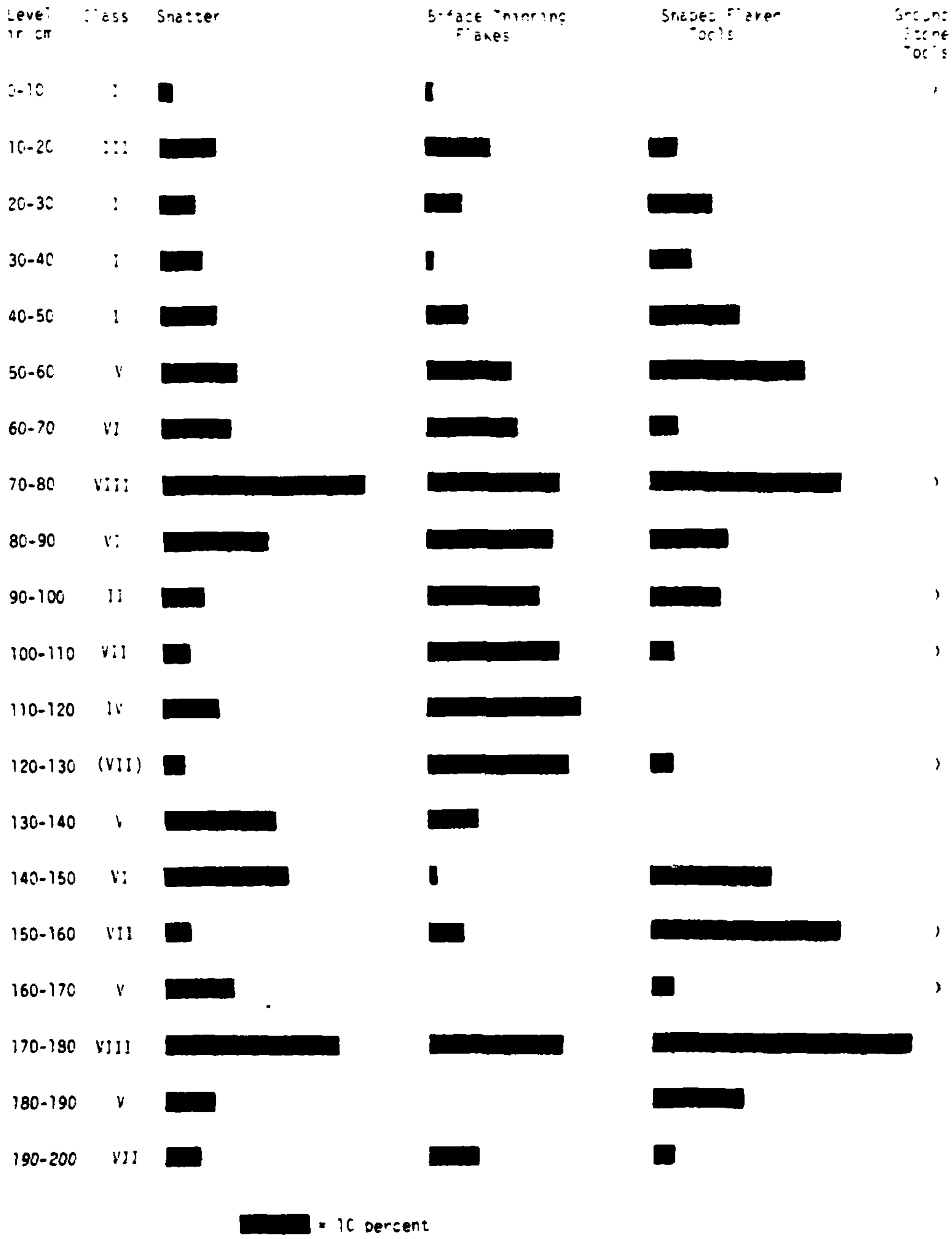


FIG 37. PERCENTAGES OF SELECTED LITHIC CATEGORIES IN EXCAVATION UNIT 1 TO 200 cm.

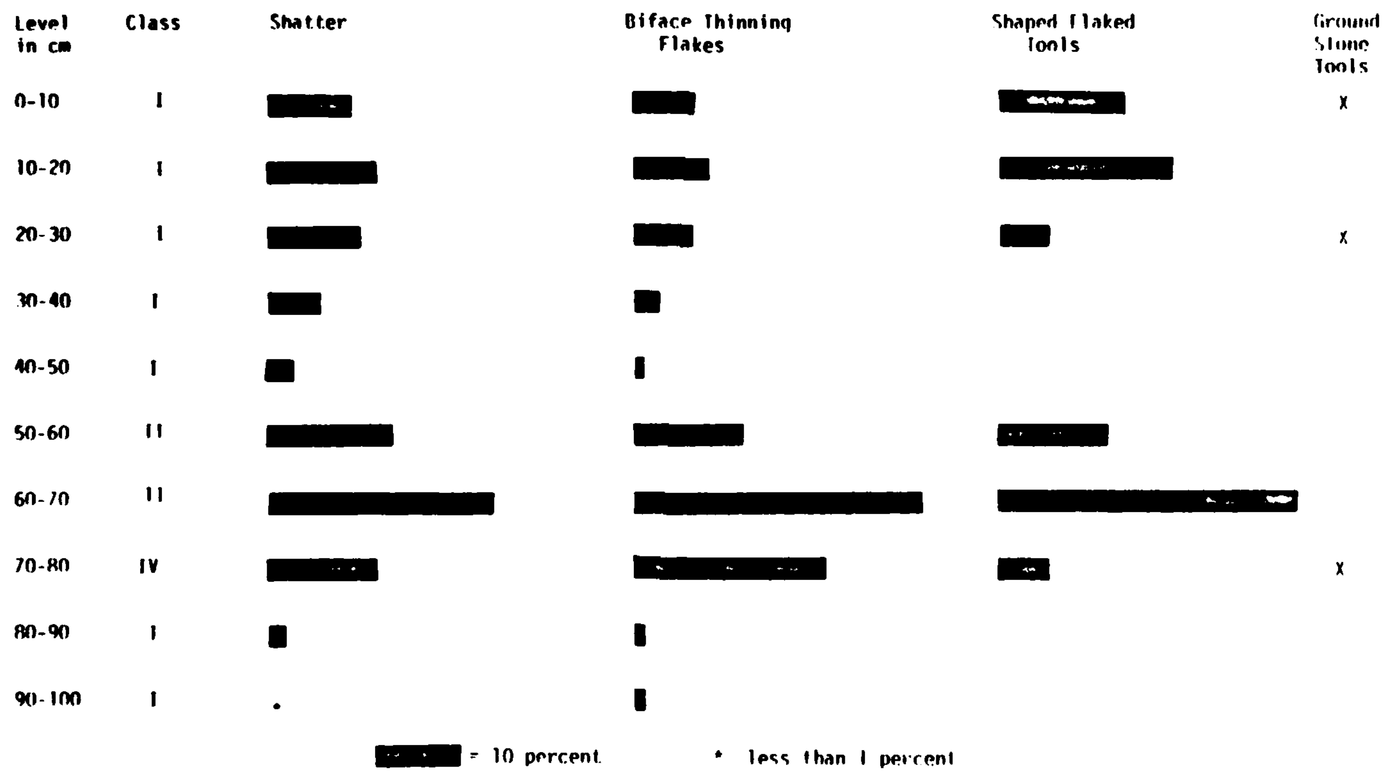


FIG. 38. PERCENTAGES OF SELECTED LITHIC CATEGORIES IN EXCAVATION UNIT 2.

volumes of dirt excavated and thus produced the best artifact samples. Pebbles were left off the graphs even though they were found in most levels. In all of the collections, the pebbles tended to be small, most of them less than 2 cm in maximum dimension, and they may well have been deposited by the river rather than culturally. Cores were not included because there were too few of them found.

All of the test and excavation units contained some Class I assemblages and in several cases they fell into long sequences. These might be interpreted several ways. They probably all reflect low intensity use of the areas, at least for activities involving lithic materials, since most categories of lithic artifacts became less numerous in these levels (Figs. 36-38). They may also represent fairly rapid sedimentation, so that many centimeters of deposit were built up while the artifacts were accumulating. This alone may serve to give the impression that the site was used less intensely during these periods. Since lack of discernible natural or cultural stratigraphy led to excavating in arbitrary 10 cm levels, there is no way of knowing whether site use was fairly continuous or intermittent during the times when Class I assemblages were deposited. It must be kept in mind that Class I assemblages could have resulted from low-level use of an area, no matter what activities were being carried out there. Thus it would be expected that Class I assemblages would be more variable than other kinds, which does appear to be the case. Some Class I levels contained relatively high frequencies of projectile points, bifaces, preforms, and other flaked tools (Figs. 36-38). Many of the bifaces appeared to be projectile point fragments, suggesting that the site may have been used primarily as some kind of hunting camp during these periods, with perhaps some tool re-sharpening but little or no early stage manufacture of tools. Other Class I assemblages contain few stone artifacts of any kind and their functional meaning is therefore not interpretable.

Class II assemblages were rare. They fell toward the bottom levels and were found only in Test Units 3 and 7 and Excavation Unit 2. Class III assemblages were present in all units except Excavation Unit 2. Class II collections tend to have mainly shatter, biface thinning flakes, and shaped flaked tools in them, in addition to the undifferentiated flakes that serve to define the class. This suggests intermediate to late stages of tool manufacture out of preforms or blanks from which most of the cortex had been previously removed, tending to confirm the functional meaning attributed to Class II in the description of data analysis. Class III assemblages, on the other hand, tend to have only small amounts of shatter but quite a few biface thinning flakes and finished tools, including both flaked tools and ground stone artifacts. This tends to contradict the previously-advanced hypothesis that Class III should represent early manufacturing stages, which was based on the large numbers of decortication flakes present in these collections. Instead, another possibility must be considered, that unmodified decortication flakes were being used for tools in these areas during the deposition of Class III assemblages. However, there are too few examples of either Class II or Class III for very definitive patterns to be evident.

Class IV also has a wide distribution, being found in all units except Text Units 3 and 6 (Tables 54-55). Class IV assemblages tended to occur near the tops and bottoms of the units and to be more characteristic of the higher areas of the site, expecially in the western part. Drills, bifaces and preforms, projectile points, and ground stone tools tended to occur more frequently in these levels, as did shatter and biface thinning flakes. The large amounts of all flake categories plus the consistent occurrence of finished tools suggest that a wider range of activities was being performed. In particular, the entire sequence of manufacturing steps is represented except that cores are virtually absent. This indicates that most tools were being made from early stage preforms or from flakes.

Class V assemblages were found in the middle levels of Test Units 1, 2, 3, and 5 and Excavation Unit 1. Shaped tools of all kinds, biface thinning flakes, and shatter were moderately common in Class V levels. Combined with low numbers of decortication and undifferentiated flakes, this indicates that tool manufacture was less important in these areas during the periods when these assemblages were being formed. The prevalence of sandstone chunks may be interpreted to mean that hearth-oriented activities predominated. This agrees with the earlier suggested meaning of Class V assemblages.

Only Test Units 1 and 2 and Excavation Unit 1 contained Class VI assemblages, suggesting that they represent a group of activities that was confined to the western part of the site. These levels had variable numbers of biface thinning flakes and a moderate number of shaped stone tools and shatter. They are defined by high percentages of sandstone chunks and undifferentiated flakes and low amounts of decortication flakes. The previous suggestion was that these collections represent habitation activities. This seems to be borne out, with the added possibility that the activities involved the use of unmodified undifferentiated flakes as tools, with less use of shaped artifacts.

Class VII assemblages were found in Test Units 1, 2, 5, and 6 and Excavation Unit 1, while Class VIII assemblages were found only in Test Unit 2 and Excavation Unit 1. The original interpretation of these classes suggested that Class VII ought to represent special-purpose habitation while Class VIII represented base-camp or more intensive habitation activities. Since there are only three examples of Class VIII collections, it is hard to generalize about the other contents of them. The amount of shatter, biface thinning flakes, and shaped tools is variable in the Class VII assemblages but consistently high in all three categories in the Class VIII levels (Figs. 36-38). In particular, the Class VIII collections from Excavation Unit 1 stand out as having more shaped tools, including ground stone, and in greater variety. However, ground stone is fairly common in Class VII levels as well. On this basis, it is still not clear what activities are represented by Class VII, while Class VIII does seem to conform to the prediction that it should reflect a variety of activities at high levels if it were representative of more intense maintenance activities. The functional hypotheses will be tested again to some extent in the following section, in which other artifact categories are discussed.

Prehistoric Ceramics. Among the prehistoric ceramic materials summarized in Appendix A several patterns are notable in the collections from meaningful contexts. Sherds were recovered from all the test and excavation units in the western part of the site, plus Excavation Unit 2 in the eastern part. Test Unit 1 contained the vast majority of the prehistoric sherds, a total of 1002; even allowing for the greater volume of the unit, the density of ceramics was much greater in it than in any other unit. Most of the sherds are sand or grog tempered and were recovered from the 0-30 cm levels. The most common type is Baytown Plain, followed by Baldwin Plain var. Blubber and Mulberry Creek Cordmarked var. Tishomingo (Table 56). The next most frequent type is Saltillo Fabric Marked, followed by Baldwin Plain var. Lubbub. The assemblage fits fairly well between Early Miller IIIa and IIIb as defined at 1Pi61 in the Gainesville Reservoir (Jenkins 1979a:33-36), except that Furrs Cordmarked is less common than would be expected on the basis of the Gainesville data, while Saltillo Fabric Marked and Baldwin Plain var. Lubbub are more common. Furrs Cordmarked made up 18% of the sherds from 1Pi61 in Early Miller IIIa and 7% in Early Miller IIIb and Saltillo and Baldwin Plain var. Lubbub combined composed less than 3% of the pottery during Early Miller IIIa and less than 1% during Early Miller IIIb (Jenkins 1979a:33,35).

Jenkins (1979a:264-165) hypothesizes that this peak in the popularity of Furrs Cordmarked in the Gainesville area was due to the reintroduction of the concept of cordmarking on grog tempered pottery during this period and its consequent re-use on sand tempered pastes as well. This hypothesis does not seem to fit the East Aberdeen data, which display no such peak. Another possible explanation for the difference between East Aberdeen and Gainesville is that the Furrs Cordmarked sherds present in the Early Miller IIIa and IIIb features at 1Pi61 were accidental inclusions. A final possibility is that the assemblages from Gainesville and East Aberdeen differ in this respect because of spatial separation and environmental differences; the Gainesville Reservoir is ca. 100 km south of East Aberdeen and within the Prairie rather than the Sand Hills ecosystem.

The greater amount of coarse sand tempered plain and sand tempered fabric-marked pottery in the East Aberdeen assemblages compared to those from Gainesville may be due partly to mixing, to the longer time span represented at East Aberdeen, or to different rates of stylistic change in pottery in the East Aberdeen and Gainesville Reservoir areas. It is likely that the ceramic assemblage from the 0-30 cm levels of Test Unit 1 is somewhat mixed. The presence of ten fiber tempered sherds indicates this, as does the fact that these levels were coincident with the plowzone. Unfortunately, no radiocarbon dates are available from this zone at East Aberdeen to compare with those obtained from 1Pi61 and 1Gr2, which range from an age of 1220±55 radiocarbon years: A.D. 730 to 1040±910: A.D. 910 for Early Miller IIIb (Jenkins 1979a:39). The projectile points from the plowzone are in conformity with an early Miller III attribution.

Only three other assemblages from East Aberdeen contained enough sherds to allow comparison with the Gainesville sequence. One of these is from the 0-20 cm levels of Test Unit 2, with the most common type being Baytown Plain, followed by Baldwin Plain var. Blubber and Saltillo

TABLE 56. CERAMIC TYPE FREQUENCIES IN SELECTED TEST AND EXCAVATION UNIT LEVELS.

Unit	Levels	Wheeler Plain %	Wheeler Dentate-Stamped %	Alexander Incised %	Baldwin Plain *var. Lubbub* %	Baldwin Plain *var. Blubber* %	Saltillo Fabric-Marked %	Furrs Cordmarked %	Alligator Bayou Stamped %	Baytown Plain %	Mulberry Creek Cordmarked %	Groq Tempered Incised %	Total Sherds
Test Unit 2	0-20				3	17	4			74	1		70
Excavation Unit 1	0-30				6	19				75			32
Test Unit 1	0-30	1	*	3	8	25	7	2	*	37	17	*	977
Excavation Unit 1	30-60	3			9	74		3		6	6		35

* Less than 1%

Fabric Marked (Table 56). The adjacent 0-30 cm levels of Excavation Unit 1 provided a similar ceramic assemblage (Table 56). There are no comparable collections from 1Pi33 or 1Pi61; the highest frequency reached by grog tempered plain pottery at either site is ca. 45% in Early Miller IIIb and Terminal Miller III (Jenkins 1979a:30, 35, 38). However, there are a number of surface collections made on sites in the central Tombigbee valley in which plain grog tempered pottery predominates; it has been suggested that these date to the end of the Miller III period (Blakeman, Atkinson, and Berry 1976:44-45). This is supported at East Aberdeen by the fact that the two assemblages that have high frequencies of grog tempered plain pottery were from the upper levels of the units. However, it must be remembered that there is evidence that both Test Unit 2 and Excavation Unit 1 had earth removed from their surfaces before archaeological work began at the site and that Excavation Unit 1 was also box-scraped, removing 25 cm more of earth. Also the associated projectile points are mostly stemmed types rather than the small triangular Madison points that might be expected to occur at the end of the Woodland period.

The 30-60 cm levels of Excavation Unit 1 contained the other assemblage with enough sherds to attempt comparison. Baldwin Plain var. Blubber is by far the most common type, followed by var. Lubbub, Baytown Plain, and Mulberry Creek Cordmarked (Table 56). Again, there is no comparable assemblage from 1Pi33 or 1Pi61; the highest percentage of Baldwin Plain var. Blubber at these sites is ca. 44% at 1Pi61 in Late Miller II (Jenkins 1979a:31). However, there were no well-defined Middle Miller II components excavated at the Gainesville sites, so it is uncertain what the ceramic assemblage for that period will look like. Given its small size, the collection from the 30-60 cm levels of Excavation Unit 1 seems to conform fairly well to the Middle-Late Miller II ceramic frequencies, especially since it contains little Furrs Cordmarked and relatively low percentages of grog tempered pottery. Again, it is relatively high in coarse sand tempered pottery compared to 1Pi61 and low in Saltillo Fabric Marked (Table 56).

The presence in both Test Unit 2 and Excavation Unit 1 of a few sand tempered plain and fiber tempered plain sherds below 50 cm in the same levels as the most recent styles of Benton points deserves some comment. The same pattern is true of Excavation Unit 2, where the few fiber tempered and sand tempered sherds were found in the 0-40 cm levels (Appendix A, Table 12) along with one type S Benton point. It is very unlikely that there is a true association between the pottery and the projectile points, especially since excavation by arbitrary levels undoubtedly resulted in the mixing of some unrelated materials. The oldest date on sand and fiber tempered pottery in the area is from the Cofferdam site (22Lo599), where a date of 1705 B.C. was obtained on a large pit feature containing Wheeler and Alexander wares (Blakeman, Atkinson, and Berry 1976:34). Even if this date is accepted, it is still much later than the few Benton dates, including the two from East Aberdeen.

Several fragments of prehistoric ceramic pipes were recovered. Two sand tempered pieces that fit together were found on the surface of Test Unit 1, square 20S8E (Plate 13, E) and three more pieces of a similar pipe were recovered from the 0-10 cm level of the same square (Plate 13, D). These also fit together to form about half the circumference of the pipe's bowl at the rim. The bowl is 3.5 cm in diameter measured to the outside surfaces. The rim is incised with short evenly-spaced vertical lines about four mm long, below which are two broad incised horizontal lines about three mm wide and spaced four mm apart (Plate 13, D). The body of the pipe also shows broad parallel incised lines running diagonally to the rim at approximately a 45° angle. Not enough of the pipe body is present to reveal how the design was repeated or varied across the surface. The bowl fragment is straight and tapering, with the widest diameter at the rim; not enough remains to determine whether the stem was curved or straight below the bowl. The other sand tempered fragment, from the surface, may well be part of the same pipe bowl since it also bears broad incised lines.

The larger fragment appears to be similar in shape to the bowl of a sand tempered elbow pipe found at 1Gr2 in the Gainesville Reservoir, Alabama (Moorehead 1972; Nielsen and Jenkins 1973:Plate XIV; Jenkins 1979a:304) except that the specimen from 1Gr2 is larger and is not incised. It is attributed to late Gulf Formational times, since the paste is the same as that of the Alexander ceramic types found at the site (Moorehead 1972:169; Nielsen and Jenkins 1973:64). The two sand tempered pipe fragments from East Aberdeen are also tempered with fairly coarse sand. Geometric incising is common on Alexander ceramics, so it seems likely that these fragments are also late Gulf Formational in age. It is also possible that they are somewhat more recent. A sand tempered obtuse angle pipe also found at 1Gr2 is tempered with fine sand and is incised and punctated (Jenkins 1975a:61, 118). However, although the bowl rim is broken off this specimen, the decorations differ in several ways from the ones on the East Aberdeen pipes. This second pipe from 1Gr2 is assigned to the Miller I-II period (Jenkins 1975a:118).

A sand tempered elbow pipe was also found at the Tibbee Creek site, 22Lo600 (O'Hear _et al_. 1979:165-166). Since it came from the surface, it could not be dated although its paste is similar to that of the Alexander ceramics from the site (O'Hear _et al_. 1979:165). A second sand tempered fragment that may also be part of a pipe was found in association with a ceramic assemblage dominated by grog tempered pottery types; the paste of the fragment resembled that of Furrs Cordmarked (O'Hear _et al_. 1979:165). This possible pipe may therefore date from the Miller II-Miller III period.

Another sand tempered fragment from what may be a pipe was found at the Cofferdam site, 22Lo599 (Blakeman, Atkinson, and Berry 1976:34, Plate 2). It appears to be part of a tubular section that had an interior diameter of about 4 cm and an exterior diameter of ca. 6 to 6.5 cm. It is about 1.2 cm thick at the thickest part and 5.5 cm long. If it is a pipe fragment, it may be from a tubular pipe or the bowl of an elbow pipe. The angled section of a large thick grog tempered elbow pipe found in the fill of Feature Y at Cofferdam (Blakeman, Atkinson, and Berry 1976:67, Plate 7) is similar in size and curvature to the sand tempered fragment. Another possibility is that the sand tempered piece was part of the rim of a small sand tempered vessel, as indicated in the report (Blakeman, Atkinson, and Berry 1976:34). The feature in which it was found apparently dated from the early Gulf Formational period, as indicated by a radiocarbon date of 1705 B.C. (Blakeman, Atkinson, and Berry 1976:34).

The other pipe fragment from East Aberdeen, found in the 20-30 cm level of Excavation Unit 2, is from what seems to be a fiber tempered tubular pipe (Plate 13, F). It is 5.7 cm long, with an apparent exterior diameter at the broken end of ca. 2.8 cm and at the finished end of ca. 2 cm. The finished end appears to be partially blocked, so it is likely to have been the mouthpiece, but none of the drilled perforation that should be present to connect the mouthpiece with the bowl has been preserved. The fragment is composed of three sherds and is badly eroded, so its identification as a pipe is open to some question.

In the same level with the fiber tempered pipe were found a Type S Benton projectile point and three fine sand tempered plain sherds (Appendix A, Table 12; Table 41); this, along with the fiber tempering, suggests that the pipe is probably middle Gulf Formational in age. Stone tubular pipes have been found fairly commonly beginning in the Late Archaic and continuing through Early Woodland, especially in Adena contexts (Knight 1975:121-123). Ceramic tubular pipes are less frequently found, although they occur consistently at Poverty Point sites (Webb 1977:35). Such pipes are untempered but often have sandy or gritty pastes; no other example of a fiber tempered tubular pipe could be found in the literature, nor did archaeologists familar with the area know of such instances (Marshall, personal communication 1980; Webb, personal communication 1980).

Historic Artifacts. Test Units 1 and 2 and Excavation Unit 1 had the largest numbers of historic artifacts in the general levels (Appendix A, Tables 4-5, 11) and particularly contained a number of nails and historic ceramics which could be used to establish the ages of the historic assemblages from these units. Test Unit 1 had the largest total number of historic ceramics, 183 sherds, but Test Unit 2 had a considerably greater density since the 93 sherds from it were found in only one quarter as much excavated area as Test Unit 1. The adjacent Excavation Unit 1 produced only 44 sherds but most of the historic deposits had been removed from it by repeated box-scraping prior to hand excavation.

Judging by the percentage of decorated fine ware, about 49%, and the kinds of decorated wares present, the assemblage from Test Unit 1 dates to the mid-nineteenth century, fitting well the characterization in Price (1979:30) of the ceramics usually present in the period from 1830-1850. There was no appreciable change in the proportions of the different kinds of decoration present in the three levels containing most of the historic ceramics. Test Unit 2 and Excavation Unit 1 contained fewer decorated sherds, ca. 27% of the fineware in each assemblage being decorated. This indicates a probable date of from 1850 to 1870 (Price 1979:30), which tends to be confirmed by the greater quantity of ironstone and lower amount of pearlware in these two assemblages. As discussed earlier, in the section on disturbance, both assemblages probably derive partly from historic features that intruded into the prehistoric levels. Nearly all the coarseware from Test Unit 1, 19 of 21 sherds, is salt glazed, while only four of 15 sherds in Test Unit 2 and four of 14 in Excavation Unit 1 are salt glazed. This is another indication that the assemblage from Test Unit 1 dates from the first half of the nineteenth cnetury (Price et al. 1975:162) while the other two assemblages are from a later period.

The nails from Test Unit 2 and Excavation Unit 1 accord well with the conclusion that the historic artifacts from them postdate 1860, since 80% of the nails from Test Unit 2 and 84% of those from Excavation Unit 1 are cut, the remainder being wire nails. Wire nails became increasingly common in the 1860s and 1870s (Nelson 1968). However, only 42% of the nails from Test Unit 1 are cut nails; this contradicts the other evidence dating the historic assemblage from this unit to the period from 1830-1850 and suggests instead a late nineteenth century date. The artifacts from the surface in this area, composing Cluster 15, showed a similar pattern, with relatively few cut nails but a large number of nineteenth-century ceramics (Tables 28 and 31).

One way to resolve this difficulty is to postulate that there are two separate historic occupations represented in the Test Unit 1 assemblage, one which deposited only cut nails while a later use deposited mainly wire nails. Another possible explanation is that the earlier occupation produced relatively few nails of any kind, which could have happened if the building were constructed of logs. Therefore, most or all of the nails would date to the later occupation of the area while most of the ceramics apparently date to the earlier use. This in turn implies that the first use of the area was more likely to have been residential, while the second use was non-residential. These hypotheses are difficult to test further because most of the bricks, glass, and other historic artifacts from these levels cannot be associated firmly with only one occupation.

Aside from the temporal differences, other functional differences are also suggested by the historic artifacts. While about 16% of the historic ceramics in Test Unit 2 were coarseware, 32% of the sherds from Excavation Unit 1 fell in this category (Appendix A, Tables 5 and 11). Another difference is in glass. In Test Unit 2 the amounts of bottle and pane glass were approximately equal, while in Excavation Unit 1 bottle glass was ten times as common as pane glass. The absolute quantities of brick and nails in Test Unit 2 and Excavation Unit 1 were also different. Even though the two assemblages seemed to be of the same age, Test Unit 2 contained twice as many brick fragments per volume of dirt excavated as Excavation Unit 1 and more than four times as many nails. All of this evidence combined tends to indicate that a residential structure stood in the vicinity of Test Unit 2 during the period after ca. 1860, while the area of Excavation Unit 1 was non-residential, perhaps used for refuse disposal and other purposes. No structures were identified in this area on the basis of the surface collection evidence.

The historic artifacts from the units in Surface Collection Unit B varied considerably in density. Test Unit 5, located southwest of historic artifact Cluster 6 on the surface, produced few structural, household, or subsistence artifacts from the historic zones (Appendix A, Table 8). It appears not to have impinged on the structure represented by Cluster 6. The historic artifacts from Test Unit 6 were much more numerous. They indicate a post-1860 date for occupation in that area, just north of Cluster 1, since 22% of the nails are wire nails (Appendix A, Table 9). However, the structure represented by the nails could have been built earlier and then enlarged or repaired with wire nails. The considerable amounts of brick and pane glass from this unit indicate that the artifacts are remnants of a building. The miscellaneous other objects that were found in the historic zones are mostly tarpaper, mortar, and coal slag, all consistent with the presence of a building. The large amount of bone in the upper levels, as well as bottle glass, indicates that the structure was a residence, probably the same one identified in the artifacts from Cluster 1.

Excavation Unit 2 produced very few historic artifacts (Appendix A, Table 12), as would be expected since box-scraping largely removed the historic component in this area.

Fired Clay. Fired clay occurred in large quantit in the test and excavation units at the East Aberdeen site, particularly in certain levels of the units which were located in the western part of the site. The fired clay lumps usually did not occur in discrete clusters, but were scattered throughout the levels. The lumps had not been shaped, although when large pieces were found, they tended to be fairly flat on two opposite sides and thick. It is believed that all of the fired clay was once associated with fire hearths which either were purposefully dismantled or in the course of time became disrupted, scattering the clay. The fired clay varies in texture from sandy to chalky and in color from black to orange to light tan. It probably originated at the site since the soil there, especially that on the western part of the site, was fine-grained and easy to compact and shape when wet. In fact, it is possible that the hearths were not lined with clay at all but that the natural soil became fired when fires were lit in basins. This idea is supported by the fact that the fired clay from the eastern part of the site is sandier and more often red or orange in color than that from the western part; this coincides with the observation that the unaltered soil in the eastern area was significantly more sandy than that in the western portion.

Test Unit 1 contained large quantities of fired clay throughout its levels (Appendix A, Table 4). Within the first 100 cm a peak occurred at 50-60 cm and an even larger one at 90-100 cm. Taking into consideration the decreased volume of the levels from 100-200 cm, levels 100-110 and 110-120 appear to have contained similar quantities of fired clay, with the 90-120 cm levels forming one zone in which it was present in large amounts. A smaller peak occurred at 150-160 cm and no fired clay was recovered below 220 cm. Through the levels of the test unit a pattern of somewhat gradual increases and decreases was exhibited but the differences between the high quantities at the peaks and the low quantities which occurred in some of the levels are dramatic.

Test Unit 2 also had a large quantity of fired clay (Appendix A, Table 5). In comparison with other test units, every level in the unit was high. Five peaks are evident, large ones at 50-60 cm and 90-110 cm and smaller ones at 0-10 cm, 30-40 cm, and 150-190 cm. In each case, the increase and decrease was gradual. In the unit as a whole there was a gradual overall increase in the amount of fired clay below 100 cm and a gradual decrease above 50 cm. This suggests that there were multiple separate uses of the area which built in intensity and then tapered off.

Fired clay was also present in large quantities in Excavation Unit

1, especially in the 60-100 cm levels (Appendix A, Table 11). There were two more peaks in the 120-160 cm and 170-190 cm levels. Considering that the volume of earth excavated in the 100-200 cm levels was only 1/5 that of the 0-100 cm levels, fired clay hearths were constructed in these zones with a frequency equal to that of the previously discussed levels. The concentration in the 120-160 cm levels probably corresponds to that in the 150-190 cm levels of Test Unit 2, while the one in the 170-190 cm levels of the excavation unit was apparently not represented in Test Unit 2, probably because it was not excavated to a great enough depth to reach the concentration. Besides confirming the pattern seen in Test Unit 2, Excavation Unit 1 also demonstrated that the intense fire-oriented activity that produced the fired clay in these levels covered a fairly large area. All of the area contained within Excavation Unit 1 had a great deal of fired clay in the levels discussed above.

Test Unit 3 also showed several peaks in the amount of fired clay, with the largest ones in the 60-70 cm and 90-100 cm levels. As shown in Appendix A, Table 6, there was one smaller peak in the 130-140 cm level. Test Unit 7 had a large quantitiy of fired clay in the undisturbed 60-80 cm levels but little from the other zones (Appendix A, Table 10). When the evidence from Test Unit 1, 2, 3, and 7 and Excavation Unit 1 is taken into account, it is plain that hearths were built throughout the western part of the site in large numbers in the middle levels of all the units. This activity seems to have been most intense in the area of Test Unit 2 and Excavation Unit 1.

The eastern part of the site had considerably less fired clay. Test Unit 5 contained fired clay mostly in the 10-50 cm levels, with a decrease occurring in the 30-40 cm level (Appendix A, Table 8). The peak in Test Unit 6 was also a two-part one, occurring from 20-70 cm. The size of the peaks was somewhat larger than in Test Unit 5 but they occurred in the same order, with the larger one in the upper levels. Excavation Unit 2 had only one major concentration of fired clay in the 0-30 cm levels and a smaller one in the 60-70 cm level (Appendix A, Table 12). The excavation unit was closer to Test Unit 6 than to Test Unit 5 and resembled it more in terms of its fired clay content. The large concentration may correspond to the one in the 50-60 cm level of Test Unit 6 and the smaller concentration to the one that apparently existed in the 100-110 cm level of the test unit.

<u>Floral and Faunal Remains</u>. As shown in Appendix A, with few exceptions charcoal correlated well with fired clay in all the units; it was most common in the levels in which fired clay was concentrated and declined along with the fired clay. The association of charcoal and fired clay tends to confirm that the clay was indeed used in hearths. Since the charcoal from the levels was not analyzed except in the flotation samples, it is not certain which species were represented. However, it appeared during cataloguing that nearly all the charcoal was hickory nut shells, with very little wood charcoal mixed in. The main exceptions to this occurred in the 10-20 cm level of Test Unit 5 and the 70-80 and 90-100 cm levels of Test Unit 6; in these cases, the charcoal came from features, not from the general level. Aside from indicating that both result from fire, the association of fired clay and charcoal may be interpreted several ways. It may mean that the hearths were being used

to process hickory nuts and/or that the nutshells were being used for fuel.

The other major source of information concerning floral materials was flotation samples collected from every level of each unit and from each feature excavated. All of the units produced similar botanical materials, so they will be discussed together; the summaries of floral remains from the flotation samples are presented in Tables 57 and 58. Almost the only material recovered from the flotation samples was charred floral remains. In general the charred materials were evenly distributed throughout each level outside of the features. The pieces of charcoal found in the samples tended to be small fragments, following the pattern of fired clay which was also ubiquitous and fragmented.

In every unit and every level in which any charred material was present, the great majority by weight and count was hickory nut shell (Carya sp.). Test Units 2, 6, and 7 had the greatest quantities of nut shell. However, the amount of hickory from the 40-80 cm levels of Excavation Unit 1 far exceeded the amount found anywhere else, including that found in other levels with about the same amount of fired clay. For example, the 90-100 cm level of the unit had 11,192 gm of fired clay and 7.8 gm of hickory nut shell, while the 70-80 cm level had 11,819 gm of fired clay and 26.3 gm of nut shell (Table 58). It may be that the series of samples taken from 40-80 cm was from a localized area with a particularly high concentration of charred shells.

The other kind of floral remains found in all test units was acorn (Quercus sp.). Acorn shells occurred in much smaller numbers than hickory shells and tended to be restricted mainly to the middle levels of all the units. In those levels where acorn occurred, it tended to be most common where hickory was also numerous. In only rare instances did the amount of acorn equal the amount of hickory.

The scarcity of acorn and the predominance of hickory might be explained by differential preservation. Hickory nut shells are thick and distinctive so they tend to remain in larger pieces and be more easily identified than acorn shells, which are thin and not so distinctive. If, as has been suggested, hickory nut shells were used for fuel, they would be charred more often than other botanical materials and over-represented for that reason. Nonetheless, the picture of hickory predominance at the East Aberdeen site seems to be an accurate one since other durable and easily recognized shells such as walnut and pecan are completely missing from the collections.

Only one kind of seed, pokeberry (Phytolacca sp.), occurred in any of the test units. One seed was found in Test Unit 1 and two in Test Unit 4. Since the latter unit was disturbed throughout its levels, the seeds from it may not be prehistoric. Excavation Unit 1 did not contain any pokeberry seeds, but it did produce two species of seed not found in the test units. These were persimmon (Diospyros sp.) and grape (Vitas sp.); two seeds of each were found in the levels from 80-150 cm. Neither grape nor persimmon appears to have been gathered in quantity at the site. The virtual lack of seeds except as uncharred contaminates is hard to explain by preservation differences. If seeds were charred at the site they should have been recovered since most seeds are too small to be destroyed by disruption of the fire after they were burned.

TABLE 57. FLORAL REMAINS FROM TEST UNITS.

Test Unit	Level cm	CARYA SP. (hickory nut) #	weight gm	QUERCUS SP. (acorn) #	weight gm	PHYTOLACCA SP. (pokeberry)	CONTAMINATES
1 (20S8E)	0-10	2	*				
	10-20	3	.2				
	20-30	21	.3				
	30-40	64	1.0				
	40-50	16	.4				
	50-60	20	.5	2	*		CELTIS SP. (hackberry)
	60-70	14	.1				
	70-80	26	.4				OXALIS SP. (wood sorrel)
	80-90	38	.3				
	90-100	8	.2	4	.1	1 seed	
	100-110	6	.2	2	*		
	110-120	3	*	5	*		
	120-130	26	.3	8	*		
	130-140	3	.1	7	.1		
	140-150	29	.3				
	150-160	1	*				OXALIS SP. (wood sorrel)
	160-170	5	.1				
	170-180	5	.1				
	180-190	9	.1				STELLARIA SP. (chickweed)
	190-200						
	200-210						
	210-220						
	220-230	2	*				
	230-240						
	240-250						
	250-260						
	260-270						
	270-280						
	280-290						
	290-300						
	Total	301	4.6	28	.2		
2 (16N26E)	0-10						
	10-20	16	.6				
	20-30						
	30-40	8	.3				
	40-50	3	.1				
	50-60	29	.5				
	60-70	174	1.8	5	*		
	70-80	173	3.2				
	80-90	34	.4				
	90-100	59	1.6	2	*		
	100-110	101	2.5	1	*		
	110-120						
	120-130	8	.1	1	*		

*Less than .1 gram.

TABLE 57 FLORAL REMAINS CONTINUED.

Test Unit	Level cm	CARYA SP. (hickory nut) #	weight gm	QUERCUS SP. (acorn) #	weight gm	PHYTOLACCA SP. (pokeberry)	CONTAMINATES
2 (16N26E)	130-140	21	.4				
	140-150	8	.2				
	150-160	56	1.0	1	*		
	160-170	8	.1	2	*		
	170-180	32	.7				
	180-190	7	.1	19	*		
	190-200	45	.4				
	200-210	7	*				
	Total	789	14.0	31	.1		
3 (48N18E)	0-10						CHENOPODIUM SP. (goose foot) RUMEX SP. (dock)
	10-20	4	*				CHENOPODIUM SP. (goose foot) RUMEX SP. (dock)
	20-30	46	.8				
	30-40	42	.6				
	40-50	15	.3				
	50-60	23	.2				
	60-70	2	.1				
	70-80	8	.1	1	*		
	80-90	15	.2	2	*		
	90-100	51	.7	1	*		
	100-110	51	1.1	2	*		
	110-120	18	.3				
	120-130	9	.2				
	130-140	4	.1				
	140-150						
	150-160						
	160-170						
	Total	298	4.7	6	*		
4 (12N20W)	0-10						
	10-20	2	*				
	20-30						
	30-40	6	*				
	40-50					1 seed	
	50-60	5	*				
	60-70	1	*				
	70-80	1	*			1 seed	
	80-90	1	*				
	90-100						
	Total	16	*				

TABLE 57. FLORAL REMAINS CONTINUED.

Test Unit	Level cm	CARYA SP. (hickory nut) #	weight gm	QUERCUS SP. (acorn) #	weight gm	PHYTOLACCA SP. (pokeberry)	Contaminates
5 (48N178E)	0-10						
	10-20	74	1.3	1	*		
	20-30	3	*	2	*		
	30-40	46	.4	11	*		
	40-50	19	.4	6	*		
	50-60	14	.2	18	.1		
	60-70	23	.4				
	70-80	10	.2				
	80-90	3	.1	2	*		
	90-100	4	.1				
	100-110	1	*				
	110-120						
	120-130						
	130-140						
	Total	197	3.1	40	.1		
6 (68N186E)	0-10						
	10-20						
	20-30	19	.3				
	30-40	4	.1				
	40-50	98	1.7	9	*		
	50-60	59	1.0	1	*		
	60-70	152	1.6				
	70-80	5	.1				
	80-90	3	.2				
	90-100						
	100-110						
	110-120						
	120-130						
	130-140						
	Total	340	5.0	10	*		
7 (46N2E)	0-10						CHENOPODIUM SP. (goose foot) RUMEX SP. (dock)
	10-20						
	20-30						
	30-40	16	.3				
	40-50	21	.5	6	*		
	50-60	329	4.2				
	60-70	41	.8				
	70-80	56	.8				
	80-90	12	.2				
	90-100	4	*				
	100-110	2	*				
	110-120						
	Total	481	6.8	6	*		

TABLE 58. FLORAL REMAINS IN EXCAVATION UNITS.

Excavation Unit	Level cm	*CARYA* SP. (hickory nut) #	weight gm	*QUERCUS* SP. (acorn) #	weight gm	*VITIS* SP. (grape)	*DIOSPYROS* SP. (persimmon)	CONTAMINATES
1 (16N24E)	30-40	25	1.9					*CHENOPODIUM* SP. (goose foot)
	40-50	740	16.1					
	50-60	1147	26.8	23	.18			
	60-70	2310	51.3	16	.1			
	70-80	1092	26.3	14	*			
	80-90	463	7.0			1 seed		
	90-100	337	7.8	4	*			
	100-110	199	3.4				1 seed	*STELLARIA* SP. (chickweed)
	110-120	121	2.2	6	*			
	120-130	157	2.7					
	130-140	222	4.2					
	140-150	481	10.6	15	.1		1 seed	
	150-160	271	5.5	4	*	1 seed		
	160-170	183	1.8	3	*			
	170-180	176	2.3	3	*			
	180-190	78	1.4	5	*			
	190-200	24	.2					
	200-210	5	*					
	210-220	3	*					
	220-230	3	*					
	230-240							
	Total	8037	171.50	93	.38			
2 (58N194E)	0-10	74	1.7					
	10-20	32	.5					
	20-30	29	1.6					
	30-40	64	1.6					
	40-50	17	.4					
	50-60							
	60-70							
	70-80							
	80-90							
	90-100							
	Total	216	5.8					

* Less than .1 gram

The absence of seeds is probably best explained by low level use of them at East Aberdeen.

The bone recovered from the first 20 cm of all units was mostly unburned. It was fairly well preserved, which was not the case with unburned bone from deeper in the units. Much of the bone from the top levels is from domestic animals, including pigs, chickens, and cattle; there is also some deer. Many of the bones are whole or in large pieces. The bone recovered from the lower levels, which co-varied with the fired clay and charcoal, was highly fragmented and nearly always burned. The few pieces of unburned bone had been reduced to meal and could not be recovered intact in most cases; they appeared to be the bones of large mammals, probably deer. The distribution of the burned bone may indicate that since it was only likely to be preserved if it were burned, it was found mainly with fired clay and charcoal because they represented hearths. Test Units 5 and 6 and Excavation Unit 2 produced very little bone below the top 30 cm even in levels where fired clay and charcoal were common. This probably represents a functional difference between the eastern part of the site and the western part where both charred bone and unburned mealy bone were considerably more common.

There was relatively little shell recovered from any of the units at any level. The shell which was found was highly fragmented but was identifiable as fresh-water mussel. The shell found tended to be concentrated in the upper few levels of the units and generally had the same distribution as the bulk of historic artifacts in the units. This suggests that the shell originated during the historic rather than the prehistoric occupations of the site. Only Test Unit 2 consistently contained shell in the levels below 30 cm. However, even in this case it may well have resulted from historic disturbance, coming from the large hole filled with historic debris which intruded the south wall of the unit to a depth of 100 cm.

Faunal Remains Recovered from Excavation Unit 1. All the pieces of bone recovered from Excavation Unit 1 were burned except for one in the 10-20 cm level, two in the 30-40 cm level, and one in the 180-190 cm level. This makes it somewhat difficult to interpret the evidence, since the patterns that are evident may represent preservation biases rather than differences in animal exploitation. The biases present might be of two kinds: the bones that happened to become burned might not represent the full range of animals used and the amount of animal bone found might be determined largely by the amount of burning that occurred.

As shown in Table 59, fish bones were extremely rare in Excavation Unit 1. Two Cretaceous shark teeth were found in the 80-100 cm levels, one of which may have been purposefully modified in shape. The only identified food fish was catfish (*Ictalurus* sp.); one pectoral spine was found in the 170-180 cm level. In the same level were four unidentified fragments of fish bones. It appears that fish either was used very little at the site, that the bones were rarely preserved, or that they were too small to be recovered. No fish bone or scales were noted in the flotation samples where they could have been recovered if they had been present.

Turtle is one of the most prominent components in the bones

TABLE 59. IDENTIFIABLE BONE RECOVERED FROM EXCAVATION UNIT 1 (16N24E)

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	200-210	TOTAL
Fish																						
Fossil shark tooth									1	1												2
Ictalurus sp. (catfish)																		1				1
Unidentifiable										1								4				5
Reptile																						
Turtle shell		1	1	3	7	15	25	50	46	48	7	5	7	21	19		27	26	10	5		323
Turtle bone											1			1								2
Snake																		1				1
Bird																						
Meleagris gallopavo (turkey)					1			1	1	1				1			2					7
Large bird		1																				1
Unidentifiable						3	5	17	16	24	1	1	1	4	4			5	3	1	1	86
Mammal																						
Bos taurus (cow)		1																				1
Silvilagus sp. (rabbit)		1							1	1					1							4
Odocoileus virginianus (white-tail deer)			4	7		3	3	18	24	24		1	13					1	2			100
Sciurus sp. (squirrel)								1														1
Didelphis marsupialis (opossum)								1														1
Unidentifiable				2	20	69	99	143	47	19	19	11	5	18	40		23	51	26	11	1	604

from Excavation Unit 1; it was represented in every level except the 0-10 cm and the 150-160 cm levels, which had no bone, and the final level, 200-210 cm. The amount of turtle, which is almost entirely composed of pieces of shell, increased steadily from the 30-40 cm level and reached a peak in the 70-100 cm levels. A second turtle bone peak occurred in the 130-150 cm levels and a third in the 160-180 cm levels; both of these had more turtle in them than was found in the 70-100 cm levels. This is particularly notable because the bone in the lower peaks was recovered from only 1/5 the amount of dirt excavated at the 0-100 cm levels. All of the turtle shell represented hardshell turtles except for two pieces of softshell turtle in the 50-60 cm level, five pieces in the 90-100 cm level, one piece in the 110-120 cm level, two pieces in the 140-150 cm level, and one piece in the 160-170 cm level. It appears that softshell turtles were never as important as hardshell varieties but were being exploited in small numbers. Only one snake bone, a vertebra of some poisonous species, was found in the 170-180 cm level.

A few bird bones, mostly unidentifiable, were found in most levels of Excavation Unit 1. They were most common in the 70-100 cm, 130-150 cm, and 170-190 cm levels, closely following the density distribution of the total bone. The only bird bones that could be identified belonged to turkey (Meleagris gallopavo), although the 80-90 cm and 90-100 cm levels contained one fragment each of the same coracoid bone from what may have been a duck. The turkey bones were all distal wing and foot bones, i.e. phalanges, tibiotarsi, one spur, a tarsometatarsus, and a carpometacarpus, except for one distal end of a radius. Turkeys were used throughout the period represented by Excavation Unit 1, again apparently in low numbers. It may well be, however, that many of the unidentifiable fragments of bird bone also actually represent turkey.

There was only one domesticated animal represented in the bones: one cow tooth was found in the 10-20 cm level. Otherwise, virtually the only identifiable mammal bones were white-tailed deer (Odocoileus virginianus). The mammal bones were extremely fragmented and most that could be identified were toe bones, antler fragments, and teeth. However, most of the unidentifiable mammal bone was compatible in size with deer. The fragmented state of the bone made it impossible to arrive at a meaningful figure for minimum number of individuals per level. Identifiable deer bones were most common in the 70-100 cm levels and the 120-130 cm level. It is difficult to estimate the importance of deer from the available evidence although it appears that they were used more frequently than any other animal that is represented except turtle and, possibly, turkey.

The only other mammals identified in the bones were one instance each of squirrel and opossum and three instances of rabbit. None of these seems to have been of any great importance in the diet of the prehistoric occupants of the East Aberdeen site.

Chemical Composition. Tables 60-61 show the results of the soil sample analysis for the test and excavation units. The pH, P_2O_5, and K_2O levels are presented, with the latter two being given in parts per million; the notations L-, L, M, H, and H+ indicate their concentrations ranging from very low to very high. Also shown in the table are counts by level of artifacts which are particularly indicative of human

TABLE 60. CHEMICAL COMPOSITION OF SOIL AND ARTIFACT COUNTS IN TEST UNITS.

Test Unit	Level in cm	pH	P_2O_5	K_2O	Total Number of Selected Artifacts in Level[1]
1 (20S8E)	0-10	7.3	1084H	2833H	1504
	10-20	6.6	847H	3130H	1603
	20-30	5.7	798H	2885H	627
	30-40	6.2	594H	2794H	253
	40-50	7.0	572H	1254H	315
	50-60	7.0	572H	1452H	382
	60-70		Missing		229
	70-80	6.7	475H	1828H	160
	80-90	6.2	560H	1678H	535
	90-100	7.0	602H	1518H	426
	100-110	7.1	472H	508H	141
	110-120	7.0	752H	624H	119
	120-130	6.8	689H	567H	184
	130-140	6.7	816H	464H	154
	140-150	7.0	904H	596H	205
	150-160	5.9	716H	348H	292
	160-170	6.5	764H	338H	54
	170-180	6.4	890H	392H	56
	180-190	6.4	602H	323H	71
	190-200	7.1	459H	334H	58
	200-210	7.1	458H	247H	6
	210-220	7.2	296H	207M	20
	220-230	7.2	280H	106L	14
	230-240	7.2	251H	156L	9
	240-250	6.7	267H	178M	1
	250-260	6.9	445H	276M	0
	260-270	6.3	369H	225M	0
	270-280	5.8	337H	211M	0
	280-290	6.1	268H	203M	0
	290-300	6.3	312H	182L	3
2 (16N26E)	0-10	6.5	110M	61L	241
	10-20	6.4	275H	165H	306
	20-30	6.3	415H	298H	97
	30-40	6.8	420H	348H	69
	40-50	6.9	484H	450H	13
	50-60	6.7	427H	352H	77
	60-70	6.8	395H	298H	28
	70-80	6.8	401H	293H	121
	80-90	6.9	493H	348H	103
	90-100	6.9	509H	370H	59
	100-110		Missing		23
	110-120	6.8	521H	385H	58
	120-130	6.7	[illegible]	407H	39
	130-140	5.9	[illegible]	491H	39
	140-150	6.3	[illegible]	414H	48
	150-160	6.2	[illegible]	[illegible]	37
	160-170	6.3	[illegible]	216H	32
	170-180	6.2	[illegible]	200H	14

TABLE 60. CHEMICAL COMPOSITION CONTINUED

Test Unit	Level in cm	pH	P_2O_5	K_2O	Total Number of Selected Artifacts in Level[1]
	180-190	6.3	1050H	233H	49
	190-200	6.6	752H	225H	50
	200-210	6.3	780H	138H	24
3 (48N18E)	0-10	6.0	191H	174H	87
	10-20		Missing		181
	20-30	6.2	245H	203H	204
	30-40	6.4	210H	185H	117
	40-50	6.3	190H	181H	71
	50-60	6.3	153H	158H	40
	60-70	6.2	210H	250H	45
	70-80	6.4	226H	232H	87
	80-90	6.2	303H	334H	94
	90-100	6.2	290H	247H	73
	100-110	5.7	395H	114M	14
	110-120	5.4	630H	74L	21
	120-130	5.5	716H	64L	14
	130-140	6.0	515H	57L	7
	140-150	5.7	441H	57L	29
	150-160	5.7	452H	54L	10
	160-170	5.9	452H	44L-	0
4 (12N20W)	0-10		No Sample Collected		39
	10-20	6.0	105H	67L	9
	20-30	6.1	213H	67L	100
	30-40	6.0	292H	78L	24
	40-50	6.1	258H	54L	59
	50-60	6.1	267H	60L	27
	60-70	6.0	290H	67L	20
	70-80	6.2	245H	64L	149
	80-90		Missing		48
	90-100	5.6	226H	50L	50
5 (48N178E)	0-10	6.2	150H	30L-	18
	10-20	6.2	158H	20L-	112
	20-30	6.3	191H	47L-	41
	30-40	6.3	172H	30L-	56
	40-50	6.2	207H	57L	62
	50-60	6.3	220H	41L-	34
	60-70	6.6	[illegible]	80L	76
	70-80	6.5	181H	54L	27
	80-90	5.9	[illegible]	61L	65
	90-100	5.4	[illegible]	78L	131
	100-110	5.2	[illegible]	54L	6
	110-120		Missing		3
	120-130		Missing		0
	130-140	6.1	[illegible]	[illegible]	0

TABLE 60. CHEMICAL COMPOSITION CONTINUED

Test Unit	Level in cm	pH	P_2O_5	K_2O	Total Number of Selected Artifacts in Level[1]
6 (68N186E)	0-10	7.0	220H	57L	89
	10-20	6.2	233H	40L-	76
	20-30	6.5	184H	43L-	80
	30-40	6.4	185H	26L-	46
	40-50	6.0	204H	50L	92
	50-60		Missing		97
	60-70	6.3	175H	40L-	51
	70-80	6.4	181H	59L	14
	80-90	6.5	156H	128L	17
	90-100	6.4	185H	61L	59
	100-110	6.2	156H	57L	1
	110-120	6.2	156H	47L-	3
	120-130	6.4	67M	24L-	2
	130-140	5.8	64M	24L-	0
7 (42N2E)	0-10		No Sample Collected		185
	10-20	6.2	760H	522H	72
	20-30	6.5	868H	436H	65
	30-40	6.3	830H	450H	75
	40-50		Missing		89
	50-60	6.0	890H	242H	76
	60-70	6.1	802H	174H	39
	70-80	6.1	612H	127M	84
	80-90	6.2	536H	80M	79
	90-100	5.8	431H	102M	69
	100-110	6.1	459H	91L	0
	110-120	6.1	128H	26L-	2
	120-130	5.9	26M	88L	0

[1]Selected artifacts include lithic debitage and tools, prehistoric ceramic materials, historic ceramic materials, and nails.

TABLE 61.
CHEMICAL COMPOSITION OF SOIL AND ARTIFACT COUNTS IN EXCAVATION UNITS.

Excavation Unit	Level cm	pH	P_2O_5	K_2O	Total Number of Selected Artifacts in Level[1]
1 (16N24E)	0-10		No sample taken		72
	10-20		No sample taken		271
	20-30		No sample taken		219
	30-40	6.3	844H	728H	249
	40-50	6.0	472H	406H	209
	50-60	6.0	486H	422H	541
	60-70	6.2	458H	406H	586
	70-80	6.4	602H	464H	756
	80-90	6.6	602H	392H	1245
	90-100	6.5	724H	450H	352
	100-110	6.5	766H	522H	124
	110-120	6.2	738H	480H	122
	120-130	6.6	868H	638H	110
	130-140	6.4	890H	696H	140
	140-150	6.7	904H	610H	242
	150-160	6.6	954H	668H	298
	160-170	6.5	890H	668H	511
	170-180	6.6	932H	638H	140
	180-190	6.7	840H	508H	80
	190-200	6.8	652H	436H	80
	200-210	6.8	612H	494H	10
	210-220	6.8	546H	422H	5
	220-230	6.7	536H	464H	0
	230-240	6.8	440H	312H	0
2 (58N194E)	0-10	7.4	283H	91L	285
	10-20	6.9	380H	141L	240
	20-30	6.6	535H	290M	278
	30-40	6.3	477H	189L	145
	40-50	6.4	427H	218M	60
	50-60	7.1	401H	161L	343
	60-70	7.7	351H	114L	719
	70-80	7.4	147H	57L	442
	80-90	7.6	105H	30L-	35
	90-100	7.1	79M	91L	16

[1]Selected artifacts include lithic debitage and tools, prehistoric ceramic materials, historic ceramic materials, and nails.

activity: sandstone chunks, lithic cores, flakes of all types, prehistoric ceramics, historic ceramics, and nails.

The pH readings from the units varied from 5.2 to 7.7, which is a normal range for soils in humid regions. The slight acidity of most of the levels helps to explain why bone preservation was poor at the site. High levels of phosphates have been shown repeatedly to be associated with anthropic soils and to vary with the intensity of human occupation (Eidt 1973; Sjoberg 1976). The phosphate levels in the units varied from medium to high, from 26 to 1085 parts per million. The highest readings were from the western part of the site and, disregarding the disturbed Test Unit 4 and top levels of Test Unit 3, the phosphate readings in all the units there stood at above 400 ppm in nearly every level that contained a significant number of artifacts (Tables 60-61). In contrast, the units in the eastern site area generally displayed phosphate levels below 400 ppm, the only exceptions being several samples from the middle levels of Excavation Unit 2 (Tables 60-61). This pattern suggests that the west part of the site was used more intensively than the east part, a conclusion generally consistent with the evidence from soil color and artifact and feature density.

Potassium levels have not been used often to measure the intensity of human use of a site, but since the amount of potassium in the samples was analyzed by the Soil Testing Lab, it was compared with the phosphate content to see how closely the two measures agreed. In general, potassium was present in lesser quantities than phosphate but the two tended to vary together (Tables 60-61). This can be seen more clearly on a graph comparing the phosphate and potassium content of samples from Excavation Unit 1 (Fig. 39). This relationship failed to hold in a few levels, mainly in the lowest parts of the western units, where there are a number of cases in which the phosphate and potassium levels fluctuated erratically and often inversely (Tables 60-61). The generally sandier soils of these levels may have allowed more downward displacement of potassium, which is more subject to leaching than phosphates.

The potassium and phosphate readings show one other important discrepancy, in the top 100 cm of Test Unit 1 (Fig. 40). This is the only unit in which the amounts of potassium were strikingly and consistently larger than the amounts of phosphates. This unit was also one of those in which Leonhardy (1978) noted the presence of Bth horizons close to the surface (Fig. 32) and raised the possibility, discussed in the section on disturbance, that this might have resulted from introduced sodium salts. The very high levels of potassium, with all readings over 1200 ppm while elsewhere on the site the highest reading was less than 800 ppm (Tables 60-61), suggest that potassium was probably added to the soil of Test Unit 1 as well as or instead of sodium. Soap is one source of sodium and potassium salts that might have had a flocculating effect on the soil. Presumably the potassium was added in the historic period, its present in large amounts below 30 cm being due to its being leached downward slowly and/or carried in solution originally.

Comparison of the artifact counts with the potassium and phosphate content indicates that the correlation is not exact. Figs. 39-40 show how the number of artifacts varied with the chemical composition in Excavation Unit 1 and Test Unit 1. In order to plot the artifacts, it

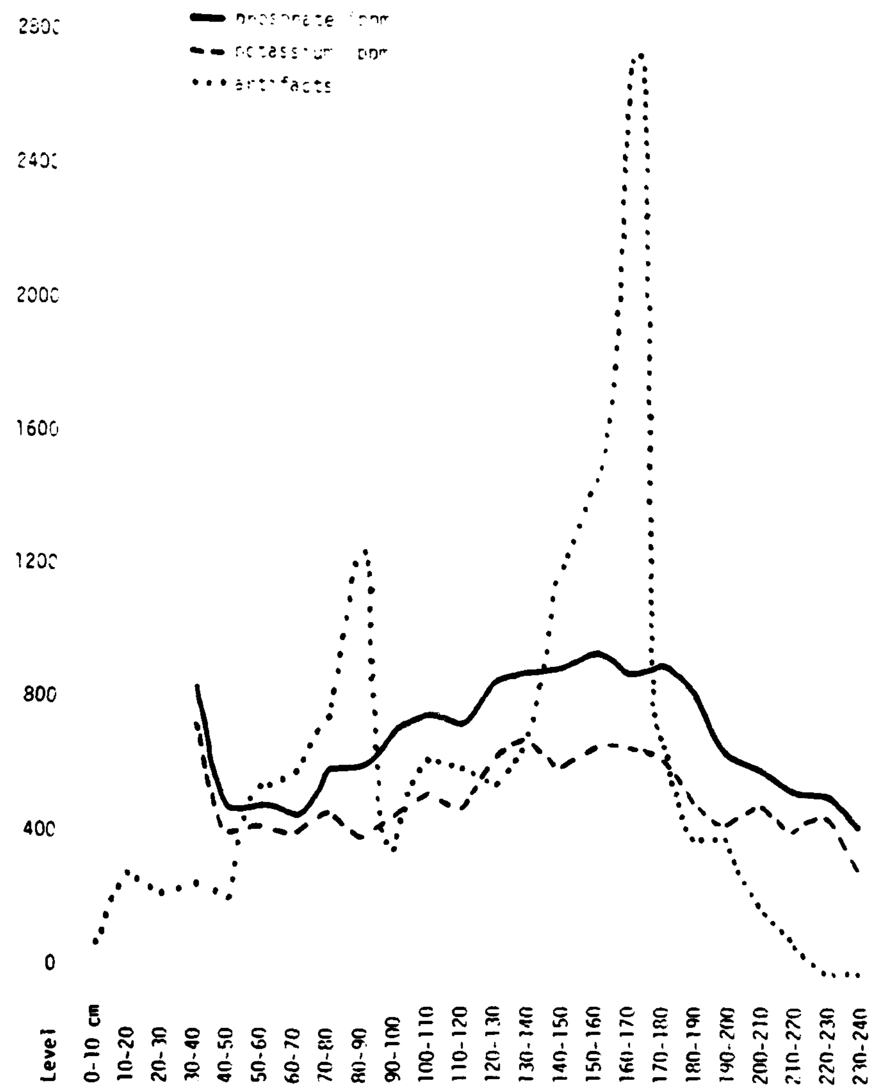


FIG. 39. VARIATIONS IN PHOSPHATE, POTASSIUM, AND ARTIFACT CONTENT IN EXCAVATION UNIT 1.

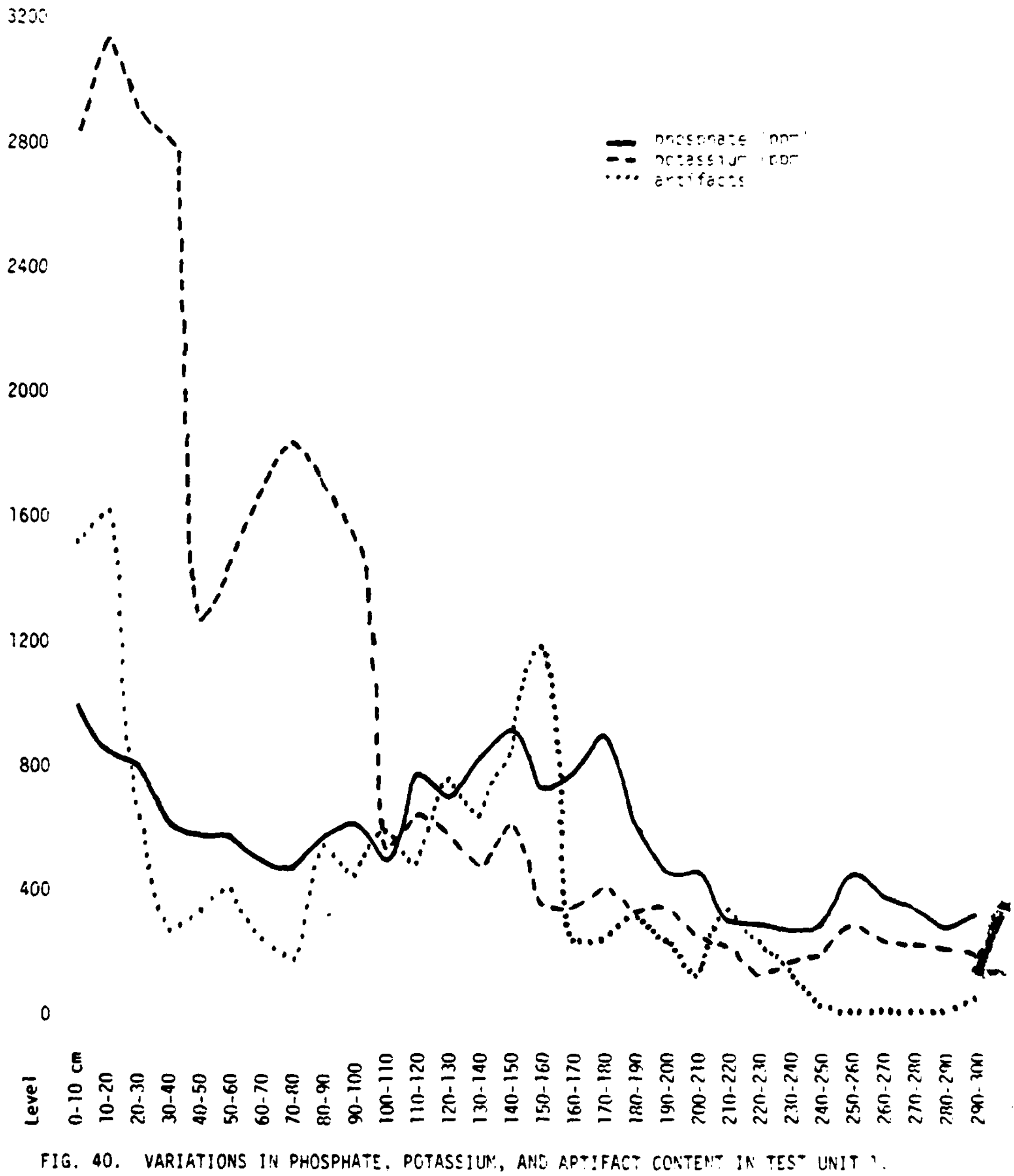


FIG. 40. VARIATIONS IN PHOSPHATE, POTASSIUM, AND ARTIFACT CONTENT IN TEST UNIT [illegible].

was necessary to first make the counts from different-sized levels comparable. This was done by multiplying the number of artifacts in the 100-200 cm levels by five and the counts in the 200-220 cm levels by 20 for Excavation Unit 1 and by four and 16 respectively for Test Unit 1. The peaks and valleys in the artifact numbers do correspond roughly to the major variations in phosphate and potassium, but tend to be more abrupt and of greater magnitude. Their greater magnitude is a factor of the scale being used, which is in parts per million for the chemicals but in raw numbers for the artifacts. The more gradual slopes of the chemical lines as opposed to the artifact lines may be an indication that the phosphate and potassium have leached into surrounding levels. In particular, the artifact peaks in Test Unit 1 consistently occur one level above what appears to be the corresponding phosphate peaks (Fig. 40), which suggests that the phosphate had leached downward.

AUGERING:

Materials Recovered. Table 13, Appendix A lists the artifacts recovered from the truck-dug auger holes in Units I and J. These materials have no known stratighaphic context as all dirt excavated from each hole was screened together. However, they did indicate that sub-surface artifactual materials were present throughout the two units. Of special note is a Kirk Serrated (EE) projectile point, dating from the Early to Middle Archaic period, which was recovered from Auger Hole 20S10E.

SLOPE CUTS:

Materials Recovered. Appendix A, Tables 14 and 15 summarize the artifacts recovered from the 19 levels of Slope-Cut 1 and the 14 levels of Slope-Cut 2. From the mixed appearance of the strata, especially in Slope-Cut 2 (Fig. 35), and from the fact that some historic artifacts were found throughout the excavated levels of the slope-cuts, it is apparent that the artifacts were not in primary context. Thus, they can provide little useful data beyond enlarging the total artifact sample from the site. There were, however, a number of artifacts, listed on Table 62, recovered from the slope-cuts which are important because of their presence even though their original context was not preserved. All of the projectile point styles found in the slope-cuts were also represented elsewhere in the site collections, so the slope-cut data merely confirmed that the Archaic and Gulf Formational or Woodland components present in the eastern part of the site extended as far as the slope.

STRIPPED UNITS:

Materials Recovered. The materials recovered from the three stripped units are presented in Table 16, Appendix A. They are general collections from exposed surfaces and/or backdirt and have been combined for each unit because stratigraphic context was undeterminable. Two identifiable projectile points were recovered from Stripped Unit 1, a Gary (H) point and a Coosa (B) point. One Gary (H) point was also recovered from Stripped Unit 3. These projectile points are indicative of Gulf Formational through Middle Woodland occupations. The ground stone tool recovered from Stripped Unit 1 was a hammerstone and two

TABLE 62. SHAPED STONE TOOLS FROM SLOPE CUTS.

	Slope-Cut 1				Slope-Cut 2							Slope-Cut 3
	Surface	Level 5	Level 9	Level 12	Surface	Level 2	Level 8	Level 10	Level 11	Level 12	Level 14	Surface
Ground Stone:												
atlatl weight						1						
pitted hammerstone								1				
Projectile Points:												
Madison (A)										1		
Guntersville Lanceolate (JJ)						1						
McIntire (E)												2
Savannah River (F)	1											
Benton Stemmed (M)						1						
Benton Stemmed (P)			1	1								
Benton (S)									1			
Crawford Creek (Z)				1								
HH												1
Drills:												
parallel-sided		1			1							
broken											1	
Preforms:												
preform II					2							
preform IIIa							1				1	

pitted stones were found in Stripped Unit 3.

FEATURES:

The features found at East Aberdeen are described in Table 63, with the detailed artifact content shown in Appendix A, Tables 17-21. On Table 63, the features have been classified according to the types defined in Chapter VI. Feature numbers 7, 20, 30, 45, and 47 either were never assigned or were assigned mistakenly to features that had already been numbered, as indicated on the table. Besides the numbered features, which were recognized in the field, several possible features have been included on the table. These were seen during excavation as stains or artifact concentrations but were not assigned feature numbers because they were not felt to be sufficiently separable from the surrounding matrix. Therefore, they were excavated as part of the general levels and their contents are known only from the observations made in the field. In most cases it has been possible to obtain the depth and diameter and some idea of the character of the possible features from square/level records, profiles, and soil descriptions. The only ones included on the table are those that appeared on more than one 10 cm level plan, indicating a depth of at least 10 cm. Other more ephemeral stains, discolorations, fired clay concentrations, etc. were recorded but are not discussed here because they lacked discrete boundaries and there is no detailed information about the artifacts they contained.

The features and possible features on Table 63 have been identified as historic or prehistoric when possible, based on their artifact content and level of origin. Additionally, some of the prehistoric features have been assigned to a particular cultural period based on the levels in which they originated, since none of them contained enough diagnostic artifacts to allow their temporal placement on that basis. Complete information is not available on all the features, as indicated on Table 63, because a number of them were not excavated or their contents were partly or wholly included in the dirt from the general levels into which they intruded. This happened because of the inexperience of the excavators, because feature boundaries were very hard to discern in some parts of the site, and because time constraints did not allow all features to be completely excavated.

The features are described in six groups: 1) features originating in the 60-70 cm level of Test Unit 1; 2) features originating in the 80-100 cm levels of Test Unit 1; 3) features found in Stripped Unit 3; 4) features found in Box Scraped Unit A, Test Unit 2, and Excavation Unit 1 above the 70 cm level; 5) historic features; and 6) miscellaneous features that could not be assigned to spatial or temporal groups.

Test Unit 1, 60-70 cm. Four features and two possible features were identified in the 60-70 cm level of 20S8E, the 4x4 m test unit (Fig. 41). Feature 3 has been classified as a posthole, since it was small in diameter, deep, and filled with reddish-brown dirt stained with charcoal (Table 63). Features 4 and 5, which were large in diameter, deep, and contained few artifacts, have been classified as Other Pits. Feature 4 was yellowish-brown in color, while Feature 5 was filled with dark brown soil. Feature 6 was a fired clay concentration, as was Possible Feature A (Table 63). Both were located near the west wall of the test unit

TABLE 63. DESCRIPTIONS OF FEATURES AND POSSIBLE FEATURES.

FEATURE #	UNIT	LEVEL RECOGNIZED cm	DIAMETER cm	DEPTH cm	COLOR OF FILL	CONTENTS [1] Charcoal	Fired Clay	Lithics	Prehistoric Ceramics	Historic Ceramics	Bone	FEATURE TYPE	PERIOD
1	18S8E	30-40	22x35	10	5YR3/2	x	x					posthole	Miller III
2	18S8E	30-40	10	20	5YR3/1	x						posthole	Miller III
3	18S8E	50-60	20x26	40+	7.5YR3/2	X	X					posthole	
4	18S8E	60	85	40+	10YR5/6	x	3	2				other pit	
5	18S8E	60	45x55	10	7.5YR3/2	x	4	1				other pit	
6	20S6E	60	80	67	5YR3/3	x	453	19			4	hearth	
7	Number not assigned												
8	48N18E	40-50	52x83	18	10YR2/2		79	13				hearth	Late Archaic
9	16N26E	40	20x23	12	10YR6/6		12	2		1	1	posthole	
10	46N178E	4	43x61	22	5YR2.5/2	6g	x	107	1			other pit	
11	16N26E	79	20	15	10YR4/3	x	x	4				posthole	Middle Archaic
12	16N26E	79	16x18	6	5YR3/1	5	54	5			2	posthole	Middle Archaic
13	68N186E	60	42	75+	5YR3/1	47g	6					other pit	
14	16.5N25.5E	169	5x23	9							x	artifact concentration	Middle Archaic
15	Box-Scraped Unit A	40	40x70	4			160g	56	1	136	4	artifact concentration	historic
16	Box-Scraped Unit A	40	25x30	26	10YR6/4	4	9	14				posthole	
17	Box-Scraped Unit A	40	33x35	24	10YR5/6		2	12				posthole	
18	Box-Scraped Unit A	40	11x15	18	10YR7/3	3	4	1				posthole	
19	58N192E	5	51x52	20	7.5YR4.6		1909g	5				hearth	Gulf Formational
20	Number not assigned												
21	16N24E	23	15	27	10YR7/6				unknown			posthole	
22	16N24E	50	15	unknown	10YR6/6		4					posthole	

TABLE 63. DESCRIPTIONS OF FEATURES AND POSSIBLE FEATURES.

FEATURE #	UNIT	LEVEL RECOGNIZED cm	DIAMETER cm	DEPTH cm	COLOR OF FILL	CONTENTS [1] Charcoal	Fired Clay	Lithics	Prehistoric Ceramics	Historic Ceramics	Bone	FEATURE TYPE	PERIOD
23	Stripped Unit 1	110	210	125	10YR4/2	363g	1249g	1876[2]	588	1090	644	refuse pit	historic
24	Stripped Unit 3	100	100x126	NE[3]	2.5YR4/8		x					hearth	
25	Stripped Unit 3	100	53x75	NE	2.5YR4/8		x					hearth	
26	Stripped Unit 3	100	68x71	NE	2.5YR4/8		x					hearth	
27	Stripped Unit 3	100	41x52	NE	2.5YR4/8		x					hearth	
28	Stripped Unit 3	100	44x51	16	2.5YR4/8	x	240	1			1	hearth	
29	Stripped Unit 3	100	73x81	NE	unknown							not classified	
30	Number not assigned												
31	Stripped Unit 3	100	25x26	NE	unknown							posthole	
32	Stripped Unit 3	100	27x30	NE	unknown							posthole	
33	Stripped Unit 3	100	28x30	8	unknown							posthole	
34	Stripped Unit 3	100	25x26	NE	unknown							posthole	
35	Stripped Unit 3	100	21x23	NE	unknown							posthole	
36	Stripped Unit 3	100	10x11	NE	unknown							posthole	
37	Stripped Unit 3	100	23x26	NE	unknown	x						posthole	
38	Stripped Unit 3	100	18	NE	unknown	x						posthole	
39	Stripped Unit 3	100	19	NE	unknown	x						posthole	
40	20S6E	80	30	20+	7.5YR4/4							posthole	
41	20S8E	80	70	20+	10YR3/2	x						charred nut shell concentration	

TABLE 63. DESCRIPTIONS OF FEATURES AND POSSIBLE FEATURES.

FEATURE #	UNIT	LEVEL RECOGNIZED cm	DIAMETER cm	DEPTH cm	COLOR OF FILL	CONTENTS [1] Charcoal	[illegible]	Lithics	Prehistoric Ceramics	Historic Ceramics	Bone	FEATURE TYPE	PERIOD
42	20S8E	90	23	17	7.5YR4/4							posthole	
43	20S8E	100	28	NE	5YR3/2							posthole	
44	20S6E	90	27	10+	5YR3/2				unknown			posthole	
45	See Feature 6												
46	20S6E	100	30x34	unknown	10YR3/4							posthole	
47	See Feature 4												
48	18S6E	90	40x52	28	10YR3/6		x					hearth	
49	18S6E	80	90x100	30	10YR3/6	14	51	13			x	burial	
50	18S6E	90	28x32	10+	10YR3/4				unknown			posthole	
51	18S6E	100	32	NE	10YR3/4							posthole	
52	18S6E	90	15	10+	10YR5/6				unknown			posthole	
53	18S6E	80	16x18	20+	10YR3/6				unknown			posthole	
54	18S8E	80	27x30	38	10YR3/3			3				posthole	
55	18S8E	100	28x30	NE	10YR3/3							posthole	
56	18S6E	100	25x34	18	10YR5/6			1				posthole	
57	Stripped Unit 2	120	55	15	unknown		70g	9			?	hearth	
58	Stripped Unit 1	110	58x62	NE	7.5YR5/8							not classified	
59	Stripped Unit 1	110	40	NE	10YR7/6							not classified	
60	18S8E	100	15	NE	unknown							posthole	
61	18S8E	100	20	NE	10YR3/3							posthole	
62	18S8E	100	15	NE	unknown							posthole	
63	18S8E	100	15	NE	unknown							posthole	
64	18S8E	100	40	NE	unknown							hearth	
65	18S8E	100	25	NE	unknown							posthole	

TABLE 63. DESCRIPTIONS OF FEATURES AND POSSIBLE FEATURES.

FEATURE #	UNIT	LEVEL RECOGNIZED cm	DIAMETER cm	DEPTH cm	COLOR OF FILL	CONTENTS [1]	FEATURE TYPE	PERIOD
POSSIBLE FEATURE #								
A	20S6E	60	46	40	2.5YR3/6	unknown	hearth	
B	Test Unit 1	40-60	320x360	25	10YR4/4	unknown	clay layer	
C	19S7E	130-140	40x42	20+	7.5YR4/4	unknown	unclassified pit	Middle Archaic
D	19S7E	140-150	20	35	7.5YR4/4	unknown	posthole	Middle Archaic
E	19S7E	170-180	44	30+	5YR3/2	unknown	unclassified pit	Early Archaic

[1] For detailed tabulation of contents, see Appendix A, Tables

[2] Excluding pebbles.

[3] Not excavated.

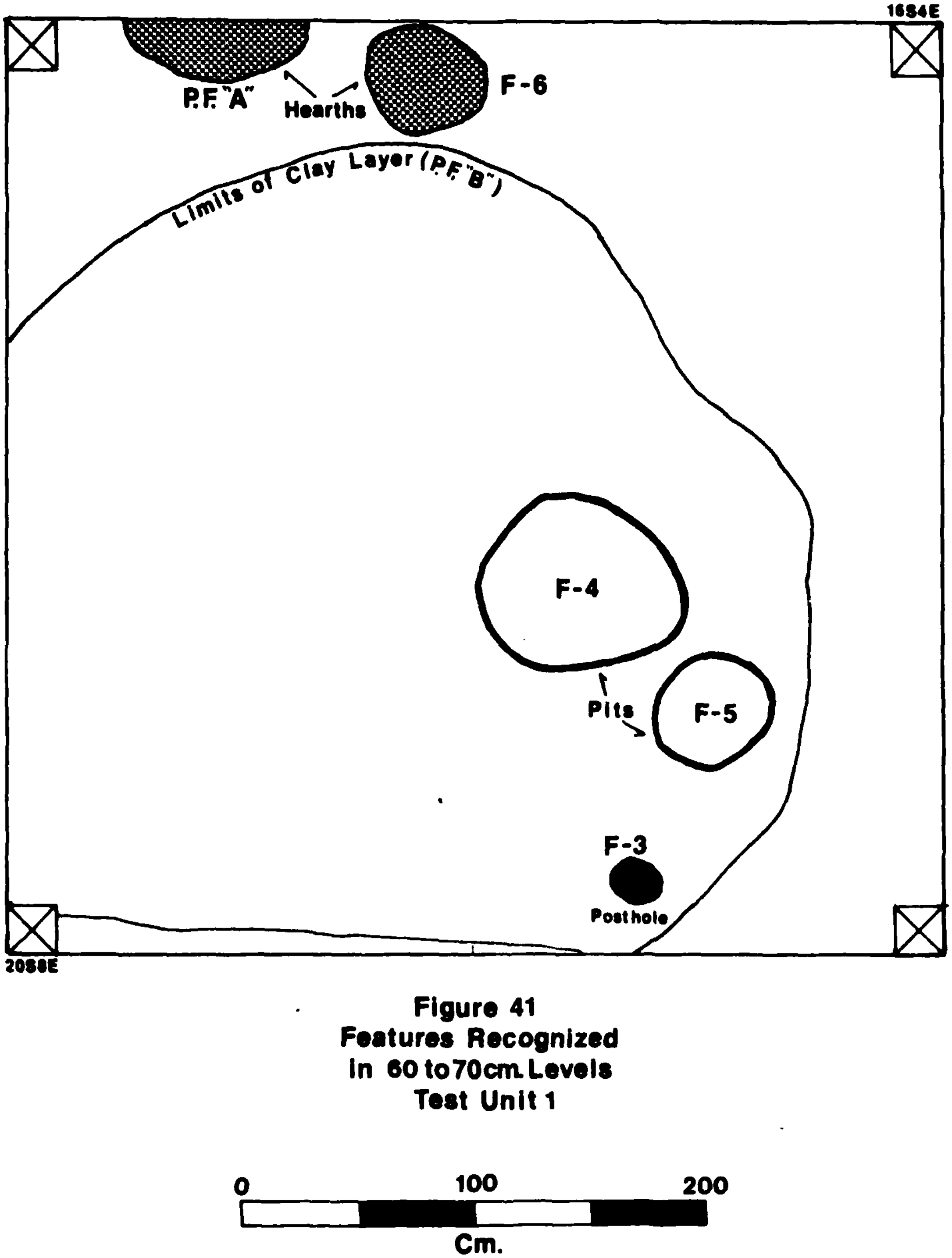


FIGURE 41. FEATURES RECOGNIZED IN 60-70 CM LEVELS, TEST UNIT 1.

(Fig. 41). Although Feature 6 was deeper, the two otherwise seem to have been similar. Upon excavation, Feature 6 displayed a fired clay lining in the bottom; it seems likely that this was also true of Possible Feature A, since in the profile drawing of the west wall of the unit is a lens of dark red sandy compact soil corresponding to the bottom of the possible feature.

The most interesting and problematic aspect of the level was a thick hard clay later that covered much of the unit, beginning in the 40-50 cm level in the western half and the 50-60 cm level in the eastern half (Fig. 41). The layer apparently sloped downhill to the east, since it ended in the northwest quadrant and in the center of the unit at about 70 cm but continued in the southeast quadrant to about 85 cm. These depths are probably accurate only to within ±5 cm because the clay later was excavated as part of the arbitrary levels and therefore was recorded only on the plans made at the bottom of each level and on the south wall profile, where the clay layer extended into the wall in a few areas (Fig. 42). Upon examination of these records, it became evident that the layer might have been a constructed floor, since it apparently had discrete boundaries both vertically and horizontally and it was associated with the features just described. It appears to have been ca. 11.5 m^2 in area. Feature 3, the posthole, may have been located on the edge of the floor, while the two pits, Features 4 and 5, were within it and the two hearths, Feature 6 and Possible Feature A, were outside it on its western edge (Fig. 41). This clay later has been given the designation Possible Feature B on Table 63. Fired clay was the most common artifact found in the levels composing Possible Feature B, although flakes and sandstone chunks were also fairly common (Appendix A, Table 4). The assemblages from these levels were placed in Class I based on the selected unshaped lithic artifacts (Table 54), meaning that fewer than average such artifacts were found in them. The floral remains included only a few fragments of hickory nut shell recovered from the levels (Table 57) and the features associated with them (Table 64).

The age of the clay layer and associated features is uncertain. Neither the features nor Possible Feature A contained any diagnostic artifacts (Table 63; Appendix A, Table 17). The few prehistoric sherds found in the 40-70 cm levels of Test Unit 1 are likely to have been intrusive since some fill from features originating at higher levels was included in the contents of the arbitrary levels. Seven of the sherds are sand tempered plain, while the other two are grog plain, indicating a possible late Miller II age. All the levels below 70 cm appear to have dated from the Archaic period (Table 42), so the clay layer, Possible Feature B, might also be attributed to that period.

Miller II houses that have been excavated in the region are small and circular in plan, with the outline composed of individually-set postholes (Cotter and Corbett 1951:11-13 ; Jenkins and Ensor 1978). None of them had a prepared clay floor and all were outlined by a number of small, closely-spaced postholes. The diameter of these houses is usually about 5-7 m or 20-38 m^2, making them somewhat larger than the clay floor in Test Unit 1 at East Aberdeen. Thus, Possible Feature B was much less well-defined than known Miller II houses and differed from them in many respects.

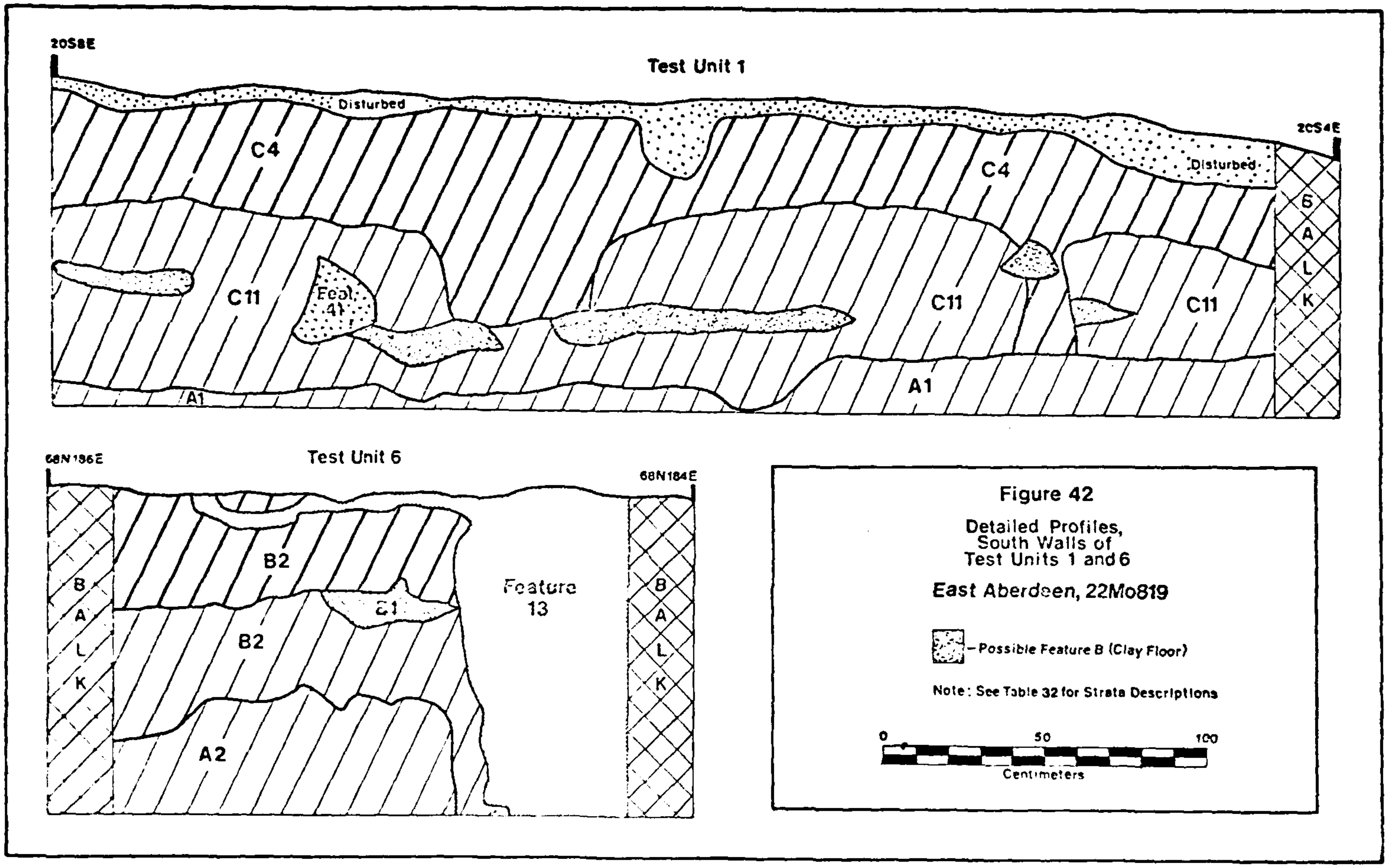


FIGURE 42. DETAILED PROFILES OF SOUTH WALLS, TEST UNITS 1 AND 6.

TABLE 64. FLORAL REMAINS FROM FEATURES.

UNIT	FEATURE	LEVEL OF ORIGIN cm	CARYA SP. (hickory nut) #	weight gm	QUERCUS SP. (acorn) #	weight gm	CONTAMINATES
Test Unit 1 (20S8E)	1	30-40	37	1.7	1	*	
	2	30-40					
	3	50-60	6	.2			
	4	60	25	.3			
	5	60	18	.5			
	6	60	4	*			
	48	90	57	1.0			
	49	80	91	.8	7	*	
2 (16N26E)	9	40	30	.6			
	11	79	92	1.5			
	12	79	21	.4	6	.1	
	14	170	56	1.5			
		170	6	.15	11	*	OXALIS SP. (wood sorrel)
3 (48N18E)	8	40	92	1.2			
5 (48N178E)	10	4	5	.2			5.1 gm of wood charcoal
6 (68N168E)	13	60			2	*	47.1 gm of wood charcoal
Excavation Unit 1 (16N24E)	22	55	38	.6			
2 (58N194E)	19	5	7	*			
Box-Scraped Unit A	15	40	3	.2			
	16	40	8	.1			
	17	40	11	.1			
Stripped Unit 1	23	110					1.2 gm of wood charcoal
2	57	120	4	*			
3	28	100	4	*			

*Indicates a weight less than .1 gram.

Late Archaic clay floors have been found at a number of sites but have usually not been well-described. They appear to vary considerably in size and thickness. The evidence for the Middle South as of 1974 is summarized by Faulkner and McCollough (1974:204-211). They emphasize sites where small thin clay living floors were found. These are distinguished chiefly by the presence of large amounts of fired clay and charcoal, as were the living floors found by Faulkner and McCollough (1974: 201-204) at the Banks I site in the Normandy Reservoir. The two such floors from Banks I were 2 m^2 and 7 m^2 in area. A report on the Perry site in northern Alabama (Webb and DeJarnette 1948:19-20) describes "fired clay hearth areas" which were five or more feet (ca. 2 m) in diameter, composed of clay two to three inches (ca. 5 to 7 cm) thick laid down on the shell midden. The clay floors had been used as hearths and were consequently burned in places. Although few postholes were found in association, Webb and DeJarnette (1948:19) say that, "It is possible that these hearths were the center in most cases of transient shelters—crudely made—which were perhaps little more than 'wind breaks'." At least three semi-circular to circular structures were identified, all with fired clay areas in the center (Webb and DeJarnette 1948:150).

The clay layer at East Aberdeen differed from these in being thicker and lacking fired areas on the excavated portion of its surface. Constructed clay floors 10 to 15 cm thick have been found at Late Archaic sites along the Wabash River in Illinois, especially at the Riverton site (Winters 1969:97-100). Most of them were roughly rectangular to oval, from 3 to 6 m long and 2 to 4 m wide; they usually contained hearths but rarely were postholes associated with them. Their areas, varying from ca. 6 m^2 to 24 m^2, are comparable to the East Aberdeen example. On the basis of feature, floral, and faunal evidence, Winters (1969:118) believes the Riverton site to have been occupied in the summer and early fall. Clay floors as much as 15 cm thick have also been described from the Late Archaic shell midden of Mulberry Creek in northern Alabama (Webb and DeJarnette 1942:238).

Test Unit 1, 80-100 cm. The 80-100 cm levels of 20S8E also composed an area where many features originated, as shown on Figure 43, with the level of origin of each feature indicated by underlining. As described on Table 63, the features included 17 postholes (Features 40, 42-44, 50-56, 60-63, and 65), two hearths (Features 48 and 64), one charred nutshell concentration (Feature 41), and one burial (Feature 49).

It is hard to be sure which of these features were associated. The outer postholes formed a roughly circular shape with a large central clear space. Inside the circle were the burial, one hearth (Feature 48), and two postholes (Features 46 and 54) which might be interpreted as remnants of interior support posts. The fact that this circular pattern coincided fairly well with the outlines of the clay layer in the 60 cm level suggests that they were associated, although there is not enough evidence to explain how.

It may also be that the apparent circular posthole pattern at the 80-100 cm levels is the result of the relatively small horizontal area that was visible in the test unit. The postholes fell into two groups according to the color of their fill, with Features 40 and 42-44 being

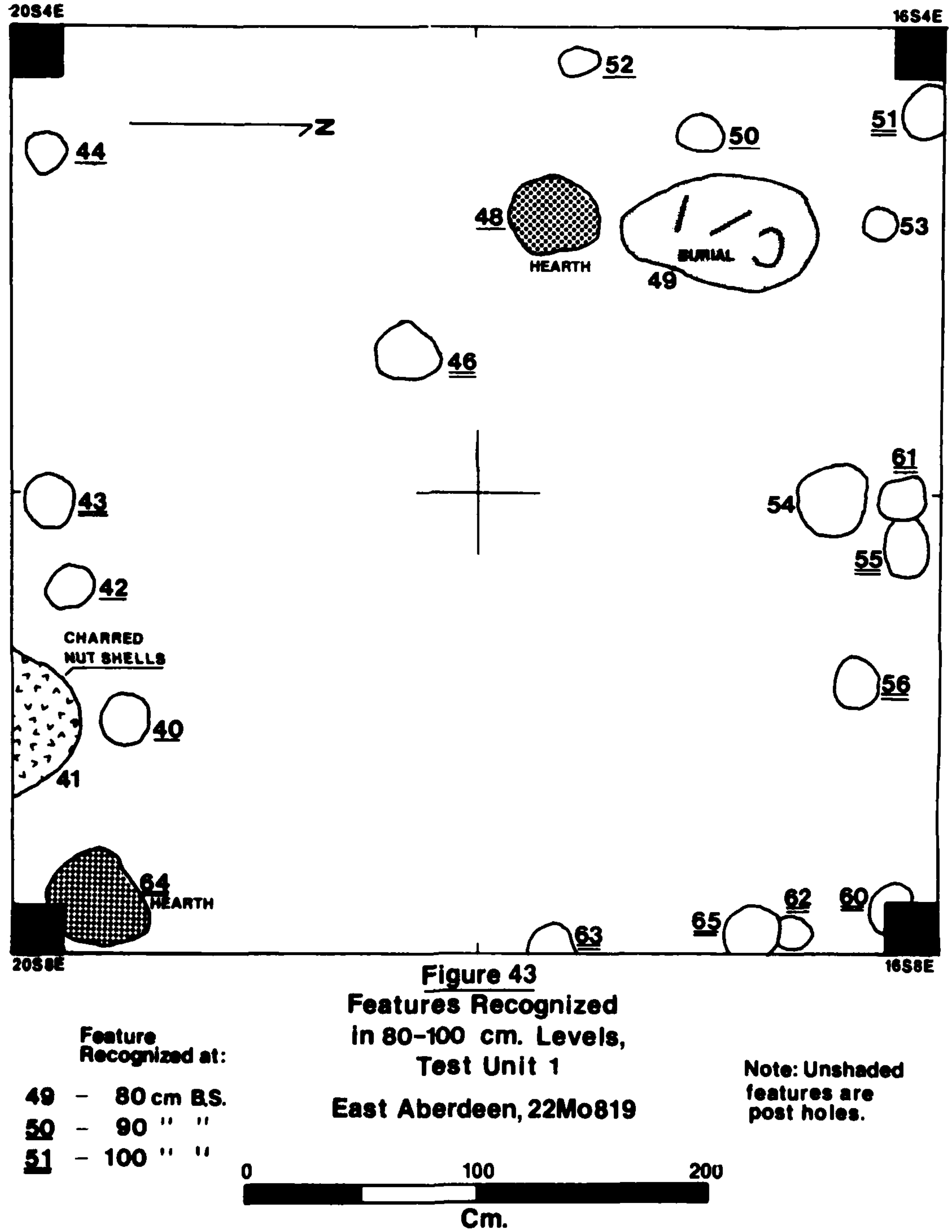


FIGURE 43. FEATURES RECOGNIZED IN 80-100 CM LEVELS, TEST UNIT 1.

filled with dirt that was brown to strong brown in color and Features 46, 50-56, and 61 having had yellowish brown to dark yellowish brown fill (Table 63). The colors of the dirt in Features 60, 62-63, and 65 were not recorded. The two groups of postholes clustered in the vicinity of the two hearths and the burned nutshell concentration, a pattern repeated in Stripped Unit 3, which will be described next. The postholes varied between 15 and 34 cm in diameter, with those in the north half of the unit tending to be somewhat smaller than those in the south half. This could have been because the former group was noticed at a lower level, mostly at 100 cm rather than 90 cm, and thus may have been truncated before they were recorded. The other possibility is that the differences in size and level of origin are further indications that the two groups of postholes were not directly associated with one another and may have been dug at somewhat different times.

One hearth, Feature 48 (Fig. 44), was excavated and found to contain a fired clay lining in the bottom, making it similar to Feature 6 and Possible Feature A. The charred nutshell concentration was not excavated as a feature, although its contents were noted in the field; thus, no flotation sample was taken to allow quantitative comparison with the amount of nutshells recovered from other features. The shells in Feature 41 did appear to be from hickory nuts. The feature is shown in cross-section in the detailed profile of the south wall of Test Unit 1 (Fig. 42).

The only other feature in these levels was a human burial, Feature 49. The burial pit was fairly small, ca. 90x100x30 cm deep. The bones were in such a poor state of preservation that the burial position could not be ascertained definitely. The back of the cranium was the only part that remained intact, the rest of the bone having deteriorated into meal. The outline of the bone meal suggested that the body was in a semi-flexed position, lying on its right side with its head to the southeast (Fig. 43). The cranium was that of an adult in size, but no more exact age determination was possible. The jaws and teeth were not present.

None of the features in this cluster contained any diagnostic artifacts (Table 63; Appendix A, Table 17). One Benton projectile point was found at the 100 cm level in the unit. No ceramics except four probably intrusive grog tempered plain sherds were found, so the most likely age for the 80-100 cm levels is Late Archaic. The levels contained large quantities of flakes, fired clay, and sandstone chunks, as well as several biface fragments, a parallel-sided drill, a preform IIb, and a rectangular bifacial side-scraper. The contents of the levels were placed in Classes VII and V on the basis of the selected unshaped lithic artifacts that were present. In the flotation samples were found hickory and acorn shells and one pokeberry seed. Taken together with the large number of features, the evidence indicates that this area was the scene of intense activity and is properly characterized as a habitation locus, with most of the activity centering on the hearths and probably involving hickory nut processing.

Stripped Unit 3- Nine postholes, Features 31-39, five hearths, Features 24-28, and one unburned clay concentration, Feature 29, were found in a 3x4 m area of Stripped Unit 3 (Fig. 45). Time allowed for

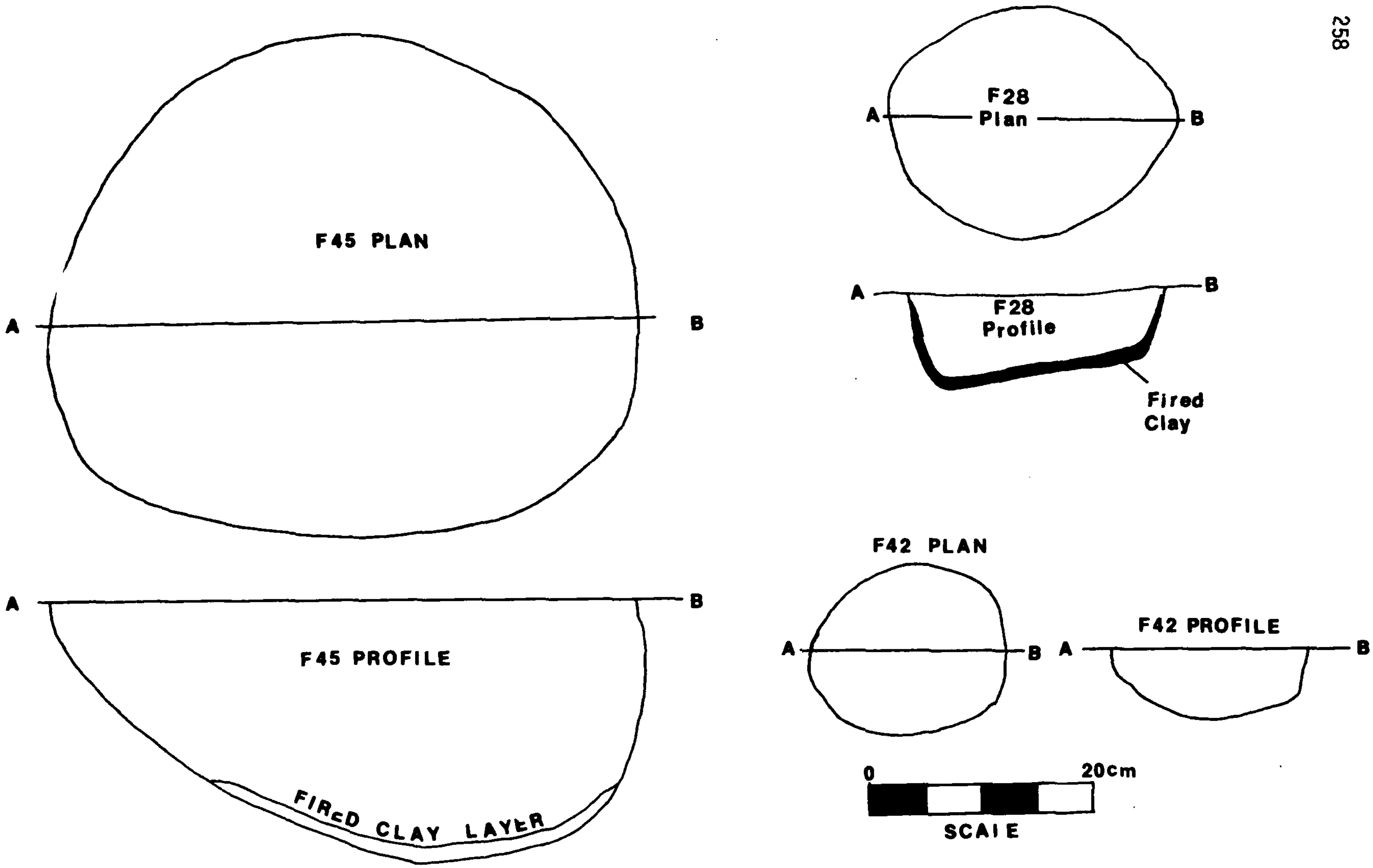


FIGURE 44. PLANS AND PROFILES OF SELECTED FEATURES.

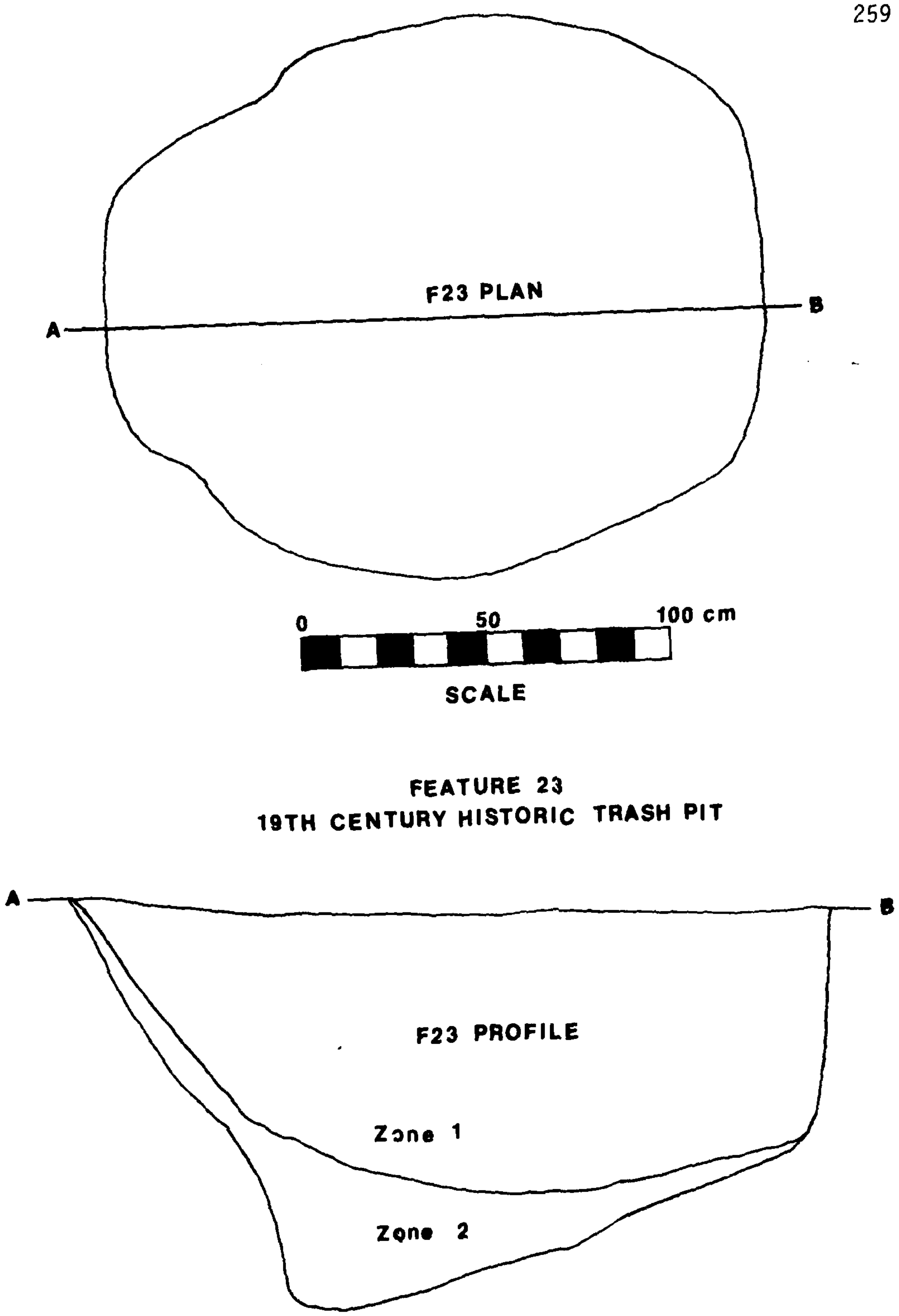
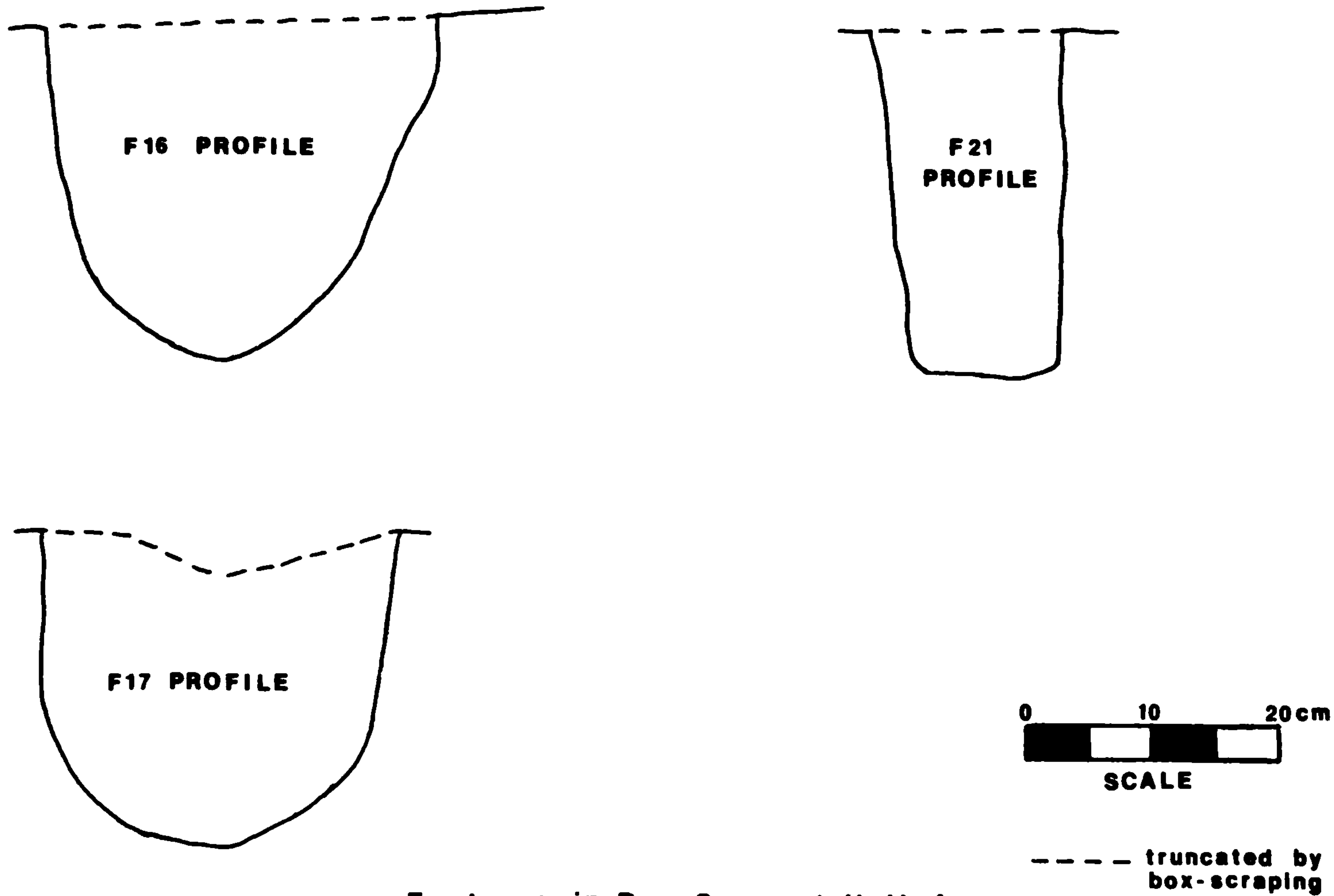


FIGURE 44. (continued)



Features in Box-Scraped Unit A

Figure 44. (continued)

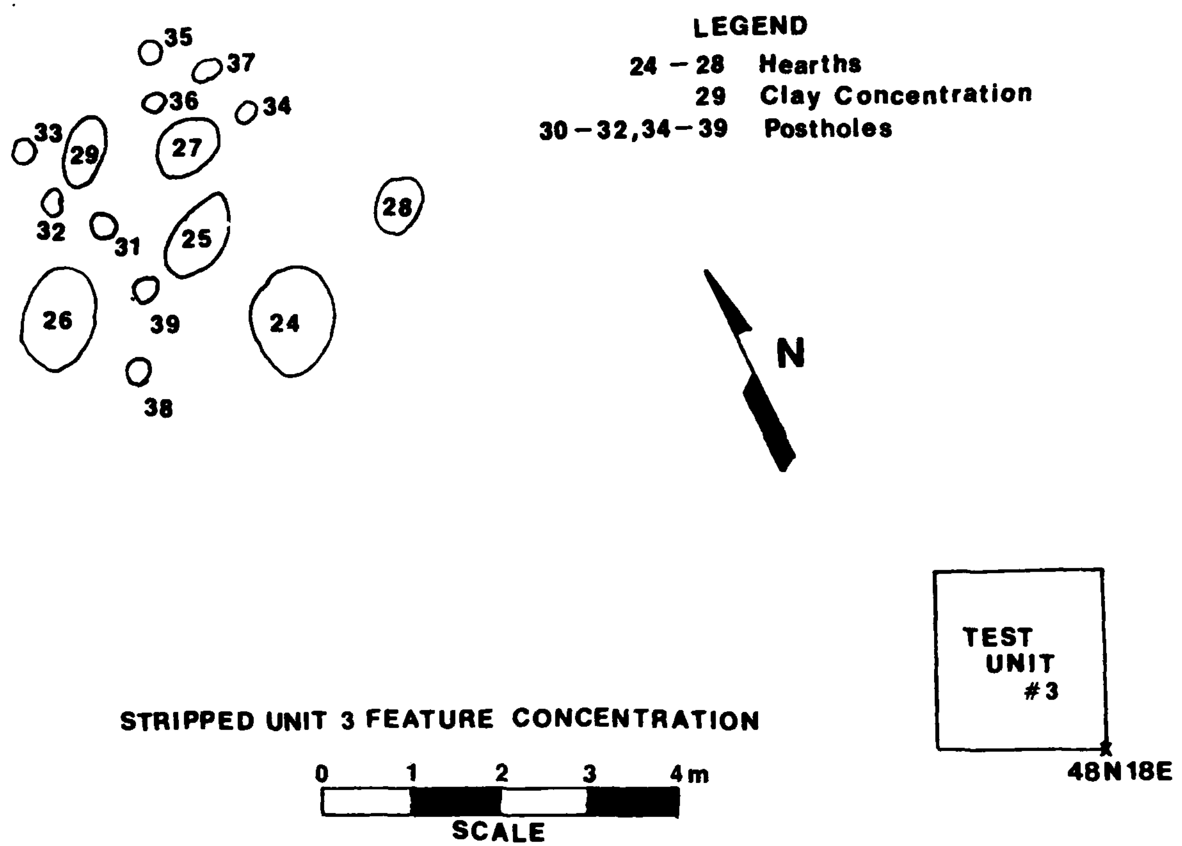


FIGURE 45. FEATURES IN STRIPPED UNIT 3.

the excavation of only two of these features, Feature 28, a hearth, and Feature 33, a posthole. Feature 28 was lined with fired clay in a manner similar to Features 6 and 48(Fig. 44). The other features in the cluster were similar enough to the excavated ones to be classified with a fair degree of confidence (Table 63). Only the classification of Feature 29 was in doubt because of the lack of information on its contents. It may have been lined with fired clay as was Feature 48 in Test Unit 1, which it resembled in size, color and texture of fill, and placement in association with a complex of hearths and postholes. It did differ from the definitely identified hearths in the area since it did not display any fired clay lumps or other evidence of firing on its surface. Thus, whether Feature 29 was a pit or hearth is uncertain.

Seven of the nine postholes found in this area appear to have formed two semi-circles around hearths. Features 31, 32, 38, and 39 were aligned around the edge of Feature 26, while postholes 34, 35, 37 and possibly 33 were along the edges of Features 27 and 29 (Fig. 45). Whether the features all originated at the same depth is unknown, since they were revealed during bulldozer stripping. For the same reason, their age is uncertain; no diagnostic artifacts were found in or around the features, although the lack of ceramics suggests that they predated the Gulf Formational and Woodland periods. Their similarity to the features in Test Unit 1 suggests that they were also Late Archaic in age.

<u>Test Unit 2, Box-Scraped Unit A, and Excavation Unit 1-</u> Six postholes, Features 9, 16, 17, 18, 21, and 22, were all located in this part of the site. All were filled with light-colored clayey soil and contained few artifacts (Table 63). Feature 21 is illustrated in Figure 44. The similarities among these features suggest that they might have been associated. The postholes varied from 15 to 35 cm in maximum diameter and the excavated portions from 12 to 27 cm in depth. The latter measurements are misleading, however, since at least Features 16, 17, and 18 may have been truncated before they were discovered. All three were found during repeated box-scraping of Unit A and were first noticed after about 20 cm of dirt had been removed. Feature 21 originated at 23 cm below the original surface, while Features 9 and 22 were found at greater depths, between 40 and 50 cm below the surface. Feature 9 was first noticed at a greater depth than the other postholes in this group and it was also the shortest, being only 12 cm long; this raises the possibility that it actually originated higher in the unit and was also partly truncated before being noticed. The length of Feature 22 is unknown, so it cannot be adequately compared with the other features in this group. Another indication that at least some of these postholes were associated is the fact that four of them, Features 16, 17, 18, and 9, formed a fairly straight line running east-west (Fig. 46). However, they were not spaced at even intervals along it. The holes may have been from an historic fence line or building supports, since several of them, especially Features 16, 17, and 21, appeared somewhat square in plan view and/or straight-sided in profile (Fig. 44). Feature 9 contained one piece of glass, while none of the other postholes of this group contained any diagnostic artifacts.

<u>Historic Features-</u> Features 15 and 23 were the only ones identified as historic with certainty. Feature 15 was a broad shallow

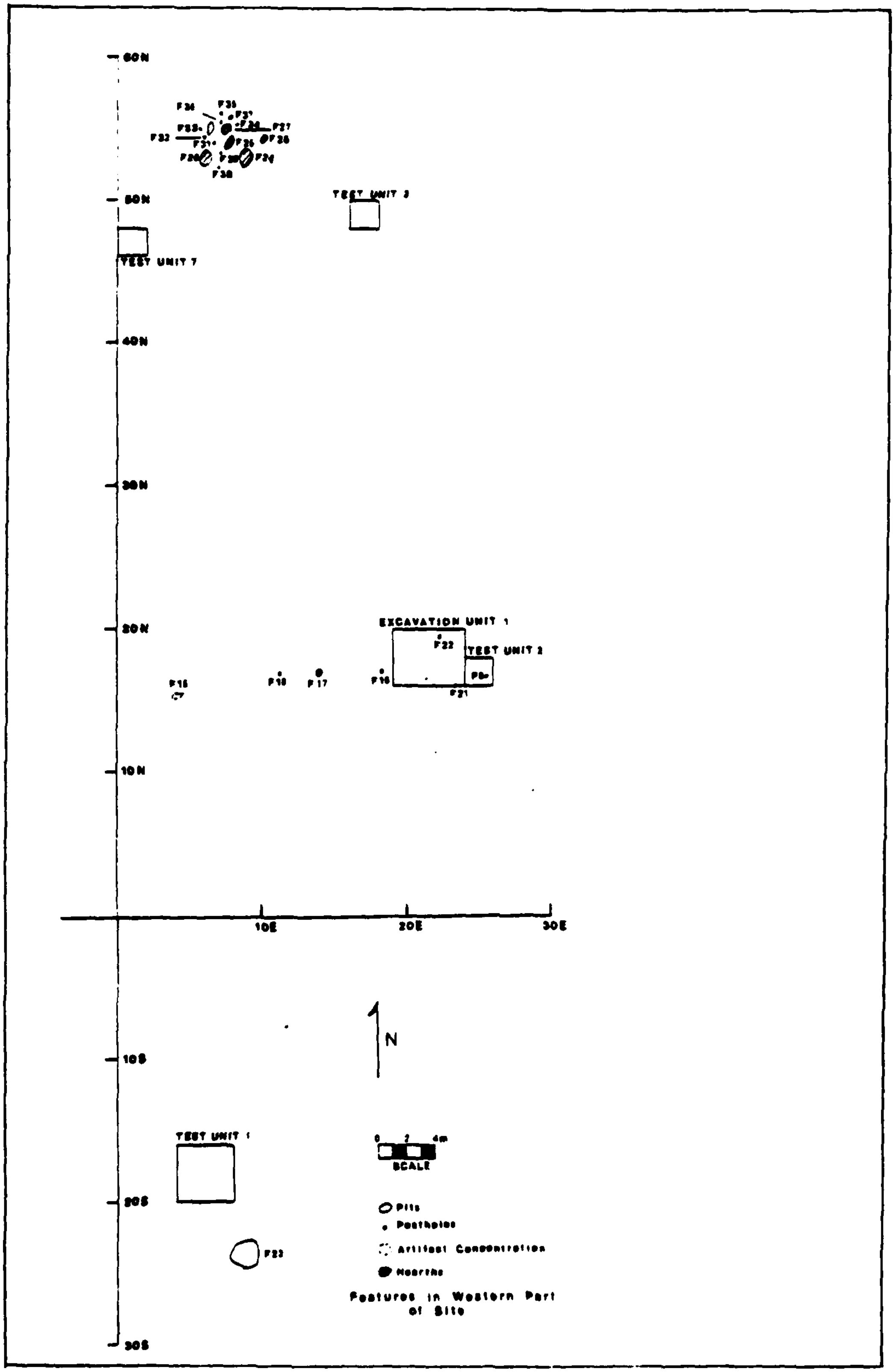


FIGURE 46. OVERALL DISTRIBUTION MAP OF FEATURES FOUND DURING BOX-SCRAPING AND STRIPPING.

concentration of prehistoric and historic artifacts found during repeated box-scraping of Unit A (Table 63). Of the 100 identifiable nails from the feature, all were cut and the three that could be further identified had machined heads (Appendix A, Table 19). This along with the historic ceramics, which included pearlware and sherds with shell edge and flow blue decoration, indicates that Feature 15 dated from the later part of the first half of the nineteenth century (Price 1979:31).

Feature 23 was recognized at a depth of about 100 cm below the surface in Stripped Unit 3 and consisted of a large, circular pit containing a heavy concentration of ash and many artifacts. It measured roughly 220 cm in diameter and had a maximum depth of about 130 cm. As shown in Figure 44 and Plate 20, the pit contained two visible zones, with the top one having a slightly convex lower surface and straight, angled walls. The upper stratum had a maximum depth of about 86 cm on the north side and 66 cm on the south side. The stratum was composed of sandy ash which was dark grayish-brown in color. The second zone underlay the first on both sides and the bottom of the feature. It was very thin on the sides, from one to three cm thick, and became thicker in the pit bottom, reaching a maximum thickness of 48 cm. The second zone was composed of darker, less ashy earth than the upper stratum. Despite the fact that the two strata appeared to represent different depositional events, their artifact content showed that they were deposited at the same time since both zones contained parts of the same chamber pot, cups, and wine bottle (Plates 15, 21-22).

Feature 23 was classified as a refuse pit because of the number and diversity of artifacts it contained (Table 63; Appendix A, Table 21). Both prehistoric and historic artifacts were found throughout the feature, so the entire pit seems to have been of historic origin. The prehistoric artifacts will not be discussed in detail because none of them was in primary context.

The 409 historic ceramic sherds found in Feature 23 are all types which were common in the nineteenth century and most likely date from the latter part of the period from 1830 to 1850. Evidently the feature contents represent a very short period of use, since sherds from the same vessels were found throughout. Typical nineteenth century ceramic assemblages have recently been defined for southeast Missouri (Price et al. 1975, Price 1979). These assemblages also appear to be represented in the nineteenth century materials in the Tombigbee River valley, so it was felt that the Missouri dates could validly be used to date the materials from Feature 23.

The conclusion that the feature dates to the end of the period from 1830 to 1850 is based on the presence in the assemblage of shell edge, transfer print, hand-painted, spongeware, and banded ware sherds. All of these were common in Missouri in this period and all except transfer print and banded ware decreased in frequency and disappeared by ca. 1870 (Price 1979:31). Decorated sherds made up 35%-40% of the historic ceramics in Feature 23, another indication that it dated from the period 1830 to 1850, since there was a gradual decrease in the amount of decoration from the beginning of the nineteenth century. By the period 1850-1870, only about 15%-20% of the sherds found in Missouri were decorated. (Price 1979:27).

Yellow ware and ironstone were both introduced between ca. 1850 and 1900 (Price et al. 1975:162-164). Both types were present in Feature 23 but only in very minor amounts, constituting 1% and 2% respectively of the total sherds recovered. Salt-glazed coarseware was the only type of coarseware present from 1800 to ca. 1850; a brown-glazed coarseware predominated after 1850 (Price et al. 1975:162-164). Feature 23 contained five sherds of salt-glazed coarseware and two of brown-glazed coarseware.

The other historic artifacts recovered from the feature also confirm a mid-nineteenth century date as most likely for Feature 23. Much of the bottle glass came from a green wine bottle which was handblown or mold-blown with an added rim which indicates that it was made before 1860 (Berkow 1973:7).

All of the nails in the feature were cut; those that could be identified all had machine-made heads, indicating a probable date between the late 1820s and 1876, when wire nails increased dramatically in popularity (Ulrey 1970:32).

The bone from Feature 23 was examined to identify the types of animals present with some interesting results. The bones formed three distinct sets as shown in Table 65. The first group consisted of toad, snake, and turtle bones that seem most likely to be incidental to the historic use of Feature 23. The toad (Bufo terrestis) and snake, which included water moccasin (Anistrudon piscivorous) and some unidentified bones, may have gotten into the feature accidentally while it stood open and not been able to extricate themselves. The turtle bone may be from the aboriginal occupation, where it was fairly common.

The second group of animals represented were domestic ones, including chicken, pig, and cow. The chicken parts were mainly beaks, skulls, and vertebrae, nearly all the pig bones belonged to the skeleton of a lone infant pig, and the cow bones consisted of one tooth and one vertebra. Very few of the bones were from edible parts of the animals.

Finally, the third set of bones consisted of 15 from white-tailed deer (Odocoileus virginianus). These composed two almost complete feet along with two distal epiphyses of tibias of sub-adult deer. It seems likely that most of the bones represent one animal; again they are predominantly from inedible parts, although there were some long-bone fragments mixed in with them. Since the deer bones were not burned, they probably derived from the historic occupation of the site.

The bones from Feature 23 confirm that it was a garbage pit. They also provide some insight into diet at the site in the middle of the last century. Chicken and pig seem to have been most important, since both were represented by several individuals, with cow and deer less well-represented.

Miscellaneous Features- Of the remaining features, the only ones discussed will be those that are anomalous in some way, so that their interpretation is in doubt. The first of these are Features 10 and 13, which were located in the same area, were similar in size, and both contained large amounts of wood charcoal, with relatively few other artifacts (Table 63). It is possible that Feature 10 was historic since it originated only 4 cm under the surface. However, it contained no historic artifacts; the only diagnostic artifact from it is a sand tempered plain sherd classified as Baldwin Plain. Despite its origin near

TABLE 65.
SUMMARY OF IDENTIFIABLE BONE FROM FEATURE 23

Number	Type
	Amphibean:
18	*Bufo terrestris* (Toad)
	Reptile:
3	*Ancistrudon piscivorous* (Water Moccasin)
10	Other Snake
4	Turtle
	Bird:
13	*Gallus sp.* (Chicken)
1	Other Bird
	Mammal:
26	*Sus scrofa* (Domestic Pig)
2	*Bos taurus* (Cow)
15	*Odocoileus virginianus* (White-Tailed Deer)

the surface, the pit may date from Woodland times. Feature 13 is also an anomalous case, since it entirely lacked diagnostic artifacts. Its point of origin is not well-documented; although it was not clearly visible until the 90 cm level, charcoal was noted in the area in every level from 60 cm down. In the profile of the south wall of the test unit, Feature 13 appears to originate at ca. 10 cm (Fig. 47). It is likely that the pit did not contain sizeable amounts of charcoal until at least the 60 cm level, since none was noted by the excavators. The function of these pits is not known except that they were strikingly different from any other features at the site in containing large amounts of wood charcoal but very few identifiable nut shell fragments (Table 64).

Possible Features C, D, and E were all identified in the 130-170 cm levels of the central 2x2 m unit in Test Unit 1 (Table 63). C and F are of particular interest since they seem to have been pits; because their contents were included in the general level bags, it may be that the artifacts from these levels were mainly or entirely from the pit fill rather than the surrounding earth. If so, the interpretation of the unit would not be greatly affected, since both pits originated well below the feature cluster at 80-100 cm and must have been dug in an earlier period.

Chemical Composition of Features. Some of the features for which large enough soil samples were available were tested for phosphate and potassium content and pH (Table 66). The four hearths that were sampled, Features 48, 8, 19, and 28, show a fairly wide range of pH readings, from 5.4 to 7.4, but their phosphate and potassium measurements are similar, ranging from 408-546 ppm and 127-348 ppm respectively (Table 66). The burial, Feature 49, and a bone concentration , Feature 14, are also quite similar in chemical composition, with among the highest phosphate readings.

The postholes, Features 3, 5, 11, 12, 16, 17, 18, and 22, show a good deal of variability. Their phosphate content ranges from 191 to 864 ppm and their potassium content from 95 to 900 ppm (Table 66). This is not surprising considering the variety of fills in the postholes and the variety of matrices surrounding them. The four pits, Features 10, 13, 23, and 57, were also dissimilar. Their phosphate readings ranged from 22 to 1082 ppm and their potassium readings from 106 to 675 ppm (Table 66).

In comparing the features' chemical composition to that of the matrices in which they originated (Tables 60-61), the main conclusion that can be drawn is that the features were different from their matricies in all three measures. There was no apparent pattern to the direction of the differences according to feature type, kind of matrix, or site area or depth.

TABLE 66 . CHEMICAL COMPOSITIONS OF SOILS IN FEATURES.

UNIT	FEATURE	LEVEL OF ORIGIN cm	ph	P_2O_5	K_2O
Test Unit 1 (20S8E)	3	50-60	6.3	486H	95L
	5	60	6.3	446H	396H
	48	90	6.7	408H	343H
	49	80	5.6	946H	348H
Test Unit 2 (16N26E)	11	79	6.4	521H	588H
	12	79	6.5	606H	596H
	14	170	6.4	1050H	474H
Test Unit 3 (48N18E)	8	40	5.4	420H	261H
Test Unit 5 (48N178E)	10	4	6.4	22L	675H
Test Unit 6 (68N186E)	13	60	6.9	441H	106M
Box-Scraped Unit A (12N24E)	16	40	6.0	191H	480H
	17	40	5.6	864H	900H
	18	40	6.6	594H	296H
Excavation Unit 1 (16N24E)	22	55	6.6	790H	294M
Excavation Unit 2 (58N194E)	19	5	7.4	546H	127M
Stripped Unit 1	23	110	6.4	790H	242H
Stripped Unit 2	57	120	7.1	1082H	522H
Stripped Unit 3	28	100	6.1	422H	296H

IX. SUMMARY AND CONCLUSIONS

It is now possible to summarize the data obtained from the East Aberdeen site on each of the major periods of occupation represented there--the Early, Middle and Late Archaic, Gulf Formational, Miller I-Miller III, and the historic periods before 1830, 1830-1873, 1874-1930, and 1931-1978. For each of these, it is also possible to summarize the evidence available on stylistic, functional, and technological stability and change both through time within each component and in some cases through space within the site boundaries. Such summaries also provide the logical place to match the data acquired about each component with the hypotheses and test implications proposed in Chapters III and IV.

EARLY ARCHAIC:

The Early Archaic components were identified by projectile point styles, in particular the named types that already had known time ranges, including Dalton, Kirk Serrated, Big Sandy I, and Greenbrier. No radiocarbon or other absolute dates were obtained on Early Archaic levels, so the age of these components is uncertain, although they probably date from between 7500 B.C. and 6000 B.C. (Tables 12-13). Since some points were found out of context, it is hard to judge whether unexcavated portions of the site contained additional undisturbed Early Archaic deposits. In particular, the Kirk Serrated points, although all found in the west part of the site, had no examples found in undisturbed levels.

The Early Archaic component characterized by Big Sandy I points was clearest in the archaeological record, appearing in both the eastern and western site area. In both Test Unit 1 and Excavation Unit 2, Big Sandy I points were among the earliest styles recovered. In both areas they were found in loamy fine sand layers that were brown to dark brown in color and at depths that indicate that the site surface was fairly level at ca. 58.5 m to 59 m above sea level. The results of the transect augering (Figs. 29-31) support this interpretation since they indicate that the dark brown cultural deposit thinned out in all directions from the thickest areas, around Test Unit 1 in Surface Collection Unit I and northwest of Excavation Unit 2 in Surface Collection Unit B. Lacking these two topographic high spots, the site would have been less attractive as a refuge from flooding or the wet lowland areas near the river.

Because of the paucity of data, it is not possible to discuss in detail any stylistic changes within the Early Archaic period. It may be noted, however, that Greenbrier points occurred only in the eastern site area and Dalton and Kirk Serrated points occurred only in the western part, close to the river.

The ways in which the site was being used can be addressed to a greater extent. Besides projectile points, the only shaped tools found in the Early Archaic levels were the two Big Sandy I points that had been reshaped into end scrapers (Table 45) and three grinding stone fragments from Excavation Unit 2. A hammerstone from the 90-100 cm

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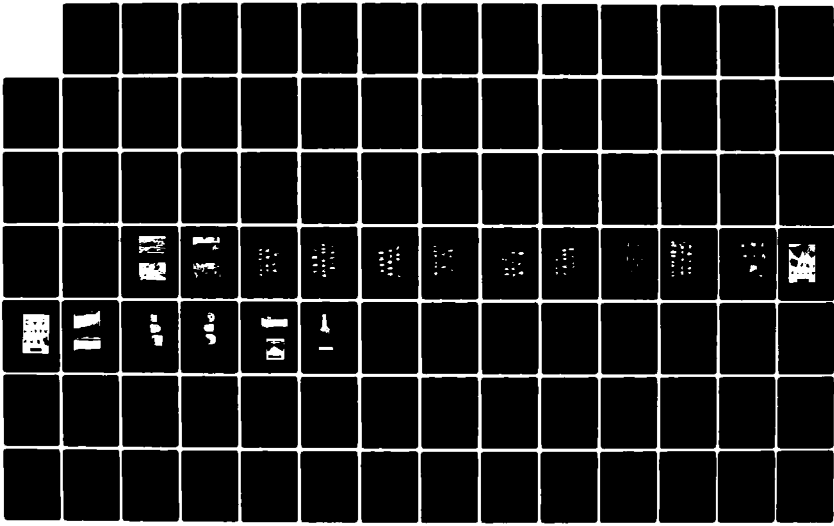

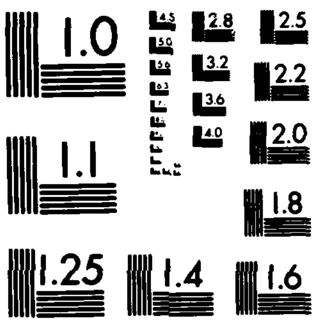

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level of Test Unit 5 may also derive from Early Archaic times, although no diagnostic artifacts were associated. The tools suggest little about site function except that projectile points were the most common tool and they occurred in greater density than in most other components. This raises the possibility that hunting was the main activity. The poor bone preservation made this hypothesis difficult to test and it is also possible that the projectile points were used mainly as knives rather than a spear points. It must also be kept in mind that two of the four Big Sandy I points had been resharpened into end scrapers.

The other lithic artifacts appear to reflect low-level use of the site, the main exception being the assemblage from the 70-80 cm level of Excavation Unit 2 (Tables 54 and 55). The contents of this level were classified into Class IV, which indicated that tool manufacture from early stage preforms or flakes was an important activity. Considering that they represented much less excavated volume than later components found predominantly in higher levels, the Early Archaic deposits produced a fairly large quantity of flakes that reflected the entire range of tool production stages, from primary decortication flakes to biface thinning flakes (Appendix A, Tables 4 and 12). Since all the in situ Early Archaic points were made from local heat-treated chert except for one Dalton point of Tallahatta quartzite (Table 48), it seems that the Early Archaic groups who used the site were mostly using the local gravel chert. A striking exception is the Kirk points, all of which were made of a banded chert (Table 48) that may be Pickwick chert from the Tennessee River valley.

Floral remains were extremely sparse compared to the amount found in deposits dating to later periods (Tables 57-58). This conclusion is not affected by differential sample size, since all flotation samples from which the floral materials were recovered had the same volume. Hickory nut shell was the only identified botanical remain. No Early Archaic features, with the exception of Possible Feature E (Table 63), were found. Unfortunately, this pit was not excavated as a feature but rather its contents were included in the general level bag. Some fired clay and burned bone were recovered from Early Archaic levels, indicating that hearths were being constructed, although there was apparently less hearth-related activity than in later times.

It can be concluded that during most of the Early Archaic occupations the site was used ephemerally, presumably mainly as a hunting and gathering camp. In at least some of the occupations there was considerable flaked tool production from local chert. Considering these data in terms of the hypotheses and test implications presented in Chapter III, the hypothesis that the site was used as a transitory camp during Early Archaic times tends to be confirmed. The test implications (Table 4) require that there be little or no alteration of the matrix; this prediction does not hold well for the East Aberdeen data, since there was considerable alteration of the matrix color in the Early Archaic levels. However, this seems likely to have been a result of leaching from the overlying more intensely-occupied layers.

The requirement that water be seasonally available presents no problem, since the Tombigbee River presumably would have provided a year-round source of water. As far as topography is concerned, the site would probably have been seasonally dry in the summer and fall during the Early Archaic despite its lower-than-modern elevation. The dearth of information on floral and faunal remains makes it difficult to match the data with the test implications in that area; it does seem likely that if the site were used during this period primarily as an extractive camp for some particular plant or animal resource, that resource would have shown up more prominently in the archaeological record. The lack of such evidence tends to support the hypothesis that the site was a transitory rather than an extractive camp. The only season represented in the biota is fall, which fits with the assumption that the site would have been dry primarily in the summer and fall.

The generally low density of lithic artifacts also tends to support the transitory camp hypothesis; in comparing the Early Archaic levels in Test Unit 1 with those in Excavation Unit 2 in this respect, it must be remembered that those from the excavation unit composed five times the volume of those from the 160-200 cm levels of Test Unit 1 and 20 times the volume of the levels below 200 cm in the test unit. Similarly, although the 70-80 cm level of Excavation Unit 2 contained a greater variety of tools than the Early Archaic levels in the test unit, this may be a result of greater sample size rather than a real difference in tool diversity. The near absence of Early Archaic features provides no further test of the hypothesis. Although it is difficult to eliminate the possibility that the Early Archaic use of the site may have taken the form of extractive camps rather than transitory camps, the assemblages do not give the impression of the high degree of specialization that would be predicted for extractive camps.

MIDDLE ARCHAIC:

The Middle Archaic components at East Aberdeen were also identified by projectile point styles, primarily Damron, Crawford Creek, and Morrow Mountain Straight-Base as well as associated unnamed types (Table 42). These styles were most heavily represented in the highest part of the western site area but were also found in Excavation Unit 2 in the eastern part. One radiocarbon date of 3695 B.C., corrected to 4525 B.C. (Table 35), was obtained from a level containing a Damron and a Morrow Mountain Straight-Base point. This date accords fairly well with other age estimates for these point types, which generally are placed between 6000 B.C. and 3500 B.C., with the Morrow Mountain styles dated at several sites to between 5000 B.C. and 4000 B.C. (Table 12).

One interesting aspect of the distribution of Middle Archaic points is that the three named types were absent from the two units where Early Archaic occupations were identified. Instead, Test Unit 1 and Excavation Unit 2 produced only styles U, X, and Y, none of which can be dated except relative to other components at the site. Styles X and Y were found in Test Unit 2 and Excavation Unit 1 as well, where they were associated with the named Middle Archaic types (Table 4). The evidence suggests that there were two periods of Middle Archaic occupation at the site, one immediately after the Early Archaic occupations and the second just before the beginning of the Late Archaic occupations. Evidence for this includes the fact that the Middle Archaic levels in Test Unit 1 and Excavation Unit 2 were well separated stratigraphically from the Late Archaic occupations but were adjacent to the underlying Early Archaic deposits. There is no overlap in projectile point styles between the Middle and Late Archaic levels in these units, but the two Early Archaic Greenbrier points were found in the same level as four Middle Archaic points. This suggests that the Middle Archaic levels were deposited soon after the Early Archaic levels in these two areas and indeed the distinction between Early and Middle Archaic may be a totally artificial one for these units.

In contrast, the Middle Archaic levels in Test Unit 2 and Excavation Unit 1 appear to be later. They are closer stylistically to the Late Archaic Benton component, with one type W point being found in the Benton zone in Excavation Unit 1. They were also fairly close stratigraphically, while the radiocarbon dates show very little difference between the absolute ages of the Middle and Late Archaic deposits in Excavation Unit 1 (Table 35).

The Middle Archaic deposits in all parts of the site were dark brown to dark reddish brown in color and varied in texture from sandy clay loam to medium sand (Tables 32-33). By the end of the Middle Archaic the site had built as much as a meter in height above the Early Archaic levels in the western site area, while deposition was apparently slower in the eastern section.

The tools other than projectile points that were found in Middle Archaic levels include three drills, three preforms, an axe, and grinding stone and atlatl weight fragments. There is a corresponding moderate degree of diversity displayed in the other lithic artifacts, with Middle Archaic assemblages falling into Classes I, II, IV, V, VI, and VII (Table 67). These classes correspond to various activities, including low level uses of all kinds, tool manufacture and/or the use of unmodified flakes as tools, and hearth-oriented activities. Taken overall, the greater artifact density and diversity in these levels indicates that site use was more intense, widespread, and sustained in the Middle Archaic than it had been in the Early Archaic. However, in the two areas where Early Archaic deposits preceded the Middle Archaic levels, site use did not seem to change in character very much.

Most of the projectile points and other Middle Archaic tools were made from local chert (Tables 48-49). The flakes found in the Middle Archaic levels of Test Unit 2 were also made predominantly of local chert, with 12.5% of the debitage being made of gray chert or other nonlocal types. This is a continuation of the Early Archaic pattern and is one aspect in which the Middle Archaic contrasts dramatically with the Benton zones in which gray chert became considerably more common. The only major technological advance seen in the Middle Archaic component is the addition of the spear-thrower, attested to by atlatl weight fragments.

All the Middle Archaic levels contained fairly large amounts of fired clay, burned bone, and charcoal (Appendix A, Tables 4-5 and 11-12). The bone is probably primarily turtle, deer, and turkey, with rabbit also represented, since this is the pattern in the identified bone from the Middle Archaic levels of Excavation Unit 1 (Table 59). Floral

TABLE 67. DISTRIBUTION OF LITHIC ASSEMBLAGE CLASSES ACROSS CULTURAL PERIODS.

	Class								
Period	I	II	III	IV	V	VI	VII	VIII	TOTAL
Miller III	2		1	5					8
Miller II	1								1
Late Archaic *	8		4	1	5	1	3	1	23
Late Middle Archaic*	1			1	5	1	4		12
Early Middle Archaic*		1			1				2
Early Archaic *	9		2	1					12
TOTAL	21	1	7	8	11	2	7	1	58

* includes only collections from levels shown on Table 42.

remains show a general increase in the amount of hickory nut shell and the addition of small amounts of acorn shell plus one persimmon and one grape seed (Tables 57-58). Middle Archaic features include Features 10 and 11, which were postholes, and Possible Features C and D, the first of which was a pit and the second a posthole (Table 63).

In Chapter III, Hypothesis II states that the site was used as a base camp during the Middle Archaic period. The data for the late Middle Archaic occupations represented in Test Unit 2 and Excavation Unit 1 seem to conform well to the expectations generated by this hypothesis (Table 4). The Middle Archaic deposits in these units were thick and dark in color. The site was no doubt dry in at least the summer and fall seasons, while the river provided a permanent water supply. The greatest variety of Middle Archaic floral and faunal remains came from these units, with hickory nuts present in fairly large quantities. The only season that is represented with certainty in the archaeological record is late summer/fall, when nuts, persimmons, and grapes would all have been available. The artifact variety and density is fairly great; it was from these levels that the atlatl weight fragments and most of the grinding stone fragments came, as well as most of the points, drills, and preforms. Only two Middle Archaic postholes were found in these units, which is the main evidence that tends to contradict the test implications for the hypothesis, which predict high feature density and variety at base camps. However, only five m^2 of area was exposed in the Middle Archaic zones in these units, so the small sample may partially account for the low feature density.

The early Middle Archaic occupations in Test Unit 1 and Excavation Unit 2 do not seem to represent base camps. Although the soil in these levels was dark in color, the Middle Archaic deposits seemed to be fairly thin and not very extensive, since they were not represented in adjacent units. The fact that floral remains were limited to hickory nut shells and that there were fewer kinds of lithic tools represented is also indicative not of a base camp, but of a transitory camp or extractive camp (Table 49). Too few features were found to allow the data from them to be matched to the test implications. Overall, these early Middle Archaic deposits seem to resemble the Early Archaic deposits not only in stratigraphic position and point styles, but also in the composition of the other artifacts present in them and in the kind of occupations they seem most likely to represent.

LATE ARCHAIC:

The Late Archaic use of the site dates to the early part of that period, judging from the Benton projectile points that characterize it and by one radiocarbon date of 3575 B.C., corrected to 4398 B.C. (Table 35). The complete lack of Flint Creek, Little Bear Creek, and other later Late Archaic point styles indicates that the site was abandoned or little used during the post-Benton part of the Late Archaic. The Benton component was widely represented at East Aberdeen, with Benton points found in every test and excavation unit except the disturbed Test Unit 4. The west part of the site was apparently more intensively occupied, especially in late Benton times; 18 of the 19 later Benton point styles M and P were found in that area, while the earlier stlyes

R, S. and T were represented by six examples from the western area and two from the eastern section (Table 42).

The Benton zones were dark reddish to yellowish brown in color and, especially in the western site area, thick. At the beginning of the Benton occupations the two topographic high spots had already formed; by the end of Benton times, they were only 40-50 cm lower than their ultimate maximum height.

The different kinds of Benton points are the most common shaped artifact type in the Benton levels. In addition to the identifiable points, a number of tips, midsections, and bases were recovered. Besides the points, many different kinds of flaked and ground stone tools were found, including scrapers, drills, a few preforms, an adze, denticulates, knives, an axe, pitted stones, grinding stone, hammerstones, and atlatl weights. This great diversity of tools was a characteristic common to all parts of the site during the Late Archaic, but with greater numbers of all the types being found in the western area. As was remarked previously, the flaked tools in the Benton zones are made disproportionately of gray chert, as are the flakes found in those zones, especially the undifferentiated and biface thinning flakes. This represents an important shift away from local raw materials and toward exotic ones that were probably being brought to the site as late-stage preforms or finished tools.

The diversity of tools is one indicator of site function, suggesting that diverse activities were being carried out there. These included tool manufacture and resharpening. Another indication that site use was diverse and more intense lies in the classes of other lithic artifacts that characterize the Benton zones. As well as a number of Class I levels, these include Classes III, IV, V, VI, VII, and VIII (Table 67). These have been interpreted as representing a relatively low level of tool manufacture, with emphasis on using unmodified flakes as tools, use of a variety of finished tools, and hearth-oriented activities.

Other activities are best inferred from the other artifacts. The great quantities of fired clay, allied with the increase in hickory and acorn shells, indicates that nut processing was the primary activity in Late Archaic times. The diverse species represented in the animal bones include turtle, turkey, deer, rabbit, squirrel, and opossum, while the floral remains also include a few persimmon and grape seeds.

The numbers and kinds of features that may be attributed to the Benton occupations again bear out the interpretation that more activities were being carried out and with greater frequency. Many of the features could not be assigned to a particular component with certainty but it seems likely that most of the hearths, postholes, pits, and the one burial in the 80-100 cm levels of Test Unit 1 and the features found in Stripped Unit 3 belonged to the Benton component. Although they all lacked diagnostic artifacts, they originated in the middle levels of the site and the large number of hearths among them is consonant with the large amount of fired clay found in Benton levels but not associated with specific features. The lack of ceramics in these features certainly suggests that they were Archaic in age. This is also true of the features in the 60-70 cm level of Test Unit 1, which included the possible clay floor, so it may be that these date to Benton times as well.

On the basis of this summary the hypotheses and test implications from Chapter III can be compared with the data. Hypothesis II states that the site was used as a base camp during Late Archaic times. This can be narrowed down now to apply only to the Benton component, since it is the only Late Archaic phase that was identified at the site. The data accord well with this hypothesis in every way, with all the test implications on Table 4 matched in the evidence from Benton zones. The matrix was certainly altered over a large area, with the altered area being deep and its color much darkened by cultural activity as well as natural soil formation processes. By this time the site's elevation was high enough to remove it from most flooding; it was undoubtedly dry in the summer and fall. The floral and faunal remains are quite diverse, although a few kinds, especially hickory, turtle, turkey, and deer, predominate. The main season represented continues to be late summer and fall, when all of these resources would have been available. The great variety and high density of lithic artifacts and features correspond with predictions, as does the presence of one burial in a probable Benton zone. The lack of well-documented substantial structures and evidence of occupation during all four seasons makes it unlikely that the site served as a year-round settlement, so it seems more properly characterized as a base camp. This is true of Benton occupations in both the east and west parts of the site. The main difference between the two areas is that the eastern section was used less intensely for a shorter period, resulting in fewer features and a thinner Benton zone. Otherwise it also conforms fairly well to the expectations for a base camp occupation.

The various Benton zones in the western site area were sometimes separated by zones containing few artifacts. Although these were deposited during the Late Archaic period, they do not represent base camp occupations. Rather they are best interpreted as periods in which deposition was rapid, presumably largely as a result of spring flooding, and occupation was ephemeral or absent. During these times, the site was probably used as an extractive or transitory camp if it was occupied at all. The functional changes within Excavation Unit 1 (Table 55) probably represent shifting activity loci within a series of base camp occupations.

GULF FORMATIONAL:

The only good indicators of the Gulf Formational period that were found at East Aberdeen are Wheeler and Alexander ceramics. Fiber tempered sherds were present in Test Units 1, 2, and 4 and in Excavation Units 1 and 2 (Appendix A, Tables 4-5, 7, 11-12), but in low numbers. Nineteen plain, five dentate-stamped, and one unidentifiable fiber tempered sherds were recovered from the entire site, indicating that little or no cultural activity involving pottery was occurring at the site in the middle Gulf Formational period. Only the two sherds from the 50-60 cm level of Test Unit 2 and the three from the 20-30 cm level of Excavation Unit 2, which were from a fiber tempered tubular pipe, were found unmixed with sand and grog tempered sherds. Test Unit 2 contained historic artifacts in this level, so that fiber tempered ceramics may also have been introduced into it. Excavation Unit 2 produced a style S Benton point from the level containing the pipe fragments but it may have come from deeper in the level than the sherds.

Coarse sand tempered pottery, both plain and incised, was much more common than fiber tempered sherds but was found mainly in Test Unit 1 (Appendix A, Table 4). Of the 115 such sherds, 103 came from Test Unit 1, including all 27 incised sherds, while eight were found in Excavation Unit 1 and four in Excavation Unit 2. In all cases the Alexander sherds were associated with equal or greater quantities of fine sand tempered plain and cordmarked pottery and usually also with grog tempered sherds. This seemed to indicate that the assemblages dated from Middle to Late Miller II, rather than from the late Gulf Formational period. If there ever were distinct late Gulf Formational occupations at the site, ceramic evidence of them was not well preserved.

Similarly, none of the projectile point styles placed in the Gulf Formational/Woodland period on Table 4 had time ranges specific to Gulf Formational times. Types such as Flint Creek and Wade which did have shorter time spans and are more closely associated with the Gulf Formational period were not found at the site. This is another indication that little occupation occurred at East Aberdeen during this period.

Hypothesis III in Chapter III, which states that the site was abandoned in middle Gulf Formational times, tends to be confirmed by the evidence reviewed above. It seems possible that there was some late Gulf Formational use of the site, but it is not possible to separate the artifacts resulting from it from the later Miller II and III components. Thus, the parts of Hypotheses IVa and IVb that apply to the late Gulf Formational period cannot be tested.

WOODLAND:

Miller I. The Miller I period is recognized by the types and varieties in the ceramic assemblages being examined. Sand tempered types should predominate in Miller I assemblages, especially Baldwin Plain var. Blubber and Saltillo Fabric Marked, with Furrs Cordmarked and Baldwin Plain var. Lubbub as minority types along with low percentages of other Alexander and Wheeler types (Blakeman, Atkinson, and Berry 1976:35-37; Jenkins 1979a:257-259). One way to view the ceramic assemblages that were recovered in excavation at the East Aberdeen site and discussed in Chapter VIII is to postulate that at least the one from the 0-30 cm levels of Test Unit 1 and perhaps the other assemblages as well (Table 56) are the result of artifacts from two separate components being mixed. One of these components would presumably be Miller I and the other Late Miller III, with the mixing causing both sand tempered and grog tempered sherds to occur in each level. If the sand and fiber tempered sherds in the 0-30 cm levels of Test Unit 1 are tabulated without the grog tempered sherds being included, the relative frequencies of the types match those expected of an Early to Middle Miller I assemblage quite closely: 73% of the sherds are Baldwin Plain, 15% are Saltillo Fabric Marked, and 4% are Furrs Cordmarked, and the rest are a mixture of the other types shown on Table 56. This accords fairly well with the Early Miller I assemblage from Mound D at the Bynum site, where 76% of the sherds were Baldwin Plain, 23% were Saltillo Fabric Marked, and there were no Furrs Cordmarked sherds (Jenkins 1979a:257). Although this mixing of Miller I and Miller III assemblages is one possible explanation for the relatively high amounts of Alexander pottery types present in the ceramic assemblages from the west part of the site and discussed in Chapter VIII, it is not the only explanation. Given the use of arbitrary excavation levels and the lack of features containing temporally limited ceramic assemblages, it is not possible to decide on the basis of pottery whether there was a discrete Miller I component at East Aberdeen that was obscured by mixing with late Miller III assemblages.

The scarcity or lack of projectile point styles such as Coosa and Bradley Spike that are often associated with Miller I occupations (Cambron and Hulse 1964) is interesting, although a number of Gary points were recovered from the site. These apparently date to Miller I and II times in the Tombigbee drainage (Jenkins 1975a:142). Three type C Gary points, along with other point types, were found in the 0-30 cm levels of Test Unit 1 (Table 42). This ambivalent evidence means that, as was the case with the Gulf Formational period, it is not possible to test Hypotheses IVa and IVb from Chapter III on Miller I material from the site.

Miller II. The Miller II period use of the East Aberdeen site has been identified by the presence of a high percentage of Baldwin Plain var. Blubber plus rather low percentages of Furrs Cordmarked, Baytown Plain, and Mulberry Creek Cordmarked sherds (Jenkins 1979a:261). The only assemblage identified with the Miller II phase was that from Excavation Unit 1, 30-60 cm (Table 5). The projectile points from these levels (Table 40) are not helpful in confirming the Miller II component. The only identifiable named types were one Savannah River and nine Benton points, eight of the latter from the 50-60 cm level. Although the Savannah River point may have been made during the Miller II period, the style was also produced for a long period of time prior to Miller II. The apparent association between a few sand and fiber tempered sherds and the Benton points is probably spurious, as discussed in Chapter VIII.

Most of the presumed Miller II pottery from these levels was in the first of them, from 30-40 cm (Appendix A, Table 11), so it seems most reasonable to use only the artifacts from that level to characterize the Miller II use of the site. The soil was dark reddish brown sandy clay loam (Table 33). Compared to other levels it had few artifacts (Table 55) and contained few shaped tools (Fig. 37). Only two projectile points, one drill, and two other fragmentary bifaces were found in the entire level, which had a volume of 2 m^3. No features originated in the level. The only identified bone was from turtle and deer (Table 59), while the only floral remains found in the flotation were a few pieces of hickory nut shell (Table 60).

Hypotheses IVa and IVb in Chapter III state that East Aberdeen was used as a sedentary settlement or a base camp during the entire Woodland period. Neither of these hypotheses tends to be confirmed by the data on the Miller II component, which was apparently limited in size and density and variety of artifacts, including features. Whether it was instead a transitory or extractive camp is not clear, although the unspecialized nature of the assemblage suggests a transitory camp.

Miller III. The Miller III use of the site dates to Late to Terminal Miller III, as identified by the predominance of Baytown Plain, Mulberry Creek Cordmarked, and Baldwin Plain var. Blubber in three assemblages from Test Units 1 and 2 and Excavation Unit 1 (Table 5). These levels also contained a variety of projectile points, including four examples of Style G, three Garys (Style C), two McIntires, three Savannah Rivers, and one Madison (Tables 36, 37, 40, and 42). Aside from the Madison type, which has been found beginning with the Miller III period in several sites in the Tombigbee valley (Jenkins 1975a:144; Blakeman, Atkinson, and Berry 1976:54; O'Hear et al. 1979:183), none of these styles has been found exclusively or frequently in Miller III or other Late Woodland assemblages (Cambron and Hulse 1964). Rather, they tend to date from Late Archaic to Middle Woodland times and probably were deposited during those periods at East Aberdeen rather than during the Miller III period.

The Miller III occupations of East Aberdeen were confined to the western site area and to the highest parts of that area, which had reached their modern elevation by that time. The soils were brown to grayish brown to black in color (Tables 32-33), all being in the plow zones of the respective units (Figs. 32-34). In addition to projectile points, these levels contained pitted stones, a hammerstone, a grinding stone fragment, drills, perforators, preforms, numerous flakes, and some sandstone chunks. The assemblages were classified on the basis of selected unshaped lithic artifacts into Classes I, III, and IV, with five of the nine collections falling in Class IV (Tables 54-55). These have been interpreted as tool production assemblages because they contain relatively large amounts of decortication and undifferentiated flakes, as well as other debitage (Fig. 36).

Only relatively small amounts of hickory nut shell were recovered from the Miller III levels (Tables 57 and 58), along with a few bones from several different animal species (Table 59). Fairly large amounts of fired clay occurred in some of the levels (Appendix A, Tables 4-5, 11-12), but only two postholes, Features 1 and 2, were definitely identified as originating in them (Table 63). Plowing may well have destroyed other features dating from Miller III times, however.

Hypotheses IVa and IVb in Chapter III suggest that the site was used either as a sedentary settlement or base camp during Miller III. Of the two, the data conform best to the second hypothesis, that the site was used as a base camp (Table 4). The matrix of the Miller III deposits was altered in color over a fairly large area, the highest part of the western section of the site. However, since the Miller III matrix was coincident with the plowzone it is difficult to be sure that the alteration was due mainly to cultural activity during the Miller III period rather than to historic activity and/or pedogenic processes. This part of the site would have been permanently dry and it was near the river, a year-round source of water.

The floral and faunal remains were not extremely dense or various;

the only season clearly represented in them is fall. The variety and density of the lithics was fairly great, while the ceramics were less dense, except in Test Unit 1, and did not display a great deal of variety. This tends to contradict both hypotheses, which predict great ceramic variety and moderate to high densities of pottery (Table 4). However, Late Miller III ceramics generally are more homogeneous than those of earlier periods, with a great variety of decorated sherds but all occurring in very low percentages (Jenkins 1979a:30 , 37). In relatively small collections such as those from East Aberdeen, these would be less likely to be represented than the dominant plain and cordmarked types. The features, especially the lack of burials and houses, also tend to contradict both hypotheses. Again, the evidence may be biased by plowing that destroyed features.

The excavated Miller III assemblages do not represent a sedentary settlement. However, the evidence does not completely support the inference that the site was used as a base camp either. Other possibilities are that it was the site of extractive and/or transitory camps. The first of these fits best with the artifactual and feature evidence. The large amounts of lithic debitage suggest that the site may have been a reduction camp for local gravel chert that was extracted from a nearby unlocated source in Miller III times.

MISSISSIPPIAN:

There was no identifiable Mississippian occupation at the site. Only one plain shell tempered sherd was found in Surface Collection Unit J (Table 25). It could easily date to the Miller III rather than Mississippian period, since shell tempering occurs in low frequency in some Terminal Miller III assemblages (Jenkins 1979a:30). A similar argument could be made for the few Madison and Guntersville Lanceolate projectile points found at the site, since both probably first occurred in the Miller III period.

Hypothesis V in Chapter III states that East Aberdeen was used as transitory camp during Mississippian times. This hypothesis is disconfirmed on the basis of available evidence, which suggests that the site was not used at all during the Mississippian period.

CAUSES OF CHANGE DURING THE PREHISTORIC PERIOD:

Settlement Pattern. The main kind of change noted at East Aberdeen was in the way the site functioned in the settlement pattern during the various periods, in particular the contrast between three kinds of occupations: 1) Early Archaic and Miller II-III transitory camps, 2) Late Archaic base camps, and 3) long periods during the Middle Archaic, Gulf Formational, and possibly Miller I traditions during which the site was virtually abandoned. In order to fully understand these changes it would be necessary to have much better-defined local settlement pattern models for each period. In lieu of these, it is necessary to use what seems applicable in models such as those described in Chapter III from adjacent areas.

The limited data from the Early Archaic component at East Aberdeen fit in well with the assumptions frequently made that these groups were dependent on rather generalized hunting and gathering, that group size was small, and that the people had not yet fully developed the localized and specialized seasonal round settlement pattern that increasingly characterized the later Archaic. The early part of the Middle Archaic occupations at East Aberdeen shows the same pattern. Why the site was originally chosen for occupation is not clear, although the most frequent subsistence item recovered was hickory nut shells.

The period of virtual or complete abandonment of the site in mid-Middle Archaic times, perhaps from ca. 6000 to 4500 B.C., needs explanation. Although similar long periods of abandonment have not yet been noted at other sites in the Tombigbee valley, they have been remarked in other areas, especially in northeast Arkansas, as described in Chapter II. In the Tennessee River valley some sites show a marked change in subsistence activities during this part of the Middle Archaic, specifically a shift from reliance on deer to heavy use of mussels (Lewis and Lewis 1961). In Arkansas the period of light occupations seems to span the time from about 6000 B.C. to 3000 B.C. (Morse 1969; Fehon 1975), while along the Tennessee River the mussel-reliant Three Mile phase dates from 6000 B.C. to 4000 B.C. One explanation that has been advanced in both cases is the effects of the Altithermal, beginning around 6000 B.C., when climate became warmer and perhaps drier. It is postulated that in northeast Arkansas one effect was a decrease in mast-bearing trees, especially hickories, in the area. If a similar explanation is generalized to the East Aberdeen data, it could be hypothesized that the change in climate caused the hickory groves around the site to decrease in size or disappear. Since hickory nuts may have been the main attraction of the site, its abandonment would follow such an environmental change. This hypothesis, while attractive, awaits direct testing on evidence relating to climatic change and its effects on the environment of the central Tombigbee valley and on use of other sites.

The resurgence of occupation in late Middle Archaic and early Late Archaic times also might be explained partly by climatic change, the end of the Altithermal. This occurred by around 3000 B.C. in the areas where data are available, as summarized in Chapter II. The increase in site use at East Aberdeen preceded this by a considerable period, with the radiocarbon dates and projectile point styles indicating that the site was being used as a fall base camp for hickory nut collecting by 4500 B.C. It may be that the effects of the Altithermal ended earlier in the deep Southeast than in areas farther north and east. Or it may be that the settlement change was caused by some other factor. Until there is a better understanding of the Benton phase settlement pattern, it will not be possible to tell whether the way the East Aberdeen site came to be used as a base camp is repeated at many other similar sites at the same time or was due to local conditions at East Aberdeen. One of these might be the increasing elevation of the site, which had built up to one meter or more of deposits since the Early Archaic occupations.

The most important technological changes in the East Aberdeen assemblages are the shift away from local chert that occurred in Benton times and the return to a predominant reliance on local chert after the Benton period. The Early Archaic use of local raw materials, with the exception of the Kirk projectile points made from Pickwick chert, is in contrast to the pattern observed at 1Gr2 in the Gainesville Reservoir. There, Tallahatta quartzite was frequently used to make tools during the

Early Archaic, while the local chert was less common (Jenkins 1975a:138). A possible cause of this difference is that the gravel chert in the Aberdeen vicinity is available in larger pieces and is more easily accessible than in the Gainesville area, while the Gainesville Reservoir is closer to the sources of Tallahatta quartzite than the Aberdeen area is.

The emphasis in Benton times on exotic gray chert must mean either that some of the people who lived at East Aberdeen were traveling in their annual round of movement as far as the Tennessee border area or that they were part of a trade network that allowed them to obtain the chert indirectly. It is not possible to test these alternatives on the basis of information from only one site. Whatever the case, the gray chert was reduced into late stage preforms or finished tools before being brought to East Aberdeen. These must have been made in the appropriate Benton styles, so even if the chert were obtained indirectly it was from other Benton phase groups.

One problem that needs to be addressed in further research on the Benton phase is the size of the territory used by each group. An appropriate method would be detailed stylistic analysis of the Benton projectile points from various components to discern small regional differences. The Benton points from East Aberdeen showed such small variations, some of which seemed to be temporal and others of which might be useful in spatial analysis.

The span following the Benton occupations, during the Gulf Formational and perhaps the Miller I traditions, was another period when the site saw little use. This might be explained by a settlement pattern shift that appears to have occurred and is discussed in Chapter III. Some of the other Late Archaic ecotone base camps to the south such as Barnes, Kellogg mound, and Vaughn mound were also only lightly occupied during the early Gulf Formational but contained considerably more sherds of late Gulf Formational pottery, as did East Aberdeen. Other sites, such as the North Nashville Ferry site, that are away from the river have produced large quantities of both Wheeler and Alexander pottery. Better information is needed on the kinds of sites where occupation decreased during either part of the Gulf Formational period and how they differ from sites that were heavily occupied at the same time. One possibility is that this shift marks the development of sedentariness, but it is hard to understand why the large base camp sites such as East Aberdeen would have been unsuitable for such settlements. Their relatively high elevation and proximity to water would seem to make them ideal locations. Another cause that has been suggested is increasing reliance on native cultigens, leading to a population shift from the hills to the area farther south in the prairie (Blakeman 1976). This hypothesis has yet to received adequate testing.

The return to fairly extensive use of the East Aberdeen site during the Miller III period is also an important change. The evidence on the nature of this component at East Aberdeen was not very clear, partly because of mixing with Miller I and/or Miller II artifacts as well as disturbance by the historic occupations. Why the site saw more intense use is unknown, although it fits with the pattern previously noted that the Miller III people used more sites along the river in the Sand and Eutaw Hills than either preceding or following cultural groups (Table 3).

Subsistence. Subsistence remained remarkably stable at the East Aberdeen site over the entire period of prehistoric occupation. Whenever subsistence remains were recovered, they were of the same kinds and in the same relative proportions. Hickory nuts were the most commonly used item, as indicated by the large quantities of charred nut shell recovered from the flotation samples. Hickory nuts constitute an efficient resource in that the nut meats can serve as food while the nut shells can be used as fuel for fires and it seems reasonable to conclude that hickory nuts were what attracted people to the site. The area may have been a hickory grove in Archaic times and been visited repeatedly over the course of thousands of years to gather and process the nuts. How the processing was done is unknown but it must have involved fire, perhaps used either to roast the nuts or to cook meal made from them. The grinding stones that were found support the possibility that the nutmeats were ground into meal. In historic times, Southeastern Indians used hickory nuts to make an oil called hickory milk, which they produced by cracking the nutshells and then stirring shells and nuts together into water to separate the two (Hudson 1976:301). Heavy use of hickory nuts evidently began at least as early as the Middle Archaic, continued into the Late Archaic period and decreased in Gulf Formational/Woodland times.

The second important set of subsistence remains were animal bones; deer, turtle, and turkey were the most common and presumably the most important. Again, the exploitation of these animals dates back to at least the Middle Archaic at the East Aberdeen site and the pattern of use remained stable through the Gulf Formational/Woodland period. Although there were fluctuations in the amount of bone found, they were probably caused by short-term functional changes in use of a particular area of the site and not by changes in the basic subsistence orientation. The amount of bone recovered does not indicate that much hunting was done at the site or in the immediate area, although poor preservation of unburned bone may have biased the data.

A number of other less important constituents of the diet were also in evidence, the most prominent being acorn. Its presence in low quantities from Middle Archaic times on indicates that the people knew how to make acorns edible by processing them. Without processing, the tannic acid that is present in the seeds of most species makes them unusable (Driver 1969:91). Also found in small amounts were fish, rabbit, squirrel, and opossum remains, as well as a few persimmon, grape, and pokeberry seeds. However, none of these was very important in the subsistence base as it is represented at the East Aberdeen site.

One source of food which is conspicuous by its absence in the prehistoric levels is freshwater mussel. In contrast with many Archaic and most Woodland sites in the area which often possess large quantities of river mussel shells, none was found at the East Aberdeen site that could be attributed with certainty to the prehistoric occupations. Small quantities of mussels could have been used and not preserved, but large numbers of shells would have left some traces if they had ever been present. There were probably no mussel shoals in the Tombigbee River in the vicinity of the site.

Heavy reliance on hickory nuts was a pattern that developed early in the Tombigbee valley and persisted until Late Woodland times, at least at some sites. The Barnes mound, Kellogg mound, and Kellogg village sites revealed Archaic components that have not yet been securely placed within the Archaic period. However, their use must have been at least partly contemporary with the occupation of the East Aberdeen site. The floral materials recovered from all three sites produced only hickory nut shells in the Archaic levels (Blakeman 1975:36, 40, 91). This led Blakeman (1975:36) to conclude that none of the sites had been cleared when they were occupied, since there were no seeds of weedy plants such as Amaranthus and Chenopodium that are known to invade disturbed ground very rapidly. Bacause the floral remains from East Aberdeen also lacked these kinds of seeds, it seems likely that it was not cleared or the ground much disturbed by its prehistoric human inhabitants.

The Banks III site in the Normandy Reservoir in central Tennessee had a Late/Terminal Archaic component that produced floral remains that were also similar to those from the East Aberdeen site. The main constituent was hickory nut shells, although about 25% of each sample was composed of walnut shells (Juglans sp.). The hickory shells were associated with relatively small amounts of wood charcoal, leading the authors to conclude that the nutshells were probably being used as fuel (Faulkner, Corkran, and Parmalee in McCollough and Faulkner 1976:231-234).

The North Nashville Ferry site, also located south of the East Aberdeen site on the Tombigbee River, displays the same dependence on hickory nuts but continuing later in the cultural sequence. The site was occupied from Gulf Formational to Mississippian times. Again, the only floral remains it produced, aside from a few fragments of corn (Zea mays) in the upper levels, were hickory nut shells. Similarly, the L. A. Strickland site (22Ts765), which was a small Miller II campsite, also produced mostly hickory nut shells. It was similar to the East Aberdeen site deposits in having a minority of acorn shell, as well as a few seeds of persimmon and grape. (O'Hear and Conn 1977:80)

Although hickory nuts appear to have been a staple resource from at least the Middle Archaic period through the Late Woodland, at least judging from the sites tested and excavated so far in the central Tombigbee valley, the use of animals was considerably more subject to change. The Stanfield-Worley Bluff Shelter in northwest Alabama produced faunal remains from the Early to Middle Archaic levels that contrast in some ways with those found at the East Aberdeen site. Deer bones were most common, followed by squirrel and raccoon. A number of other small mammals were represented by only a few bones, including opossum, porcupine, skunk, and rabbit. Turtle and turkey bones were also present in moderate amounts in the Early Archaic zone. (Parmalee 1962)

Russell Cave, in northeast Alabama, produced faunal remains that suggest that the heaviest reliance there was place on deer and turkey throughout the cultural sequence, from the Early Archaic through Woodland periods. There was a greater emphasis on gray squirrel (Sciurrus carolinensis) during the Early Archaic, as was also the case at

Stanfield-Worley. Turtles, especially box turtles, were used throughout the occupation as were fish, which were found in low quantity but wide variety in all layers. (Griffin 1974:105-107) The apparent differences between the two rock shelters and East Aberdeen may be due to the fact that East Aberdeen is an open site near a large river and near a somewhat different set of ecological zones.

Archaic sites along the Tombigbee also contrast markedly with the East Aberdeen site in the faunal assemblages they contain. The Barnes mound had large numbers of turtle bones in the Archaic levels and deer bones were relatively scarce (Blakeman 1975:92-93). It resembled the East Aberdeen site more than another Archaic midden mound in the same vicinity, the Vaughn mound (22Lo538), which contained large quantities of river mussel shell in the Archaic zones. Turtle and deer bones were also common; however, the number and variety of small mammal bones was greater than at the East Aberdeen site. They included raccoon, fox, and beaver bones as well as rabbit, squirrel, and opossum, with small mammals accounting for 23% of the identified mammal bones.

The Spring Creek site in west-central Tennessee contained a Benton component that also contrasts in faunal material with the Benton component at the East Aberdeen site in that parts of the Benton layers produced large amounts of river mussel shell. The Benton component was radiocarbon dated at 2645 B.C. It contained mostly broad-stemmed Benton projectile points similar to styles S and T from the East Aberdeen site, indicating a comparatively early Benton occupation. (Peterson 1973)

Overall, the picture during the Archaic and Woodland periods is one of a reliance on hickory nuts that was established fairly early, sometime during the Middle Archaic period from 8000 to 5500 B.P., and that remained basically unchanged through the Late Woodland Miller III period. Not all of the sites discussed were excavated by methods that would assure recovery of floral remains, so it may be that such sites as Russell Cave, Stanfield-Worley, and the Vaughn Mound did not contain much hickory nut shell. It is also no doubt the case that the entire range of settlements is not represented for any one period or even for the Archaic as a whole. Hickory nuts may appear to be important partly because the sites at which they were exploited tend to be larger, easier to find, and more likely to attract excavation.

There is considerable variation evident in the animals that were most heavily exploited at the sites summarized above. The variation suggests that the animals which were most frequently used depended to a considerable extent on the particular ecological situation in which the site was located. The oldest components show diversity in animal use that at least equals, if it does not surpass, that found in later Archaic components.

Seasonality. The East Aberdeen site appears to have been occupied repeatedly over several thousand years, probably for most of that time as one part of a seasonal round settlement pattern. The evidence from floral and faunal material is compatible with the hypothesis that the site was primarily occupied in the fall. This is strongly indicated by the predominance of hickory nuts and tends to be confirmed by the grape and persimmon seeds that were found, since the fruit of both ripens in the late summer to fall. Acorns also ripen in the fall, generally somewhat earlier than hickory nuts (Yarnell 1964:68-70).

Turtles could have been gathered in any season except winter when most of them hibernate, and rabbit, opossum, and squirrel would have been available at any time. Turkey and deer could also have been hunted year-round, although they might have been easier to hunt in the fall and winter (Smith 1975:36, 80).

HISTORIC:

Proto-Historic Period. No evidence was found that the East Aberdeen site was used in the period between the end of the Miller III period and the historic period. Hypothesis I in Chapter IV predicts that if the site had been occupied in this period and if DeSoto passed through it as he crossed the Tombigbee River, artifacts from the period would have been deposited. Since these predictions were not borne out in the data, the hypothesis that the site was occupied during proto-historic times is disconfirmed. Although only a small percentage of the site was excavated, any proto-historic occupation of it would have been identified in the surface collection and/or in the excavated materials. There is no evidence supporting the possibility that DeSoto crossed the river at this point either, although any artifacts left by such a visit would probably be few and might have been present at the site but not have been recovered. However, the hypothesis does tend to be contradicted by the lack of evidence supporting it.

Period I, pre-1830. There is no good evidence that the site was used in the historic period prior to 1830. Although many of the artifact types that have been placed in the span from 1830-1850 were also used before 1830, none of them could be said to definitely pre-date that year at the Martin's Bluff site. There was no assemblage of historic artifacts recovered that did not contain material that definitely post-dated 1830. Hypothesis II in Chapter IV refers to this period, stating that the site was unoccupied then. The lack of artifacts dating from before 1830 tends to confirm the hypothesis.

Period II, 1830-1873. The archaeological evidence for use of the East Aberdeen site during this period is from the controlled surface collection, the top levels of Test Unit 1, and Features 15 and 23. Hypotheses III, IV, and V, dealing with the locations of the boat and ferry landings and the Aberdeen and Athens Road during this period, were not tested archaeologically because erosion and other disturbance had greatly affected the postulated locations.

Hypothesis VI deals with the location of the store that was built and used during Period II. None of the structures that were isolated in analysis of the surface collection as being built or occupied during this time could be identified as stores (Table 31). No barrel hoops, which might present positive evidence of the presence of a store, were recovered. The most likely store location, near the river and road on the high ground of Surface Collection Units I or J (Fig. 8), produced evidence of two structures dating from Period II. These were buildings represented by Cluster 15, including some of the historic artifacts from Test Unit 1, and by the artifacts from the top levels of Test Unit 2.

Both of these seemed to have served as residences, judging by the quantities of fineware and bone they produced. Features 15 and 23 also were in this vicinity (Fig. 46) and date from this period. They indicate residential garbage disposal, tending to confirm that there were residences nearby.

One complicating factor in identifying the store is that it may also have served as a residence for the storekeeper or a clerk. Another problem is the episode of earth removal that apparently occurred in the late nineteenth century and affected parts of Unit I and J. If the store were located in the disturbed area, evidence of it might have been largely destroyed.

The other area which contained evidence of occupation during Period II was Surface Collection Unit B. This part of the site would have been less suitable for a store because of its distance from the river and road. Structures there of the appropriate age all seem to have been residences (Table 31).

Although there is conclusive documentary evidence that at least one store did exist at Martin's Bluff during most of Period II, the archaeological evidence was not adequate to pinpoint its location. It is possible that either of the two structures identified in Units I and J could have been the remnants of a store/residence.

The location of the warehouse and cotton sheds that may have been present during Period II are addressed by Hypothesis VII. Again, none of the nineteenth century structures appears to meet the criteria required of these kinds of buildings (Table 7). It is possible that the postholes, Features 9, 16-18, and 21-22, that were found in and to the west of Test Unit 2 and Excavation Unit 1 (Fig. 46) might have been the supports of one or more cotton sheds. The posts were large and deeply set, which is consistent with expectations for cotton shed supports, since the posts had to be tall and sturdy enough to directly support the roof. The postholes formed a rough line approximately 15 m long, probably somewhat too long to have been part of a store or residence, although they could represent a fence line. Unfortunately, with the exception of a piece of glass in Feature 9, there were no associaed artifacts that could be used to date the postholes. By their shape they were apparently of historic origin, however . This area corresponds fairly well to that hypothesized to be the best location of a warehouse and cotton shed, but the archaeological evidence is too inclusive either to certainly identify a structure here or to postulate its function.

Hypothesis VIII concerns the location of the wheat mill and was not tested archaeologically since no surface evidence of the mill was located during survey.

The locations of Period II residences were addressed in Hypothesis IX. The hypothesis tends to be borne out in its prediction that houses would tend to be located on the areas of high topography corresponding to Units I, J, and B (Fig. 8). The archaeological evidence indicates that Units I and J contained one residence each, while Unit B probably had four more, marked by Clusters 1-4 (Table 31). The pottery types from Cluster 15 in Unit I as well as the proximity of Feature 23 indicate that the structure there was occupied earliest of the six houses, perhaps ca. 1830-1850, with the other five residences probably largely post-dating 1850. Cluster 15 may have been the remains of a log house, since relatively few square nails were found there. Clusters 1 and 4, along with the artifacts from Test Unit 2, probably represent the next oldest houses, since all three contained large numbers of square nails, some wire nails, and mid-nineteenth century ceramic types. Finally, Clusters 2 and 3, with fewer square nails and little identifiable nineteenth century pottery, may have been built toward the end of Period II. The historic artifacts from the top levels of Excavation Unit 1, representing a refuse area, correspond to surface cluster 23, which was composed of bricks. This area was probably associated with the adjacent residence, since it seems to have been contemporary with it.

Although it is likely that not all the pits and other features dating to Period II were found during the fieldwork, there probably were no other residences dating to this time. If there had been, they should have been evident in the form of surface clusters of nineteenth century ceramics and square nails. The only caveat is that such evidence could have been destroyed by earth-moving in the centers of Unit I and J and covered by displaced earth in Unit K.

Sub-Period IIIa, 1874-1920. Hypothesis X states that during this period Martin's Bluff declined in importance, with the store probably going out of business and other activities decreasing in volume. Archaeological evidence shows that the residences indicated by Clusters 2 and 3 probably continued to be used during part or all of this time. This was confirmed for Cluster 2 by the recovery in that area of two pottery backmarks that post-dated 1875 (Plate 14).

All the other identified structures at the site, Clusters 6-11, could have been constructed either during or after this period. Several of them seem to correspond to structures that were known to have been in use after 1920. Cluster 6 matches the location of a house occupied in the 1920s by Cliff Holly (Fig. 5, Point M; Fig. 7, Point I) and probably still standing in 1977. Cluster 10 may represent the residential use of Murff's Store, while Clusters 8 and possibly 9 may represent its commercial use. The age of the building in which Murff's Store was located is in some doubt and is related to the locations of Lots A and B, described in Chapter IV and shown on Figure 4. Lot A was first mentioned when it was sold in 1900. Its reconstructed location (Fig. 4) encompassed the later site of Taylor's Store. Although several clusters of historic artifacts were identified on the surface there, none appeared to be the remains of a structure (Table 28). Lot A supposedly contained a store, dwelling, and blacksmith shop, none of which were in evidence archaeologically in the appropriate area. The possibility that such evidence might have been destroyed by earthmoving must be kept in mind, however.

Lot B was located in the vicinity of Murff's Store (Fig. 4). When the lot was sold in 1908 it already had a store on it. It is possible, as suggested in Chapter IV, that the Murff's Store building was constructed sometime between 1874 and 1900, that it was in use as a store during at least the second half of Sub-Period IIIa, and that it was the store referred to in the deed records for both Lots A and B. This would mean that the location of Lot A was incorrectly described in the deed, it actually being the same as Lot B.

Surface artifact Cluster 8 corresponded to the location of Murff's Store. It provided some evidence that the area was in use prior to 1920 in the form of four pieces of amethyst glass found in four different surface collection units within the cluster. The amethyst color is produced when glass containing manganese is exposed to sunlight over a long period of time. Manganese was added to glass in the United States only until 1916 (Kendrick 1968:185), so amethyst pieces were made before then. The four pieces composed less than 1% of the total bottle glass found in Cluster 8, however. For comparison, the nearby Cluster 9 produced only one piece of amethyst glass, while Cluster 10 had none.

Other evidence of possible pre-1920 use of Lot B comes from milk glass fruit jar liners. These were patented in 1869 and continued to be made until ca. 1902, when self-sealing lids replaced them (Toulouse 1967). Fragments of these liners were found in four surface collection units in Cluster 8, in four in Cluster 9, and in three in Cluster 10. However, zinc lids and liners could have been used for years after production of them ceased, so they are not precise indicators that an area was used before 1902.

The archaeological data do not provide definite evidence that the area of either Lot A or Lot B was in use in the late nineteenth-early twentieth century. As a result, it remains uncertain whether the two lots were actually one and the same. Although the deed records show the presence from 1900 to 1908 of one or two stores associated with the Miller name on these lots, there is little archaeological evidence that a store or any other building was in use in the west part of Martin's Bluff during any part of Sub-Period IIIa.

The archaeological record tends to confirm the hypothesis that Martin's Bluff suffered a decline between 1874 and 1920. There was an apparent decrease in occupied residences, from four to six at the end of Period II to two during Sub-Period IIIa. None of the other identified structures showed clear evidence of use during the latter period.

Causes of Change During the Historic Period. The causes of change at Martin's Bluff that have been inferred from documentary evidence are discussed in Chapter IV. They can be reduced to four main factors: 1) transportation 2) the location of the site relative to Aberdeen 3) the relatively elevated topography of the site and 4) the hardwood forests in the vicinity of the site.

The role of the site in the historic transportation network shifted over time. Martin's Bluff served first as a river crossing for at least two roads which linked the areas to the southwest and northwest in Indian territory with settlements in the American territory on the east side of the Tombigbee River. The site soon became a ferry landing as the Indian land was ceded to the United States and settlement there increased. The growth along the river increased the need for imported goods, while its basis in cotton growing made it necessary to open shipping routes to market. The most convenient and economical way to meet these needs was to use the navigable Tombigbee River. As a result, Martin's Bluff became one of many small sites on both sides of the river that served as landings and storage points for goods in transit to and from Mobile.

The construction of the Tombigbee River bridge at the site in 1873 allowed Martin's Bluff to be by-passed in favor of the larger settlement of Aberdeen across the river. As a consequence, Martin's Bluff declined and never regained any important role in the regional transportation network. The growth and decline of Martin's Bluff was also linked to the growing importance of Aberdeen. Much trade filtered through Martin's Bluff partly because of its proximity to Aberdeen, with people from the east side of the river shipping cotton and receiving bulk goods at Martin's Bluff and taking the ferry across to Aberdeen to obtain other goods and services. Without Aberdeen the attractions of Martin's Bluff as a landing would have been less. This is apparent in its decline as a commercial center and shipping point when the 1873 bridge allowed the site to be by-passed in favor of Aberdeen.

The third factor, the site's elevation, afforded protection from flooding and was crucial in allowing permanent structures to be built near the landing. The amount of high ground was also large enough to allow the growth of a small community, with buildings serving a number of functions situated there. Finally, the nearby hardwood forests were important in causing two sawmills to be located in the vicinity. Especially in Period IIIb, the proximity of the second mill was an important factor in the revewed occupation and growth of Martin's Bluff.

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Plate 1 Structural remains of the cotton gin.

Plate 2 Twentieth century house (Point J on Fig. 5).

Plate 3 Surface Collection Unit J prior to collection.

Plate 4 Surface collecting in Unit J.

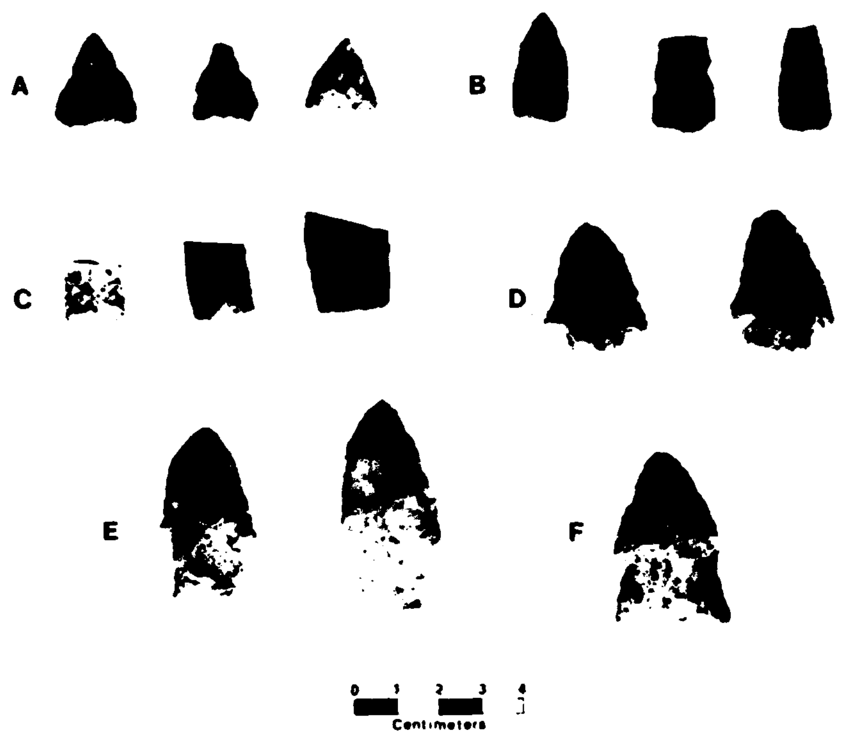

Plate 5. Woodland Projectile Point Types: A, Madison Style A; B, Madison, Style II; C, Guntersville Lanceolate; D, Coosa; E, Gary, Style C; F, Bakers Creek.

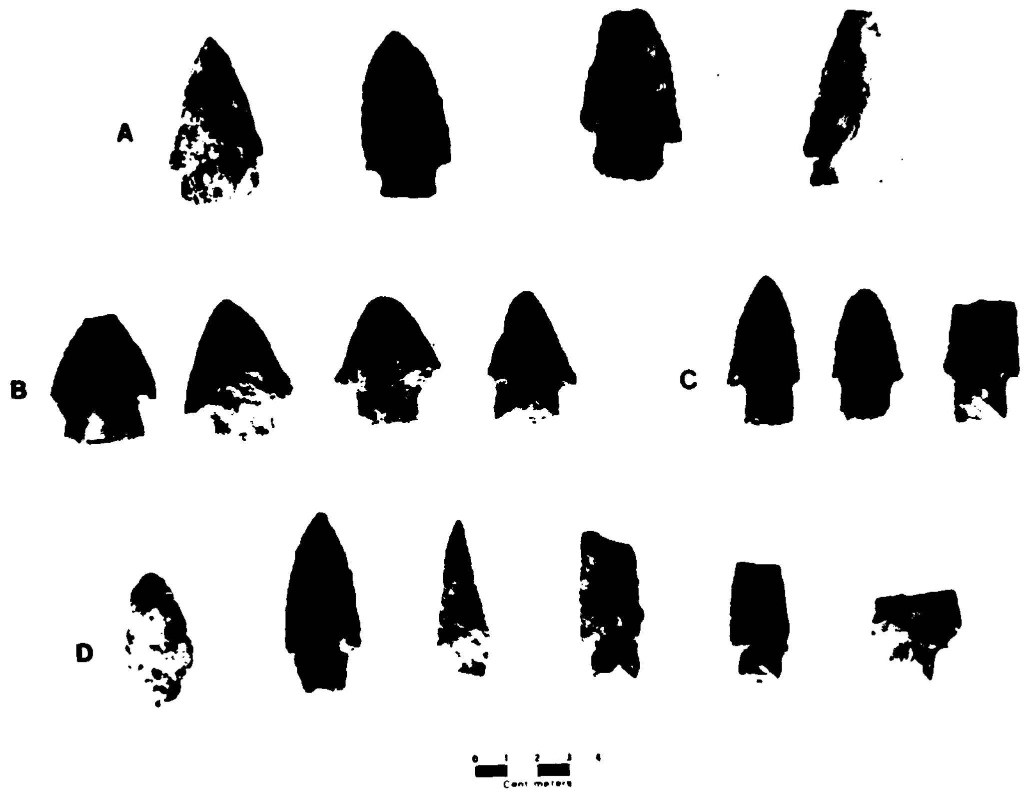

Plate 6. Gulf Formational/Woodland Projectile Point Types: A, McIntire; B, Savannah River; C, Style G; D, Gary, Style H.

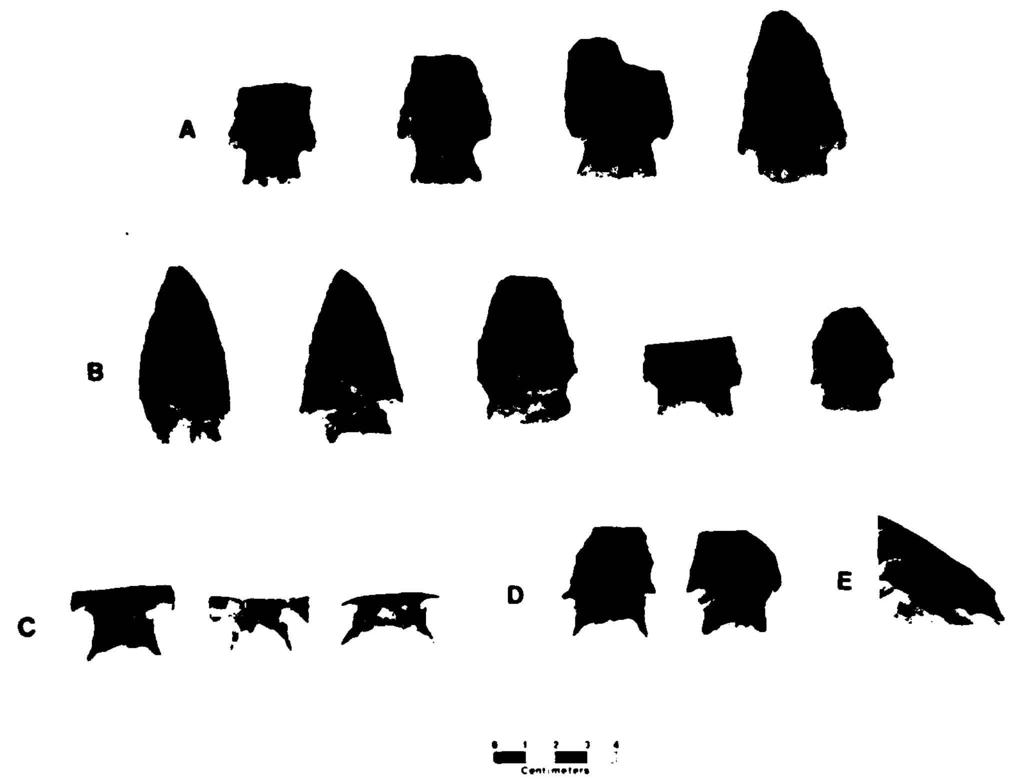

Plate 7. Benton Projectile Point Types: A, Style M; B, Style P; C, Style R; D, Style S; E, Style T.

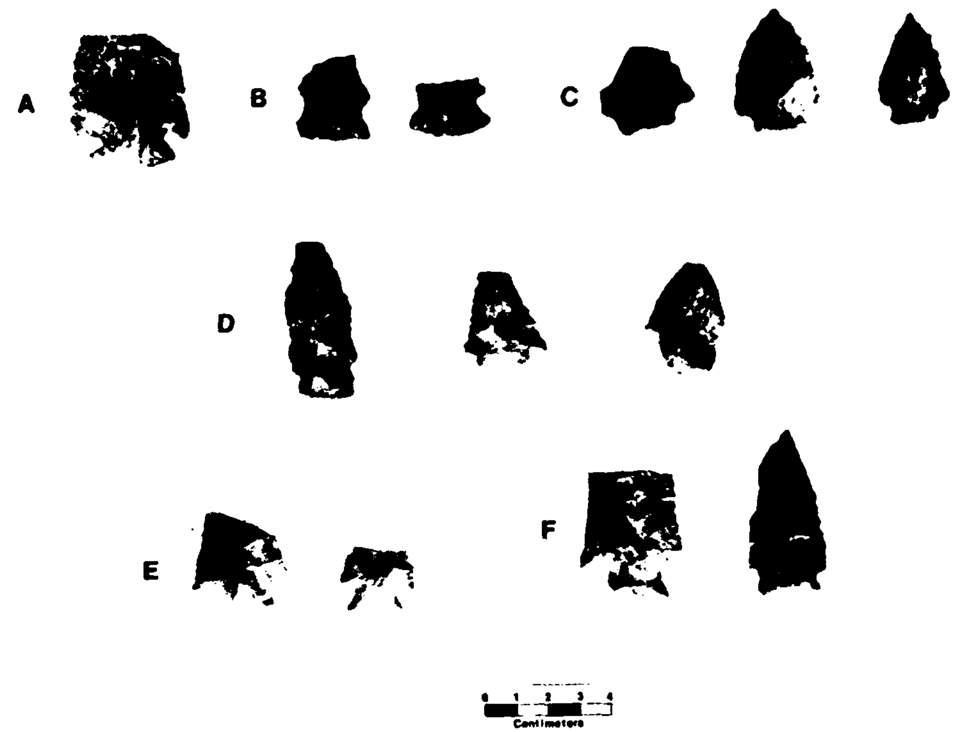

Plate 8. Middle Archaic Projectile Points: A, Style U; B, Damron; C, Morrow Mountain Straight Base; D, Style X; E, Crawford Creek; F, Style Z.

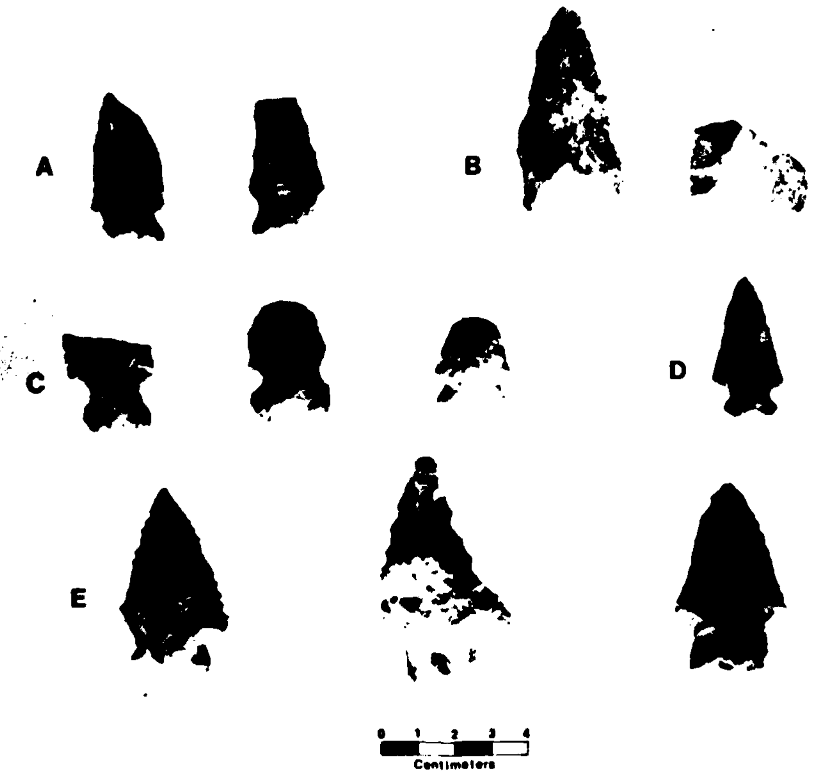

Plate 9. Early Archaic Projectile Points: A, Greenbrier; B, Dalton; C, Big Sandy I; D, Style DD; E, Kirk Serrated.

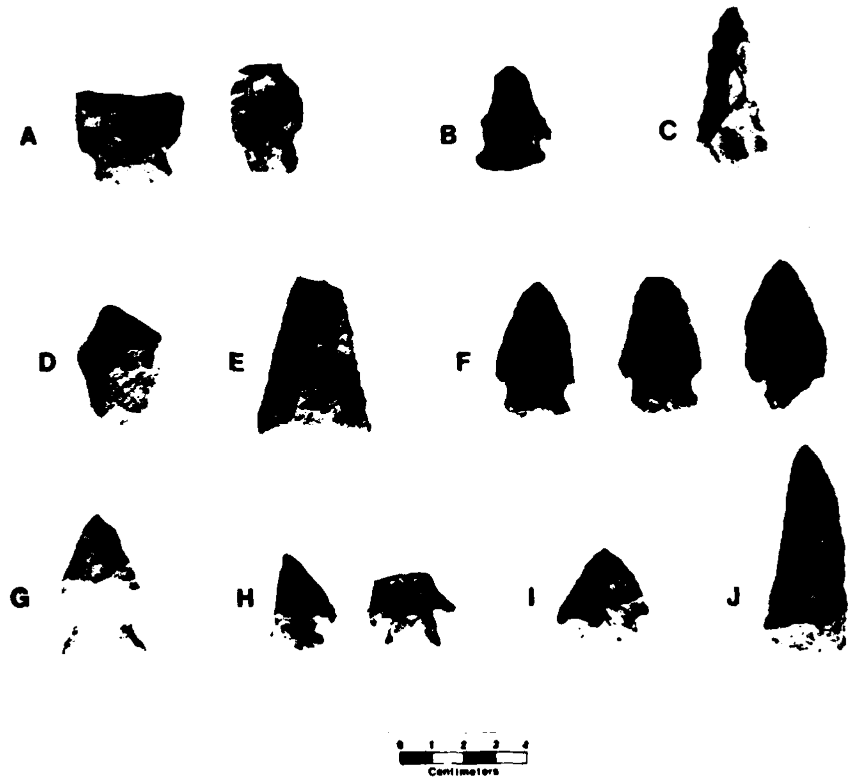

Plate 10. Miscellaneous Projectile Points: A, Style I; B, Style J; C, Style K; D, Style L; E, Style N; F, Style O; G, Motley; H, Style FF; I, Style GG; J, Style HH.

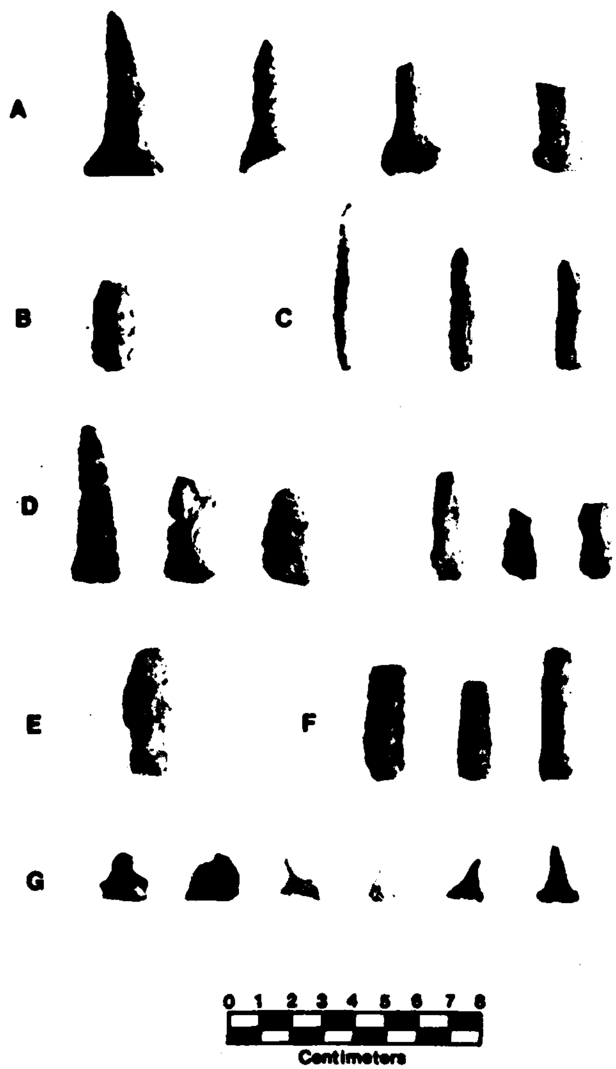

Plate 11 Drills and gravers: row a, expanded base drills; b, stemmed drill; row c, parallel-sided drills; row d, triangular drills; e, stemmed drill; row f, triangular drills with blunt ends; row g, gravers.

Plate 12. Scrapers, Denticulates, and Notches: A, trapezoidal unifacial end scrapers; B, elongated ovate unifacial end scrapers; C, rectangular unifacial end scrapers; D, rectangular unifacial side scrapers; E, rectangular bifacial end scrapers; F, semi-circular bifacial end scraper; G, semi-circular bifacial side scrapers; H, bifacial knives; I, unifacial denticulate; J, elongated ovate bifacial end scraper/denticulate; K, bifacial notch.

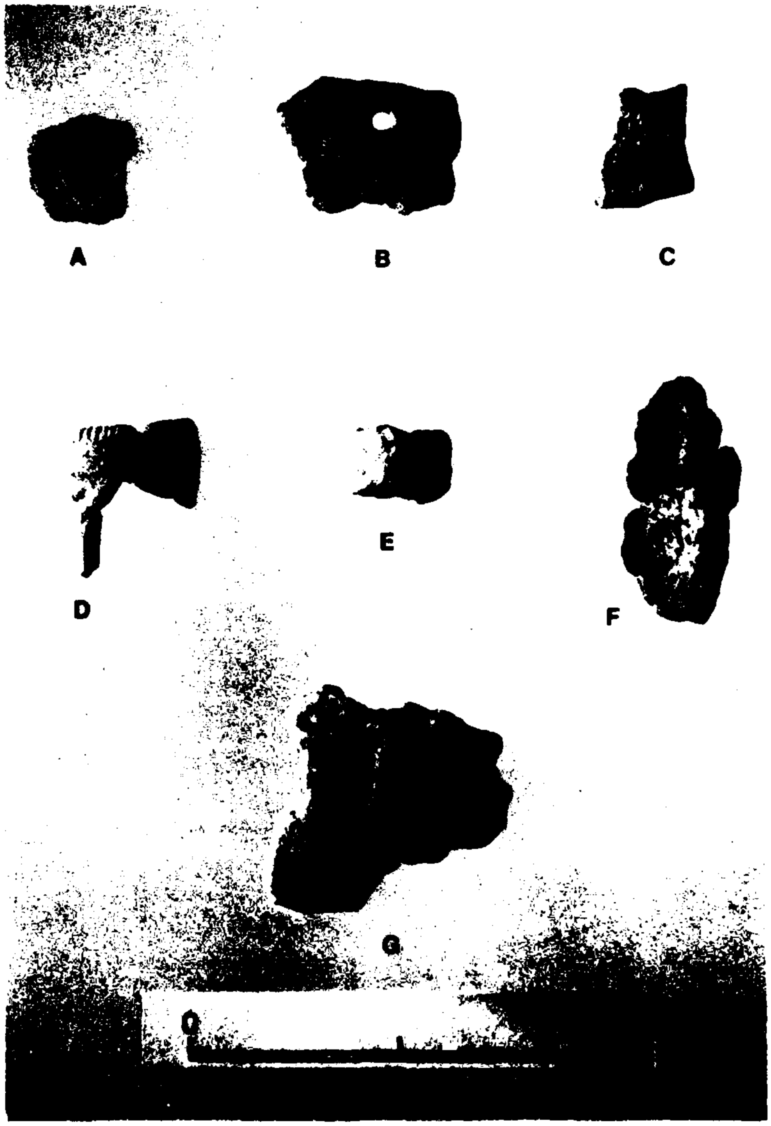

Plate 13. Prehistoric ceramic materials: a, sand-tempered and incised; b, sand-tempered and plain; c, sand-tempered and fabric-impressed; d, sand-tempered incised pipe bowl; e, sand-tempered pipe bowl; f, fiber-tempered tubular pipe; g, piece of fired clay with possible cane impressions.

Plate 14. Backmarks on Historic Ceramic Sherds.

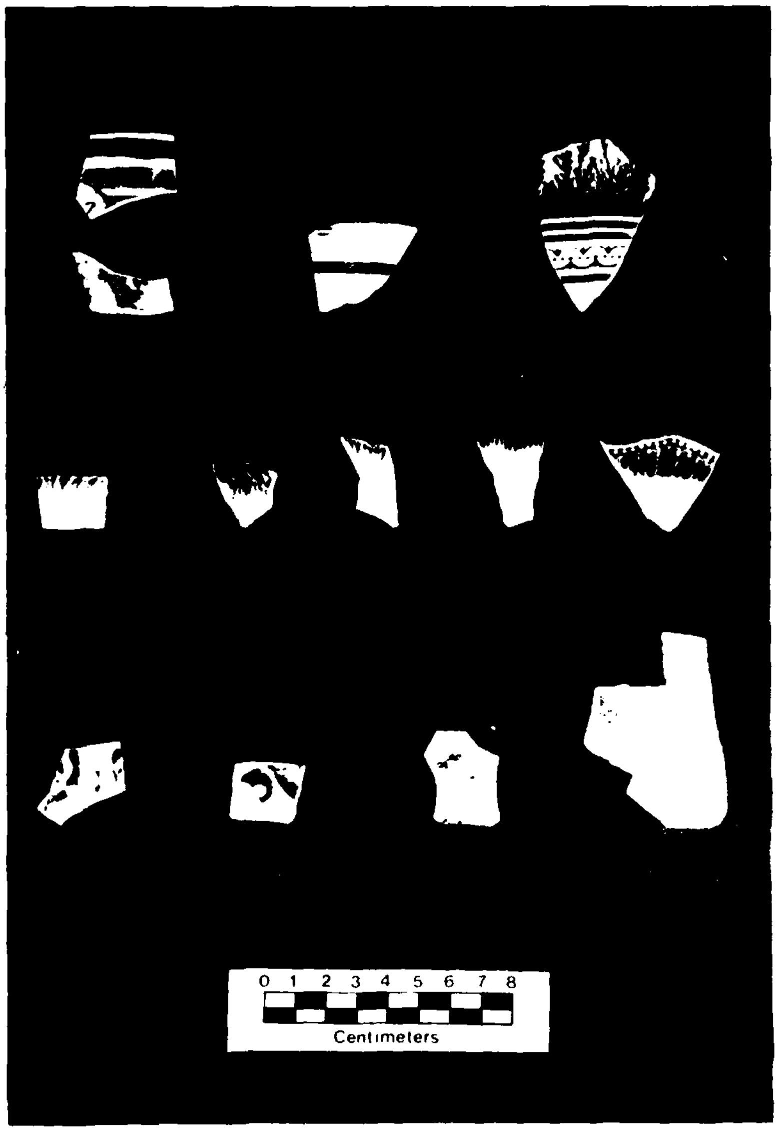

Plate 15 Historic ceramic materials: a, banded with mocha decoration; b-c, banded; d-h, shell-edge; i, hand-painted; j, transfer print; k-l, spongeware.

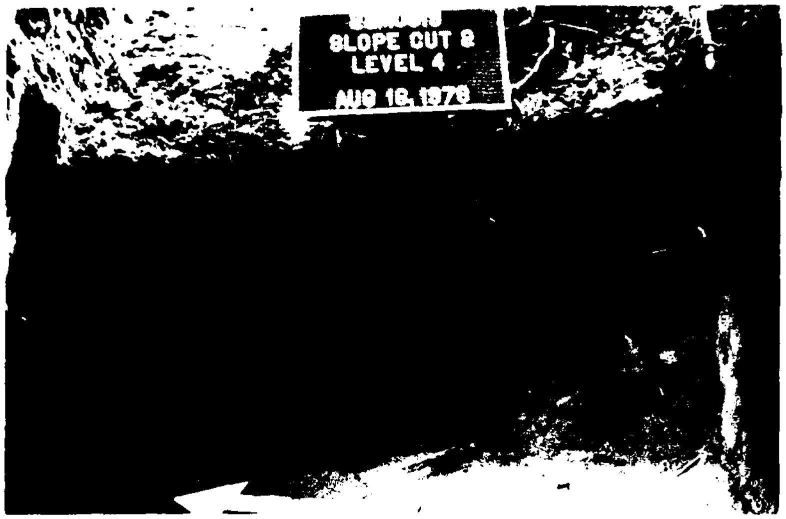

Plate 16   Profile of Level 4 of Slope-Cut 2.

Plate 17   West profile of Excavation Unit 2 at 100 cm.

Plate 18 Axes: a-c, hafted axes.

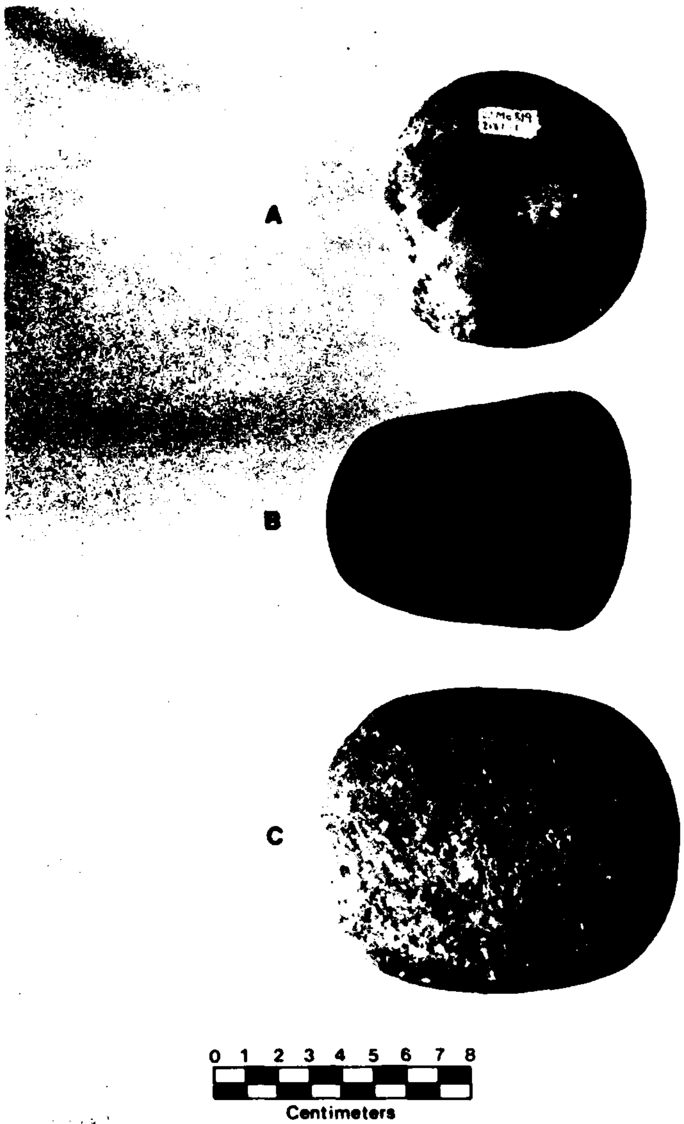

Plate 19. Ground stone tools: a, pitted hammerstone; b, pitted stone; c, grinding stone.

Plate 20. Profile of Feature ?3.

Plate 21. Chamberpot from Feature 23.

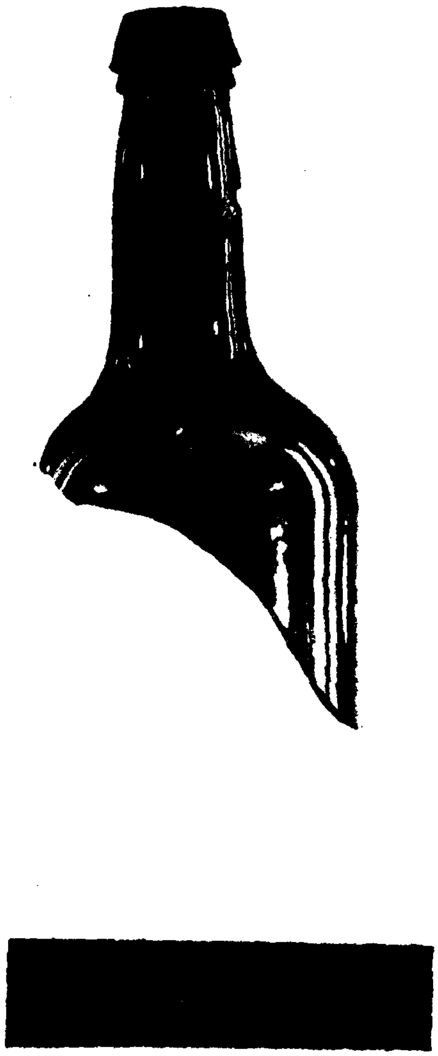

Plate 22 Glass: hand-blown green glass bottle with added lip from Feature 23.

APPENDIX A

TABLE A-1. GENERAL SUMMARY OF MATERIALS FROM SURFACE COLLECTION BY UNIT

Unit	Unit as % of Total Area Collected	Ground Lithic Tools	Flaked Lithic Tools	Other Lithic Materials	Prehistoric Ceramic Materials	Historic Ceramic Materials	Bottle Glass	Window Glass	Nails	Bone	Shell	Coal	Charcoal	Sandstone	Other Metal Objects	Brick	All Other Objects	Total Objects
A	2	--	--	7	--	14	341	3	26	23	1	21	32	3	91	9	28	599
B	48	11	39	293	1	1453	6505	896	2651	321	75	2614	135	75	3243	2764	460	21536
C	3	--	1	20	--	15	288	1	55	6	--	136	3	1	128	138	12	804
D	2	--	--	25	--	13	76	4	44	10	--	90	4	3	42	53	10	374
E	2	1	1	63	--	19	277	7	90	6	6	62	5	6	125	14	31	713
F	2	--	--	38	--	6	55	12	15	3	1	62	--	4	52	27	1	276
G	8	2	10	251	9	194	1742	644	305	111	4	174	5	41	440	443	268	4643
H	9	--	3	111	--	39	460	18	44	51	--	123	19	19	189	39	62	1177
I	10	4	21	1125	239	148	624	221	263	52	--	467	8	23	241	170	70	3676
J	9	4	24	504	34	122	676	51	228	25	17	60	4	18	371	392	33	2563
K	5	--	18	146	--	18	41	5	7	4	2	17	--	32	21	46	13	370
Total	100	22	117	2583	283	2041	11,085	1862	3728	612	106	3826	215	225	4943	4095	988	36,731

TABLE A-2. GENERAL SUMMARY OF MATERIALS RECOVERED FROM BOX-SCRAPED UNIT A [illegible] LEVELS 1 THROUGH 8.

LEVEL	1	2	3	4	5	6	7	8	TOTAL
LITHIC MATERIALS									
Pebbles	44	20	33	[illegible]	8	4	5	14	142
Chunks									
Sandstone	4	7	12	1	6	3	1	2	38
Chert		1							[illegible]
Decortication Flakes									
Chert Primary		2	9		1		2		14
Chert Secondary		4	1	1	3				9
Shatter									
Chert	6	11	5		10	1	4	5	42
Other						1			1
Flakes									
Chert Biface Thinning	1	8	6	9	2	2	3	2	33
Chert Undifferentiated	20	63	39	15	6	7	17	4	171
Projectile Points									
Chert			2	1		1	2	1	7
Preform. & Bifaces									
Chert	2	1	2	1		4	4	1	15
PREHISTORIC CERAMIC MATERIALS									
Grog Tempered									
Plain							1	3	4
HISTORIC CERAMIC MATERIALS									
Unspecified Fine Earthenware									
Plain	3	13	5	3	5	4	1		34
Spongeware	1	1	1						3
Flow Blue			1	1					2
Hand Painted					1	1			2
Other		1	1						2
Pearlware									
Plain					1				1
Hand Painted		1							1
Whiteware									
All Surface Treatments	1		2						3
Coarseware									
All Surface Treatments	3	6	10	4	3				26
Ironstone									
All Surface Treatments		3	6	2		1	1		14
Porcelain									
All Surface Treatments				[illegible]					[illegible]
All Pastes									
Overglazed		1							1
GLASS									
Bottle	28	54	52	26	19	7	25		[illegible]
Pane	7	17	18	13	7	6	3		[illegible]
Other		2	4	3	10	6	39	14	78
NAILS									
Square		6		9	2	1	3	1	22
Wire	3	19	2	2	4	4	19	2	55
OTHER MATERIALS									
Bone	1		3	2			1		7
Shell	2	1	1	2	1	3	[illegible]	1	13
Fired Clay	26	23	26	15	51	18	34	33	228
Charcoal	1	15	12	4	2	1	11	3	49
Coal	6	13	7	4	4	3	3	1	43
Brick	56	205	157	63	50	60	127	18	736
Other Metal Objects	7	44	30	22	9	23	21	5	161
Other Objects	17	9	4	3	1	7	5	2	48

TABLE A-3. GENERAL SUMMARY OF MATERIALS RECOVERED FROM BOX-SCRAPED UNIT 5 56N202E LEVELS 1 THROUGH 7.

LEVEL	1	2	3	4	5	6	7	TOTAL
LITHIC MATERIALS								
Pebbles	2		2					4
Chunks								
Sandstone			4	5	1	9	2	21
Other			2		1			3
Shatter								
Chert		2		2	4			8
Flakes								
Chert Biface Thinning	1		2					3
Chert Undifferentiated		2		2	2	1		7
Tallahatta Quartzite Undifferentiated						1		1
Ground Stone Tools							2	2
Preforms and Bifaces								
Chert		3						3
HISTORIC CERAMIC MATERIALS								
Unspecified Fine Earthenware								
Plain	8	12	16	16	10	4	5	71
Transfer Printed					1	1	1	3
Spongeware	1	1						2
Shell-Edge		1						1
Hand Painted		1						1
Other		2			1			3
Pearlware								
Plain		1	1					2
Transfer Printed	1							1
Hand Painted			1					1
Whiteware								
All Surface Treatments	1	2			2	1	1	7
Coarseware								
All Surface Treatments	5	12	3	3		1	2	26
Ironstone								
All Surface Treatments	6	7	1	1	2		4	21
Porcelain								
All Surface Treatments	1							1
All Pastes								
Overglazed	1							1
GLASS								
Bottle	68	57	64	54	47	9	11	325
Pane	14	7	29	10	12	12	5	99
Other	74	200	300	25	26	24	20	669
NAILS								
Square	7	40	34	19	9	6	20	135
Wire	7	42	8	11	6	3	1	78
OTHER MATERIALS								
Bone	18	13	51	12	16	3	3	116
Shell	8	13	10	20	9	2	2	64
Fired Clay (gm)		107	1302	33	9	5	19	1475
Petrified Wood	1		2	1				4
Charcoal		336	217	15	15			583
Coal	383	159	105	25	23	13	16	724
Brick	367	348	414	141	175	82	83	1608
Other Metal Objects	40	32	93	16	11	25	5	224
Other Objects	55	44	22	10	3	4	1	139

TABLE A-4. GENERAL SUMMARY OF MATERIALS RECOVERED FROM TEST UNIT 1 (205RE) 0 TO 300 cm

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	TOTAL	200-210	210-220	220-230	230-240	240-250	250-260	260-270	270-280	280-290	290-300	TOTAL	[illegible]
LITHIC MATERIALS																																		
Pebbles	196	203	70	64	178	228	49	75	91	58	1212	82	26	16	19		13		8	26	4	194	5	3		4	6	4	3			1	26	1432
Chunks Sandstone	31	110	83	75	29	128	89	71	264	230	1110	106	72	88	54	68	43		24	14	11	480	2	1									3	1593
Cores Chert						2	1			1	4											0											0	4
Flakes																																		
Chert Primary Decortication	43	36	10		2	1	7		2	2	103			1								1		2	2								4	108
Chert Secondary Decortication	33	32	15	2	2	2	1	1	11	9	110		3				2					5											0	115
Chert Shatter	126	190	77	32	35	110	81	28	84	63	826	4	10	6	11	17	10	7	6	11	7	89	4	7	2	3						3	19	934
Chert Biface Thinning	45	48	14	9	7	16	1	6	14	16	176		3			5	3	1	1	2	3	18		1									1	195
Chert Undifferentiated	694	685	307	107	52	111	46	50	147	93	2292	22	27	85	83	42	23	45	25	43	35	430		8	7	2	1						18	2740
Tallahatta Quartzite Undifferentiated		3		2	4			2	2	1	14	6		1	2					1		10											0	24
Ground Stone Tools	2			3						3	8					3						3											0	11
Drills Chert	1	3	1	2		1	1		1		10		2		2							4											0	14
Projectile Points Chert	4	6	2	1							13	1		3	1	2	3	1			1	12			1								1	26
Preforms & Bifaces Chert	10	7	10	6		4		2	4	8	51		2				3				1	6		1	2								3	61
Other Flaked Stone Tools		1	1						1		3						2				1	3			1								1	7

TABLE A-4 . 0-300 cm CONTINUED.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	TOTAL	200-210	210-220	220-230	230-240	240-250	250-260	260-270	270-280	280-290	290-300	TOTAL	UNIT TOTAL
PREHISTORIC CERAMIC MATERIALS																																		
Fiber Tempered																																		
Plain	2	4									6											0											0	6
Dentate Stamped	2	2									4											0											0	4
Sand Tempered																																		
Plain--Fine Sand	136	91	17	2		6					252											0											0	252
Plain--Coarse Sand	44	30	9			1					84	1			1							2											0	86
Cordmarked	14	2									16											0											0	16
Incised	18	7	2								27											0											0	27
Fabric Impressed	44	21									65											0											0	65
Dentate Stamped	1										1											0											0	1
Grog Tempered																																		
Plain	204	132	30	4			2		4		376											0											0	376
Cordmarked	111	40	12	4							167											0											0	167
Incised	2										2											0											0	2

TABLE A-4. 0-300 cm CONTINUED.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	TOTAL	200-210	210-220	220-230	230-240	240-250	250-260	260-270	270-280	280-290	290-300	TOTAL	UNIT TOTAL
HISTORIC CERAMIC MATERIALS																																		
Unspecified Fine Earthenware																																		
Plain	23	38	7	1							69											0											0	69
Transfer Printed	7	8	1	1							17											0											0	17
Spongeware	7	3	1								11											0											0	11
Flow Blue			1								1											0											0	1
Shell Edge	6	5									11											0											0	11
Hand Painted	8	16	1								25											0											0	25
Banded		4	1								5											0											0	5
Other	4	3	1	1							9											0											0	9
Pearlware																																		
Plain	2	1									3											0											0	3
Whiteware																																		
All Surface Treatments	1	2									3											0											0	3
Coarse Ware																																		
All Surface Treatments	14	6	1								21											0											0	21
Ironstone																																		
All Surface Treatments			5								5											0											0	5
Porcelain																																		
All Surface Treatments	1										1											0											0	1

TABLE A-4. 0-300 cm CONTINUED.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	TOTAL	210-220	220-230	230-240	240-250	250-260	260-270	270-280	280-290	290-300	TOTAL	UNIT TOTAL
OTHER MATERIALS																																	
Glass																																	
Bottle	103	158	2								263											0										0	263
Pane	102	124	9	1		1			1		238											0										0	238
Other	1	13	1					1			16											0										0	16
Nails																																	
Square	20	27	10	1							58											0										0	58
Wire	28	38	2						1		69	1										1										0	70
Bone	30	60	18	7	8	4	4	2	11	29	173	11	7	4	7	6	21	30	20	12	2	120		1								1	294
Shell	1	22							1		24											0										0	24
Fired Clay (gm)	330	694	241	701	966	1167	275	340	1037	2134	7915	567	606	116	153	178	222	186	94	76	10	2208	36	6								42	10,165
Petrified Wood		2	1			2	3	1	4	1	14								1			1										0	15
Charcoal	25	117	145	70	5	15	14		38		429	11						82		18	1	112	2									2	543
Coal	90	106	30					1	3		230	1										1										0	231
Brick	62	88	26								176																					0	176
Other Metal Objects	75	35	16	8	2		1		3		190	2	1									3										0	193
Other Objects	61	90	21	2		8	4	1	17	3	207			2			1	2				5	1									1	213

TABLE A-5. GENERAL SUMMARY OF MATERIALS RECOVERED FROM TEST UNIT 2 (16N26E) 0 to 210 cm

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	200-210	TOTAL	UNIT TOTAL
LITHIC MATERIALS																								
Pebbles	96	22	25	16	8	35	1	33	41	36	365	8	14	13	24	17	38	39	12	12	13	4	194	559
Chunks																								
Chert	3										3													3
Sandstone	24	21	14	22	3	23		24	39	27	197	11	22	20	24	30	15	8	9	25	9	3	176	373
Hematite															7								7	7
Cores																								
Chert							1				1						1						1	2
Decortication Flakes																								
Chert Primary	7	10		3		1		4	2	1	28		1				2	1			2		6	34
Chert Secondary	9	17	7					2	3	1	39		3				1				2	1	7	46
Shatter																								
Chert	27	33	25	21	8	13		8	18	12	165		4	8	6	9	9	10	1	6	11	9	73	238
Breccia																						1	1	1
Flakes																								
Chert Biface Thinning	11	[illegible]				3		27	15	2	61	4	1		4	3	1					3	16	77
Chert Undifferentiated	66	92	23	15	1	27	1	56	23	14	318	7	6	6	3	3	9	12	2	17	25	6	96	414
Tallahatta Quartzite Undifferentiated		1				2			1		4				1					1	1		3	7
Ground Stone Tools			1			1					2		1						1			1	3	5
Drills																								
Chert		2									2												0	2
Tallahatta Quartzite	1		1								2												0	2
Projectile Points																								
Chert	2	2		1		3		3	2		13					3		1	1				5	18
Tallahatta Quartzite		1									1												0	1
Other						1					1												0	1
Preforms and Bifaces																								
Chert	1	4	2								7												0	7
Tallahatta Quartzite			1								1												0	1

TABLE A-5. 0-210 cm CONTINUED.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	200-210	TOTAL	UNIT TOTAL
PREHISTORIC CERAMIC MATERIALS																								
Fiber Tempered																								
Plain						2					2												0	2
Sand Tempered																								
Plain- Fine Sand	5	7									12	1											1	13
Cordmarked	1	1									2												0	2
Fabric Impressed		3									3												0	3
Grog Tempered																								
Plain	30	22	2	1							55												0	55
Cordmarked	1										1												0	1
HISTORIC CERAMIC MATERIALS																								
Unspecified Fine Earthenware																								
Plain	7	26	1	3		1	5			1	44												0	44
Transfer Printed		3	1								4												0	4
Spongeware	1	2									3												0	3
Shell Edge				1							1												0	1
Hand Painted		9									9												0	9
Banded	1	1									2												0	2
Other			2								2												0	2
Pearlware																								
Plain		1									1												0	1
Spongeware		1									1												0	1
Whiteware																								
All Surface Treatments		2					1				3												0	3
Ironstone																								
All Surface Treatments	1	3					3				7												0	7
Coarseware																								
All Surface Treatments	1	10	1				3				15												0	15
All Pastes																								
Overglazed							1				1												0	1

TABLE A-5. 0-210 cm CONTINUED.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	200-210	TOTAL	UNIT TOTAL
GLASS																								
Bottle	38	37		1			29	2			107									2			2	109
Pane	50	36		1	1	6	4	3	1		102												0	102
Other	5	13	15	1							34												0	34
NAILS																								
Square	32	57	14	2			9			1	115												0	115
Wire	13	18	2		1		4				38												0	38
OTHER MATERIALS																								
Bone	11	1	1	14		7		17	17	19	87	3	11	10	1	3	4	4	1	8	30	13	88	175
Shell	5	6	1	1	1	1	2	1		2	20												0	20
Fired Clay (gm)	241	98	128	416	131	1430	*	1885	1463	2119	7911	600	740	430	204	160	290	300	355	348	203	97	3727	11,638
Petrified Wood	1							3			4									1			1	5
Charcoal					7	52	6	147	22	8	242	1	63			6		12	16	10		1	109	351
Coal	6	7	10	21	4	13	27	8			96												0	96
Brick	118	98	5		1	1	17	4			244												0	244
Miscellaneous Metal Objects	40	60	18	4		1	4				127												0	127
Other Miscellaneous Objects	38	1				3		1			43					1				4			5	48

*Denotes missing.

TABLE A-6 . GENERAL SUMMARY OF MATERIALS RECOVERED FROM TEST UNIT 3 (48N18E) 0-170 cm.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	TOTAL	UNIT TOTAL
LITHIC MATERIALS																				
Pebbles	8	23	28	42	23		5	33	12	16	190		9	5		10			24	214
Chunks																				
Sandstone	10	17	74	64	24	18	17	45	32	19	320	4	10	3		5			22	342
Cores																				
Chert		.									0				1				1	1
Decortication Flakes																				
Chert Primary		3	2	2						1	8			3					3	11
Chert Secondary			3								3			1					1	4
Shatter																				
Chert	33	38	22	12	13	10	9	12	23	18	190	3	3		1	9	1		17	207
Other			1								1								0	1
Flakes																				
Chert Biface Thinning	2	3	1	2	3		2	2	1		16	1					1		2	18
Tallahatta Quartzite Undifferentiated		1	1	2	1	1			1	1	8								0	8
Chert Undifferentiated	31	80	87	29	27	5	14	18	27	27	345	6	6	1	4	15	8		40	385
Ground Stone Tools			3							1	4			2					2	6
Drills																				
Chert	3			2		1		1			7			1					1	8
Projectile Points																				
Chert	1	2	4	1	1	1		2	3		15			1	1				2	17
Tallahatta Quartzite	1	1									2			1					1	3
Preforms & Bifaces																				
Chert	1		4	1	1	3	2	4	3	6	27		2						2	29
Other			2			1			1		4								0	4
Other Flaked Stone Tools																				
Chert			1			1			1	1	4								0	4
Adzes																				
Chert											0			1					1	1

TABLE A-6 . 0-170 CONTINUED

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	TOTAL	UNIT TOTAL
PREHISTORIC CERAMIC MATERIALS																				
Sand Tempered																				
Plain - Fine Sand		1						2			3								0	3
Grog Tempered																				
Plain		5									5								0	5
Cordmarked		2			1						3								0	3
HISTORIC CERAMIC MATERIALS																				
Unspecified Fine Earthenware																				
Plain	2	6									8								0	8
Spongeware		1									1								0	1
Other		1									1								0	1
Pearlware																				
Plain	1										1								0	1
Coarseware																				
All Surface Treatments		6									6								0	6
Ironstone																				
All Surface Treatments		1									1								0	1
GLASS																				
Bottle	5	5									10								0	10
Pane		11	3				1				15								0	15
NAILS																				
Square	2	9							1		12								0	12
Wire		4									4								0	4

TABLE A-6. 0-170 CONTINUED

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	TOTAL	UNIT TOTAL
OTHER MATERIALS																				
Bone	1	1		1	1	6	11	1	29	12	63				1	1			2	65
Shell	1									1	2								0	2
Fired Clay (gm)	13	24	156	976	411	*	669	422	333	587	3591	142	11		158	62			373	3964
Petrified Wood		3		1	1			2	2		9	1							1	10
Charcoal				10			7	5			22				9	2			11	33
Coal		6	2				1				9								0	9
Brick		4	1								5								0	5
Misc. Metal Objects	12	17	2				3	1			35								0	35
Other Objects	1			10				4			15					2			2	17

*Denotes missing.

TABLE A-7. GENERAL SUMMARY OF MATERIALS RECOVERED FROM TEST UNIT 4 (12N20W) 0 TO 100 cm.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	UNIT TOTAL
LITHIC MATERIALS											
Pebbles	11	15	35	16	102	22	26		43	49	319
Chunks											
Sandstone			16	4	16	5	7	49	12	13	122
Decortication Flakes											
Chert Primary		1	1	1				1	2		6
Chert Secondary			2	2			2				6
Shatter											
Chert	30	1	20	3	10	11	5	30	15	12	137
Flakes											
Chert Biface Thinning			1					1	2	1	5
Chert Undifferentiated	8	3	20	13	14	9	6	54	16	18	161
Tallahatta Quartzite Undifferentiated										1	1
Drills											
Chert						1					1
Preforms & Bifaces											
Chert			2							1	3
Adzes											
Chert		1									1
PREHISTORIC CERAMIC MATERIALS											
Fiber Tempered											
Plain								1			1
Sand Tempered											
Plain - Fine Sand								1			1
Grog Tempered											
Plain			1			1		3	1	1	7
HISTORIC CERAMIC MATERIALS											
Unspecified Fine Earthenware											
Plain		2	1		1			1			5
Shell-Edge			1								1
Banded								1			1
Coarseware											
All Surface Treatments				1	2			7		3	13
All Pastes											
Overglazed		1	1								2
GLASS											
Bottle	14	10	15	7	5	2	6	6	8	1	74
Pane									1		1
Other								2			2
NAILS											
Square			3		16						19
Wire			31								31
OTHER MATERIALS											
Bone		1	7	1	2		2	8	2	1	24
Shell		1									1
Fired Clay (gm)		14	135	10	190	107	106	392	133	121	1206
Petrified Wood									1		1
Charcoal			5	7	1	5			5	10	33
Coal	2	40	31		1	12	18	184	27	33	348
Brick		19	11	6		7	19	32	14	13	121
Misc. Metal Objects	41	124	88	76	56	7		2			394
Other Objects	2	2	19	19	7	1	5	9		1	65

TABLE A-8. GENERAL SUMMARY OF MATERIALS RECOVERED FROM TEST UNIT 5 (48N178E) 0 TO 130 cm.

	LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	TOTAL	UNIT TOTAL
LITHIC MATERIALS																	
Pebbles		14	86	18	18	19	20		5	6		186				0	186
Chunks																	
Sandstone		1	55	9	11	8	10	33	5	4		136				0	136
Cores																	
Chert		1	1			1					1	4				0	4
Decortication Flakes																	
Chert Primary			3	2	1	2			1	5	2	16				0	16
Chert Secondary			1	2			2				3	8				0	8
Shatter																	
Chert		3	17	8	11	16	8	3	5	10	10	91				0	91
Tallahatta Quartzite											1	1				0	1
Flakes																	
Chert Biface Thinning		2	8	1	4	3	1	6	3	3	14	45	1			1	46
Chert Undifferentiated		3	21	18	27	30	13	34	13	43	97	299	5	3		8	307
Tallahatta Quartzite Undifferentiated						1						1				0	1
Ground Stone Tools											1	1				0	1
Drills																	
Tallahatta Quartzite			1									1				0	1
Projectile Points																	
Chert			1									1				0	1
Preforms & Bifaces																	
Chert			1		2	1				1	2	7				0	[illegible]
Other Flaked Stone Tools																	
Chert						1					1	2				0	2
HISTORIC CERAMIC MATERIALS																	
Unspecified Fine Earthenware																	
Plain			1									1				0	1
GLASS																	
Bottle			3							1		4				0	4
NAILS																	
Square		6	1	1								8				0	8
Wire		2	1									3				0	3
OTHER MATERIALS																	
Bone			4	1								5				0	5
Fired Clay (gm)			217	306	123	290	86	14	2		1	1039				0	1039
Petrified Wood						1						1				0	1
Charcoal			330	56	50	1	94	30	2	4	6	573	3			3	576
Brick				6				1			2	9				0	9
Other Metal Objects			5									5				0	5
Other Objects			7									7				0	7

TABLE A-9. GENERAL SUMMARY OF MATERIALS RECOVERED FROM TEST UNIT 6 (68N186E) 0 TO 140 cm.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	TOTAL	UNIT TOTAL
LITHIC MATERIALS																	
Pebbles	8	5	24	19		19	7	4	2	5	93					0	93
Chunks																	
Sandstone	4	4	19	7	40	74	21	4	3	6	182					0	182
Decortication Flakes																	
Chert Primary					3	2	3			4	12					0	12
Chert Secondary				1		1	1			3	6					0	6
Shatter																	
Chert	2	9	12	8	19	1	10	2		3	66					0	66
Flakes																	
Chert Biface Thinning		3	2	3	3	2			5	1	19		2			2	21
Chert Undifferentiated		8	39	25	27	13	15	8	9	40	184	1	1	2		4	188
Drills																	
Chert			1								1					0	1
Projectile Points																	
Chert			1			4					5					0	5
Preforms & Bifaces																	
Chert		4	1	1				1		2	9					0	9
Other Flaked Stone Tools																	
Chert		1				1			1	1	4					0	4
HISTORIC CERAMIC MATERIALS																	
Unspecified Fine Earthenware																	
Plain	6	3									9					0	9
Transfer Printed	1										1					0	1
Sponge-Ware				1							1					0	1
Other	2										2					0	2
Coarseware																	
All Surface Treatments	1										1					0	1
GLASS																	
Bottle	67	15	3								85					0	85
Pane	57	2									59					0	59
Other	2		1	1							4					0	4
NAILS																	
Square	54	40	2								96					0	96
Wire	19	5	3								27					0	27
OTHER MATERIALS																	
Bone	36	59	25	2						1	123					0	123
Shell	3	14	6	1						1	25					0	25
Fired Clay (gm)	38	46	580	205	178	299	153	20	9	6	1534	5				5	1539
Charcoal	16	48	50	40	27	34	20	175	161	273	844					0	844
Coal	53	12	1								66					0	66
Brick	130	79	20	7	1			1			238					0	238
Misc. Metal Objects	75	33	5		1						114					0	114
Other Objects	333	5	9	1						2	350					0	350

TABLE A-10. GENERAL SUMMARY OF MATERIALS RECOVERED FROM TEST UNIT 7 (46N2E) 0 TO 120 cm.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	TOTAL	UNIT TOTAL
LITHIC MATERIALS															
Pebbles	123	23	2	30		4		2	2		186			0	186
Chunks															
Sandstone	58	28	45	42	35	14	11	14	4		251		1	1	252
Cores															
Chert				1							1			0	1
Decortication Flakes															
Chert Primary	4	1	3	1		2		4	4		19			0	19
Chert Secondary	1					4		1	5		11			0	11
Shatter															
Chert	20	19	3	13	16	12	3	10	7	9	112			0	112
Other	2	2	1		5		4	6	6	4	30			0	30
Flakes															
Chert Biface Thinning	2		1								3			0	3
Chert Undifferentiated	32	16	7	14	30	36	19	46	53	56	309		1	1	310
Projectile Points															
Chert	2	2	1	2		3	1				11			0	11
Drills															
Chert	1		2	1		2					6			0	6
Preforms & Bifaces															
Chert	4		1		3	1	1	2			12			0	12
PREHISTORIC CERAMIC MATERIALS															
Sand Tempered															
Plain - Fine Sand	2										2			0	2
Grog Tempered															
Plain	1										1			0	1
HISTORIC CERAMIC MATERIALS															
Unspecified Fine Earthenware															
Plain								1			1				
Coarseware															
All Surface Treatments	1	1									2				2
GLASS															
Bottle	23	3									26			0	26
NAILS															
Square	1	1									2			0	2
Wire	3										3			0	3
OTHER MATERIALS															
Bone		3	4	15	23	59	11	13			129		3	3	132
Shell					2					1	3			0	3
Fired Clay (gm)	409	1272	1018	1159	925	179	370	321		1	5654			0	5654
Petrified Wood			14	28	6	1					49			0	49
Charcoal				120	12			2			134			0	134
Coal	18	4	9	1							32			0	32
Brick	14	7									21			0	21
Misc. Metal Objects	21	1									22			0	22
Other Objects	19	13			13		2			2	49			0	49

TABLE A-11. GENERAL SUMMARY OF MATERIALS RECOVERED FROM EXCAVATION UNIT 1 (16N24E) 0 TO 240 cm

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	TOTAL	200-210	210-220	220-230	230-240	TOTAL	UNIT TOTAL
LITHIC MATERIALS																												
Pebbles	9	597	503	44	133	129	142	385	632	107	2681	54	42	25	108	111	310	149	145	2	23	969		1	2	1	4	3654
Chunks																												
Sandstone	8	36	46	82	82	319	328	471	841	139	2352	41	20	38	45	122	280	44	287	84	55	1016	3				3	3371
Other		2		2	2			13		50	69	30						3				33		3			3	105
Cores																												
Chert									2		2	1										1					0	3
Decortication Flakes																												
Chert Primary	1	26	5	7	8	2	4	8	8	20	89	7	3		1		1	2	8		2	24					0	113
Chert Secondary	1	12	1	1		1	3	7	1		27	2	2	3			2		2	1	2	14					0	41
Shatter																												
Chert	8	39	28	29	40	57	53	144	74	29	501	13	23	10	51	57	12	31	77	22	16	312	4				4	816
Tallahatta Quartzite									1		1											0					0	1
Flakes																												
Chert Biface Thinning	3	20	11	2	12	25	28	42	39	34	216	11	13	12	4	1	3		11		4	59		1			1	276
Chert Undifferentiated	26	56	63	34	45	112	155	252	254	65	1062	13	61	45	38	52	37	24	117	29		416	3				3	1481
Tallahatta Quartzite Undifferentiated		1			1	1		1	1	4	9				1	5	3					9					0	18
Drills																												
Chert			1	1		2	1	1			6								1			1					0	7
Projectile Points																												
Chert			1	2	3	8	3	3	1	3	24			1		2	1	1	1			6					0	30
Tallahatta Quartzite							1				1											0					0	1
Preforms and Bifaces																												
Chert		4	5	1	7	10		12	9	6	54					2	7		6	4	1	20		1			1	75
Tallahatta Quartzite				1							1					1			1			2					0	3
Ground Stone Tools	1							5		3	9	3		2			1	1				7					0	16
Other Flaked Stone Tools																												
Chert			1		2			2			5	1										1					0	6

TABLE A-11. 0-240 cm CONTINUED.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	TOTAL	200-210	210-220	220-230	230-240	TOTAL	UNIT TOTAL
PREHISTORIC CERAMIC MATERIALS																												
Fiber Tempered																												
Plain						1		1	1		3											0					0	3
Sand Tempered																												
Plain - Fine Sand		4	2	17	6	3	4	2			38											0					0	38
Plain - Coarse Sand		1	1	3			3				8											0					0	8
Cordmarked					1						1											0					0	1
Grog Tempered																												
Plain		12	12	2							26											0					0	26
Cordmarked					2						2											0					0	2
Unidentifiable							3		13		16											0					0	16
HISTORIC CERAMIC MATERIALS																												
Unspecified Fine Earthenware																												
Plain		9	8	1							18											0					0	18
Shell Edge		2									2											0					0	2
Hand Painted			2								2											0					0	2
Banded		1									1											0					0	1
Other		3									3											0					0	3
Whiteware																												
All Surface Treatments			3								3											0					0	3
Coarseware																												
All Surface Treatments	5	4	3	2							14											0					0	14
Porcelain																												
All Surface Treatments			1								1											0					0	1
GLASS																												
Bottle	41	13									54											0					0	54
Pane	5										5											0					0	5
Other	5	13	15	1							34											0					0	34

TABLE A-11. CONTINUED.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	TOTAL	100-110	110-120	120-130	130-140	140-150	150-160	160-170	170-180	180-190	190-200	TOTAL	200-210	210-220	220-230	230-240	TOTAL	UNIT TOTAL
NAILS																												
Square	12	28	19	85							144											0					0	144
Wire	8	11	6	2							27											0					0	27
OTHER MATERIALS																												
Bone	1	5	5	19	38	116	151	185	247	331	1098	38	20	31	51	93	55	41	72	65	21	487		2			2	1587
Shell		2	9		1		1		1	3	17											0					0	17
Fired Clay (gm)	17	258	1417	892	2597	4132	9467	11819	7010	11192	48801	777	602	1649	2356	2549	2610	1335	2071	2494	739	17182	99				99	66082
Petrified Wood			2	3	5	6	4	13	3	1	37	4	2	3	1		1			1		12					0	49
Charcoal	1	6	2	6	90	509	598	1097	542	1830	4681	130	109	22	56	453		28	95	102	66	1061					0	5742
Coal	10	2		1							13											0					0	13
Brick	119	476	41	47							683											0					0	683
Other Metal Objects	25	28	95	33	14						195											0					0	195
Other Objects		28	9	1	2			13		8	61					12			2			14					0	75

TABLE A-12. GENERAL SUMMARY OF MATERIALS RECOVERED FROM EXCAVATION UNIT 2 (58N194E) 0 TO 100 cm.

LEVEL	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	UNIT TOTAL
LITHIC MATERIALS											
Pebbles	107	7	193	45	12	120	225	83	378	68	1238
Chunks											
Sandstone	74	74	83	16	4	30	47	23	4	4	359
Cores											
Chert							1				1
Decortication Flakes											
Chert Primary	4	7	5	3	1	3	13	14	3		53
Chert Secondary		1	2	1		1		11			16
Shatter											
Chert	35	45	39	20	11	52	98	46	6	1	353
Tallahatta Quartzite						1					1
Flakes											
Chert Biface Thinning	12	15	11	5	2	21	57	37	2	2	164
Chert Undifferentiated	133	85	128	99	42	230	490	306	21	9	1543
Tallahatta Quartzite Undifferentiated	1	2					1				4
Ground Stone Tools	1		3					3			7
Drills											
Chert						1					1
Projectile-Points											
Chert	3		1				8	1			13
Preforms & Bifaces											
Chert	2	7				4	4	1			18
Other Flaked Stone Tools											
Chert			1								1
PREHISTORIC CERAMIC MATERIALS											
Fiber Tempered											
Plain			3								3
Sand Tempered											
Plain - Fine Sand		1	3								4
Plain - Coarse Sand	3			1							4
Unidentifiable	1	1									2
HISTORIC CERAMIC MATERIALS											
Unspecified Fine Earthenware											
Plain	1										1
Coarseware											
All Surface Treatments	1										1
GLASS											
Other	2										2
NAILS											
Square	12	2									14
OTHER OBJECTS											
Bone	6		2			2					10
Fired Clay (gm)	936	1465	1939	475	49	55	541	6			5465
Petrified Wood							1				1
Charcoal	40	18	132	45	5	8	17	2			267
Coal		3									3
Brick	4										4

TABLE A-13. GENERAL SUMMARY OF MATERIALS RECOVERED FROM TRUCK-DUG AUGER HOLES

Auger Hole Provenience	Types and Numbers of Materials
24N10E	1 Chert Primary Decortication Flake
	1 Square Nail
	1 Piece Bottle Glass
	3 Fired Clay
20N10E	1 Chert Biface Thinning Flake
	2 Undifferentiated Chert Flakes
16N10E	1 Chert Pebble
	1 Mammal Tooth
12N10E	7 Chert Pebbles
	2 Miscellaneous Metal
	6 Bottle Glass
	3 Brick
	2 Coal
	1 Bone
	1 Fired Clay
4N10E	1 Undifferentiated Chert Flake
	1 Miscellaneous Metal
	3 Coal
0N2E	3 Chert Pebbles
	3 Chert Shatter
	1 Chert Biface Thinning Flake
	5 Wire Nails
	2 Miscellaneous Metal
	2 Bottle Glass
0N6E	No Artifacts
0N10E	1 Bottle Glass
0N14E	1 Chert Pebble
	1 Bottle Glass
	1 Brick
	1 Fired Clay
0N18E	2 Chert Pebbles
	1 Wire Nail
	1 Miscellaneous Metal
	1 Pane Glass
	1 Other Glass
0N22E	1 Chert Secondary Decortication Flake
	2 Undifferentiated Chert Flakes
	1 Miscellaneous Metal
0N26E	1 Chert Pebble
	1 Chert Flake
	1 Miscellaneous Metal
	4 Bottle Glass
	4 Brick
	2 Fired Clay
0N30E	3 Chert Shatter
	1 Chert Biface Thinning Flake
	1 Undifferentiated Chert Flake
4S10E	1 Sandstone Chunk
	1 Chert Shatter
	2 Wire Nails
	1 Bottle Glass
8S10E	No Artifacts
12S10E	5 Undifferentiated Chert Flakes
	1 Fine Sand-Tempered Plain Sherd
	1 Grog-Tempered Plain Sherd
	1 Wire Nail
16S10E	1 Chert Shatter
	2 Undifferentiated Chert Flakes
	1 Wire Nail
	1 Miscellaneous Metal
	2 Coal
20S10E	2 Undifferentiated Chert Flakes
	1 Chert Kirk Serrated (EE) Projectile Point
24S10E	2 Chert Shatter
	1 Wire Nail
	1 Miscellaneous Metal
	1 Bottle Glass
	7 Coal
	7 Fired Clay
26S10E	1 Chert Pebble
	1 Undifferentiated Chert Flake
	2 Coal

TABLE A-14. GENERAL SUMMARY OF MATERIALS RECOVERED FROM SLOPE-CUT 1.

LEVEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	TOTAL
LITHIC MATERIALS																				
Pebbles	9	69	17	35	19	10	2	47	165	4	6	6	2			77		23	16	507
Chunks																				
Sandstone	2	6	4	24	20	1	2	9	28	5	6	5	1				1	13	42	169
Decortication Flakes																				
Chert Primary				1	1			2				5							1	10
Chert Secondary		1		1				2		2									1	7
Shatter																				
Chert	2	5	4	4	9			5	15	4	7	7					1	11	5	79
Flakes																				
Chert Biface Thinning			1		2			2	4		1							5	2	17
Chert Undifferentiated		4	3	12	10		4	8	21	2	6	3				2	5	5	2	87
Tallahatta Quartzite Undifferentiated					1															1
Drills																				
Chert					1															1
Projectile Points																				
Chert									1									1		2
Preforms & Bifaces																				
Chert					1															1
PREHISTORIC CERAMIC MATERIALS																				
Grog Tempered																				
Plain	1				1							1								3
Unidentifiable										3										3
HISTORIC CERAMIC MATERIALS																				
Ironstone																				
All Surface Treatments																			1	1

TABLE A-14. SLOPE-CUT 1 CONTINUED

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	TOTAL
GLASS																				
Bottle		3		4	1	2													1	11
Other	1		3	1																5
NAILS																				
Square	1							1												2
OTHER MATERIALS																				
Bone	3	2	1	6	29		5	2		1								12		61
Shell						1														1
Fired Clay (gm)	3	21	5	88	614	11	13	157	1264	13	68	132	6					123	114	2632
Charcoal	12	37	11	14	10						4	3	1					7		99
Coal		3	1	7	7	6	9	6	8											47
Brick	1	23	36	15	6		7			2										90
Other Metal Objects	10	8	2	2			5			2										29
Other Objects				1	2		1													4

TABLE A-15. GENERAL SUMMARY OF MATERIALS RECOVERED FROM SLOPE-CUT 2.

LEVEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
LITHIC MATERIALS															
Pebbles	83	48	44	16	29	30	23	10	1	62	625	16	30	45	1062
Chunks															
Sandstone	30	80	52	14	19	9	13	19	13	7	39	56	6	15	372
Other														1	1
Decortication Flakes															
Chert Primary	5	3	7	3	2	6					4		2	3	35
Chert Secondary		1	2	1	2	4					2		2		14
Shatter															
Chert	23	26	41	25	18	15	14	2	6	4	13	5	6	28	226
Flakes															
Chert Biface Thinning	7	11	6	6	5		3			1	10	2			51
Chert Undifferentiated	58	28	72	59	30	23	30	3	7	11	30	6	4	56	417
Tallahatta Quartzite Undifferentiated	2														2
Ground Stone Tools		1								1					2
Drills															
Chert			1												1
Tallahatta Quartzite														1	1
Projectile Points															
Chert	1	3		3							1	1			9
Preforms & Bifaces															
Chert	2	2	6	1	6			1	1	2	3			3	27
PREHISTORIC CERAMIC MATERIALS															
Sand Tempered															
Plain - Fine Sand		7	1	1	1		1		1	1			1	4	18
Fabric Impressed		1					1								2
Grog Tempered															
Plain	17	38	14	8	6	2	1		3				3		92
Cord-Marked		13	17	2	7										39
Check-Stamped			1												1

TABLE A-15. SLOPE-CUT 2 CONTINUED

LEVEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
HISTORIC CERAMIC MATERIALS															
Unspecified Fine Earthenware															
Plain	1	22	10	2	8	16	10							1	70
Transfer-Printed			1	1											2
Shell-Edge	1		2											1	4
Hand-Painted		2	1			1								2	6
Banded		3				1									4
Other				2											2
Pearlware															
Plain														1	1
Whiteware															
All Surface Treatments		1					2								3
Coarseware															
All Surface Treatments		10													10
Ironstone															
All Surface Treatments		1				3	2								6
Porcelain															
All Surface Treatments		5					5								10
All Pastes															
Over-Glazed		2					4								6
GLASS															
Bottle	234	639		73		26									972
Pane	4	40		13		2									59
Other		227	126	15	28	20			1		1				418
NAILS															
Square	1	15	66	27	3					1					113
Wire	1	69	15	32	20	35	10								182

TABLE A-15. SLOPE CUT 2 CONTINUED

LEVEL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	TOTAL
OTHER MATERIALS															
Bone	4	70	29	45	23	41	5	61	31		1		13	1	324
Shell		13	4	6	5	8	4	15	15					10	80
Fired Clay (gm)	103	643	404	255	167	56	486	76	389	109	653	219	91	198	3849
Petrified Wood		3	11	2			2						3		21
Charcoal	1	466	137	105	111			4		7	72	7	11	6	927
Brick	16	28			5	7							3		59
Other Metal Objects	168	723	139	692	547	464	5								2738
Other Objects	21	44		107	292									1	465

TABLE A-16. GENERAL SUMMARY OF MATERIALS RECOVERED FROM STRIPPED UNITS.

Unit	Types and Numbers of Materials
1	1 Chert Primary Decortication Flake
	1 Chert Biface Thinning Flake
	1 Ground Stone Tool
	1 Chert Projectile Point
	3 Chert Bifaces
	6 Unspecified Fine Earthenware Plain Sherds
	3 Unspecified Fine Earthenware Transfer Printed Sherds
	3 Unspecified Fine Earthenware Shell-Edge Sherds
	3 Pearlware Plain Sherds
	2 Stoneware Sherds
	1 Miscellaneous Metal
	3 Other Glass
	6 Other Objects
2	1 Chert Pebble
	2 Chert Chunks
	4 Chert Shatter
	1 Chert Biface Thinning Flake
	1 Chert Utilized Flake
	1 Chert Undifferentiated Flake
	1 Chert Parallel-Sided Drill
	1 Chert Perforator
	3 Unspecified Fine Earthenware Plain Sherds
	1 Unspecified Fine Earthenware Banded Sherd
	127 Bone
	4 Shell
	1 Miscellaneous Metal
	23 Fired Clay
3	3 Chert Chunks
	2 Ground Stone Tools
	2 Chert Shatter
	1 Chert Projectile Point
	7 Chert Bifaces
	1 Coarseware Sherd
	2 Other Glass
	5 Petrified Wood
	6 Fired Clay

TABLE A-17.
GENERAL SUMMARY OF MATERIALS RECOVERED FROM FEATURES IN TEST UNITS.

Test Unit	Feature	Type and Numbers of Materials
1 (20S8E)	4	1 Chert Primary Decortication Flake
		1 Hematite
		3 Fired Clay
	5	1 Sandstone Chunk
		4 Fired Clay
	6	4 Sandstone Chunks
		2 Chert Undifferentiated Flakes
		1 Bone
		123 Fired Clay
	45	4 Chert Pebbles
		6 Sandstone Chunks
		1 Hematite Chunk
		1 Chert Secondary Decortication Flake
		1 Petrified Wood Piece
		3 Bone
		330 Fired Clay
	49	5 Chert Pebbles
		5 Sandstone Chunks
		3 Chert Undifferentiated Flakes
		3 Bone
		14 Charcoal
		51 Fired Clay
	54	1 Chert Pebble
		1 Sandstone Chunk
		1 Chert Biface
	56	1 Chert Undifferentiated Flake

TABLE A-17. GENERAL SUMMARY CONTINUED

Test Unit	Feature	Type and Numbers of Materials
2	9	2 Chert Pebbles
(16N26E)		1 Bone
		1 Bottle Glass
		12 Fired Clay
	11	1 Chert Pebble
		1 Chert Biface Thinning Flake
		2 Chert Undifferentiated Flakes
	12	4 Sandstone Chunks
		1 Chert Undifferentiated Flake
		2 Bone
		5 Charcoal
		54 Fired Clay
3	8	6 Sandstone Chunks
(48N18E)		5 Chert Shatter
		1 Chert Undifferentiated Flake
		1 Tallahatta Quartzite Flake
		79 Fired Clay
5		6 gm Charcoal
(48N178E)	10	40 Chert Pebbles
		25 Sandstone Chunks
		8 Chert Primary Decortication Flakes
		3 Chert Secondary Decortication Flakes
		31 Chert Undifferentiated Flakes
		1 Fine Sand-Tempered Plain Sherd
6	13	47 gm Charcoal
(68N186E)		6 Fired Clay

TABLE A-18. GENERAL SUMMARY OF MATERIALS RECOVERED FROM FEATURES IN EXCAVATION UNITS.

Excavation Unit	Feature	Types and Numbers of Materials
1 (16N24E)	22	4 Fired Clay
2 (58N194E)	19	1 Chert Pebble
		1 Sandstone Chunk
		1 Chert Shatter
		2 Chert Undifferentiated Flakes
		1909 gm Fired Clay

TABLE A-19. GENERAL SUMMARY OF MATERIALS RECOVERED FROM FEATURES IN BOX-SCRAPED UNIT A (12N24E).

Feature	Types and Numbers of Materials
15	21 Chert Pebbles
	8 Sandstone Chunks
	1 Chert Core
	5 Chert Shatter
	1 Chert Biface Thinning Flake
	18 Chert Undifferentiated Flakes
	1 Tallahatta Quartzite Undifferentiated Flake
	1 Chert Biface
	1 Fine Sand-Tempered Plain Sherd
	2 Unspecified Fine Earthenware Plain Sherds
	1 Unspecified Fine Earthenware Flow Blue Sherd
	1 Unspecified Fine Earthenware Shell Edge Sherd
	1 Pearlware Spongeware Sherd
	8 Coarseware Sherds
	40 Bottle Glass
	11 Pane Glass
	4 Bone
	3 Shell
	162 gm Fired Clay
	5 Coal
	4 Charcoal
	60 Brick
	100 Square Nails
	10 Coal Slag
16	12 Chert Pebbles
	2 Chert Shatter
	4 Charcoal
	9 Fired Clay
17	9 Chert Pebbles
	1 Sandstone Chunk
	1 Chert Shatter
	1 Chert Undifferentiated Flake
	2 Fired Clay
18	1 Chert Pebble
	3 Charcoal
	4 Fired Clay

TABLE A-20. GENERAL SUMMARY OF MATERIALS RECOVERED FROM FEATURES IN STRIPPED UNITS.

Stripped Unit	Feature	Types and Numbers of Materials
2	57	2 Chert Pebbles 4 Sandstone Chunks 3 Chert Undifferentiated Flakes 2 Bone 70 gm Fired Clay
3	28	1 Chert Undifferentiated Flake 1 Bone 240 Fired Clay

TABLE A-27. GENERAL SUMMARY OF MATERIALS RECOVERED
FROM FEATURE 23 IN STRIPPED UNIT [illegible].

Feature	Types and Numbers of Materials
23	16.835 kg Chert Pebbles
	300 Sandstone Chunks
	3 Chert Chunks
	1 Chert Core
	77 Chert Primary Decortication Flakes
	57 Chert Secondary Decortication Flakes
	480 Chert Shatter
	1 Quartzite Shatter
	59 Chert Biface Thinning
	878 Chert Undifferentiated Flakes
	2 Tallahatta Quartzite Undifferentiated Flakes
	2 Chert Gary (H) Projectile Points
	1 Chert Madison (II) Projectile Point
	1 Chert Guntersville Lanceolate (JJ) Projectile Point
	1 Chert Perforator
	1 Chert Bifacial Notch
	8 Chert Bifaces
	7 Fiber-Tempered Plain Sherds
	1 Fiber-Tempered Dentate-Stamped Sherd
	101 Fine Sand-Tempered Plain Sherds
	23 Coarse Sand-Tempered Plain Sherds
	2 Sand-Tempered Cordmarked Sherds
	5 Sand-Tempered Incised Sherds
	9 Sand-Tempered Fabric-Impressed Sherds
	226 Grog-Tempered Plain Sherds
	77 Grog-Tempered Cordmarked Sherds
	137 Unidentifiable Sherds
	185 Unspecified Fine Earthenware Plain Sherds
	44 Unspecified Fine Earthenware Transfer-Printed Sherds
	13 Unspecified Fine Earthenware Spongeware Sherds
	14 Unspecified Fine Earthenware Shell-Edge Sherds
	54 Unspecified Fine Earthenware Hand-Painted Sherds
	15 Unspecified Fine Earthenware Banded Sherds
	35 Unspecified Fine Earthenware Other Sherds
	13 Pearlware Plain Sherds
	1 Pearlware Transfer-Printed Sherd
	1 Pearlware Spongeware Sherd
	2 Pearlware Hand-Painted Sherds
	1 Pearlware Banded Sherd
	14 Whiteware Sherds
	21 Coarseware Sherds
	12 Ironstone Sherds
	5 Porcelain Sherds
	1 Overglazed Sherd
	99 Bottle Glass
	4 Pane Glass
	10 Other Glass
	51 Square Nails
	644 Bone
	7 Shell
	1.244 kg Fired Clay
	5 Petrified Wood
	363 gm Charcoal
	339 Brick
	156 Other Metal Objects
	295 Other Objects

APPENDIX B

AD-A127 227 ARCHAEOLOGICAL INVESTIGATIONS AT THE EAST ABERDEEN SITE (22MO819) TOMBIGB..(U) MISSISSIPPI STATE UNIV MISSISSIPPI STATE DEPT OF ANTHROPOLOGY..   5/5

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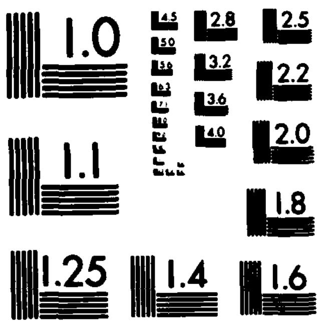

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

An Alternative Identification of the Historic Ceramics from the East Aberdeen Site (22MO819)

by

Marlesa A. Gray

In their 1970 work on the eighteenth-century ceramics from Fort Michilimackinac, J. Jefferson Miller II and Lyle M. Stone focused upon a basic problem in historic ceramics classification and description (1970:3). This problem arose in the attempt to develop a classification system that can be used by both the archeologist and the ceramics historian, scholars who obviously hold different views concerning research objectives and the purpose of classification. In trying to develop such a classification system, Miller and Stone basically followed the rules of artifact taxonomy presented earlier by B. Bruce Powell (1962). The three rules are as follows:

1)there should be a single basis of division between ranks (classes),
2)classes should be mutually exclusive, and
3)classes should be exhaustive.

That which resulted from the Miller and Stone study was a classification system which, on the one hand, is consistent with the historically-valid and rather broad categories defined by the ceramics historian and, at the same time, is consistent with the archeologist's need to produce interpretative statements based upon quantifiable data. This classification system, with several modifications and some simplification, has become the standard for much subsequent analytical work and is the basis for this classification system of the East Aberdeen historic ceramics.

Briefly, Miller and Stone developed their classification of eighteenth-century historic ceramics on the basis of an hierarchical arrangement of technical differences. The primary distinguishing factor was the difference in paste type and appearance. Physical and/or stylistic properties were then used to further subdivide the three basic classes (earthenware, stoneware, and porcelain). The final level of analysis was based on style and/or technique of decoration (1970:4).

As with Miller and Stone's classification, the system used here does not rigorously follow Powell's recommendations, although it has been formulated in the spirit of his taxonomic rules. This classification is exhaustive in terms of the ceramics that were identified and it is also infinitely expandable. Moreover, it defines classes that are mutually exclusive. It has not, however, been formulated on a single basis of division between ranks. While sacrificing a truly objective logical system of classification, the system that has been adopted is less complicated than it would be otherwise, allows cultural interpretations to be made, and allows the choice of relevant taxonomic criteria approximating the historically-known situation (Miller and Stone 1970:4-5).

The historic ceramic artifacts from East Aberdeen were divided into three primary classes based uoon technological differences and historical context: earthenware, stoneware, and porcelain. These three classes were then sorted into various exclusive groups based upon certain physical and/or stylistic properties. Further subdivisions were finally made on the basis of decorative style and technique. The definitions of these types and the reasons for these divisions are described in more detail in the following paragraphs. Where considered necessary, references have been provided for certain classificatory decisions that were made during this identification. In other instances, references have been deleted when the information presented was considered by the author to be common knowledge within the field of historical archeology. As in prehistory, historic artifact identification and analysis have reached the point when certain artifact types need not be referenced because their meanings and characteristics have been generally accepted by the profession.

Class I - Earthenware

The ceramics included within the earthenware class are characterized by a porous, permeable paste made up of various mixtures of clay and fired at a low temperature.

Group A - Coarse Paste Earthenwares

These ceramics have a highly porous, granular paste consistency, tend to be relatively thick, and are generally considered to be highly utilitarian in nature (Noel Hume 1974:99). Due to their widespread occurrence, both temporally and spatially, they are not useful indicators for dating purposes or for the development of trade networks. Their presence within a site, however, can sometimes be used in the analysis of status differences. This has been successfully demonstrated by Otto's (1977) study of dietary and status indicators among planters and slaves in coastal Georgia.

The coarse earthenwares from East Aberdeen were divided on the basis of paste color (reflecting the use of various clays), the presence or absence of a glaze (used to provide impermeability), the type of glaze (based on its chemical content), and, finally, the color of the glaze (indicating decorative differences).

Within the sample of East Aberdeen historic ceramics that was examined (855 sherds from the various excavation units and features), only fifteen were classified as coarse-paste earthenwares. Of these, one sherd has a red paste with a brown lead glaze. The remaining fourteen sherds all possess a buff-colored paste: two are unglazed, one has a clear lead glaze on both the interior and exterior sides, three have a brown lead glaze on both sides, three have a clear lead glaze exterior and a brown lead glaze interior, and two have a tan lead glaze exterior and a brown interior. On three of the sherds, the glaze type and color could not be determined due to burning. All of the coarse earthenware fragments are body sherds.

Group B - Fine Paste Earthenwares

The fine earthenwares have a smooth, fine-grained paste consistency and are relatively thinner than the coarse earthenwares. They are remarkably useful as temporal indicators because of their numerous stylistic changes through time. These changes, caused by technological innovation (e.g., the development of pearlware as an "improvement" over creamware) or by trends in popularity (e.g., the adoption of transfer-printed decoration as an extremely popular style during the early nineteenth century) have been well documented by various authors and have, in fact, formed the basis of one of historical archeology's most useful dating concepts, the Mean Ceramic Dating Formula (South 1972, 1977:201-274; Noel Hume 1974:102-138).

The fine earthenwares from East Aberdeen were first divided into two categories reflecting degree of paste hardness. This trait is controlled within the defined limits of the earthenware category by the chemical content of the paste and the relative temperature at which it is fired. It can be used to a certain extent as a chronological indicator, the soft-paste earthenwares generally being earlier than the hard-paste earthenwares. Of course, there is some overlap as well (South 1977:211-212; Castille 1979:5-15). The hardness was determined by scratching the edges of the sherds with a tempered steel tool. Those sherds classified as soft could be scratched with very little pressure; a dark metallic line and no indentation was left on the sherds classified as hard.

The soft-paste fine earthenwares were subsequently grouped into creamware, pearlware, and whiteware. In this instance, categories were used which had more than one basis of division between classes, but which more accurately followed historical context (Godden 1965; South 1972, 1977; Noel Hume 1974).

Creamware was first developed during the mid-eighteenth century and was manufactured until 1820 (South 1977:212). It is characterized by a buff-colored paste and a clear lead glaze exhibiting a yellow or green tint in the crevices. Creamwares vary from a rich buff color to a light cream, with the latter generally dating after 1775 (South 1977:212). A variety of decorative techniques was used on creamware bodies, the descriptions of which can be found in numerous well known references (Godden 1965; Miller and Stone 1970; Noel Hume 1974).

In 1779, Josiah Wedgwood introduced a new, whiter version of the standard creamware body; this he termed "Pearl White" (Godden 1965:xxi). Pearlware differed from the earlier creamware in that cobalt was added to the lead glaze to produce the whiter appearance (Noel Hume 1974:128). Initially, the paste color was buff, although by the early 1800's, it had been modified to an almost pure white (Sussman 1977:105-106). Pearlware can be differentiated from creamware by a bluish cast to the glaze. The blue color is especially pronounced in the crevices around footrings and rims. Manufacture of the soft-paste pearlwares continued until approximately 1830 (Sussman 1977:110).

Whiteware is distinguished from the creamwares and pearlwares by a pure white soft paste and a totally transparent lead glaze. There is no indication of color in the crevices. Whiteware was first manufactured in 1820 and continued in production until well after 1900 (South 1977:211). The same decorative techniques were used on both pearlware and whiteware, and have also been described elsewhere.

Within the East Aberdeen collection, there were identified seventeen sherds of creamware, 164 pearlware fragments, and 284 whiteware sherds. Of the creamware sherds, eleven are without decoration, one is red sponge-decorated, one is hand-painted with black underglaze enamel, and one is black transfer-printed. There are also three sherds of "tortoiseshell" or "Whieldon Ware," two blue and one brown. This distinctive form of decoration for creamware was commonly produced in England during the period from 1740 to 1780 and is characterized by mottled semi-translucent glazes in blue, green, and brown tints (Godden 1965:xvi). The relatively low occurrence of creamware sherds at the East Aberdeen site, three of which are of the attractive "tortoiseshell" type, possibly reflects the presence of an heirloom situation, whereby certain ceramic pieces were saved as family treasures.

Sixty-eight pearlware sherds (four rim, fifteen basal, and 49 body sherds) from East Aberdeen exhibit no decoration. There are ten rim sherds with the very common blue embossed edge decoration (shell edge, feather edge, etc.) and two sherds with green edge decoration. There are also 38 fragments of blue transfer-printed pearlware, including one piece of "flow blue," a technique of transfer-printing that resulted in a soft clouded effect. Twenty-eight pearlware sherds demonstrated evidence of hand-painting in underglaze enamel, while there are two examples of hand-painted overglaze enamel-decorated pearlware. Finally, there are four sherds of green sponge-decorated pearlware, two sherds of "annular" ware (exhibiting concentric grooves and/or bands of contrasting pigment), and ten examples of slip-decorated pearlware.

Of the 284 whiteware sherds included in the East Aberdeen collection, 122 are without decoration, ten are edge-decorated (nine blue, one green), 29 are decorated in various shades of underglaze transfer prints, and there is one example of a polychrome overglaze transfer-printed sherd. There are also 77 underglaze hand-painted sherds, two fragments exhibiting hand-painted overglaze enamel, 26 sponge-decorated sherds (including thirteen from a teacup decorated in red and green), and one red spatter-decorated fragment. Two sherds exhibit annular decoration, nine are slip-decorated, and five have "mocha" decoration. The latter is a technique that results in a fern-like design caused by the chemical reaction of a dark acid colorant (either urine and/or tobacco juice) on a lighter alkaline slip (Godden 1965:xvii; Noel Hume 1974:131). The technique was first introduced in 1795 and continued in production for around 95 years (South 1977:211).

The identifiable hard-paste earthenwares from East Aberdeen were grouped into two categories:ironstone and yellowware. Ironstone is used here as a generic term for those durable earthenware ceramics that exhibit a pure white hard compact paste and a clear or cobalt-tinted lead glaze. "Ironstone" is also used as one of the brand names for this type of earthenware, others being "New Stone," "Turner's Patent," and "Stone China" (Godden 1965:xxiii). Ironstone was first manufactured in 1813 and is still being produced today (South 1977:211). Yellowware is a name that has been given to those ceramics possessing a durable, compact yellow body and a clear lead glaze. This type of earthenware is rarely referenced as a separate category in the published literature, generally being subsumed under the category of annular wares. This practice has occurred because the most common form of decoration on this largely utilitarian ware consists of concentric blue bands and white ridges (Noel Hume 1974:131). However, if one is classifying ceramics in terms of an hierarchical arrangement, as is the case here, it is apparent that yellowware should be separated into its own category on the basis of its hard, compact paste composition. Noel Hume (1974:131) states that this type of ceramic was first developed around 1800 and is still being produced today.

Of the 235 ironstone fragments identified from East Aberdeen, 184 are plain, one has an embossed decoration, nine are blue edge-decorated, 21 are underglaze transfer-printed in various shades, one has an overglaze transfer-printed decoration, 22 are underglaze hand-painted, and one exhibits both underglaze and overglaze hand-painting. Six sherds of ironstone possess annular decoration in various shades.

Fourteen yellowware fragments were identified, of which 12 are without decoration and two possess the characteristic blue and white banding. There were also 25 hard-paste sherds that were placed in an unidentified category because they exhibit evidence of a high degree of burning. Since the heat to which they most obviously were subjected may have been the cause of their hardness, it was decided to place these sherds in a separate "unidentifiable" category.

Class II - Stoneware

Characteristic of ceramics within this class is a compact, finely grained non-porous opaque body that has been fired at a higher temperature (1300° C) than have the earthenwares (Godden 1965:xii). Since stonewares, by their very nature, are *impermeable*, the use of various glazes on stonewares is considered more of a decorative technique than utilitarian in nature.

The stonewares within the East Aberdeen collection were divided first on the basis of paste color (denoting the use of various clays and/or firing techniques). Further subdivisions were based upon the presence/absence of surface treatment, type of surface treatment, and color of surface treatment or decoration.

Of the 84 ceramic sherds making up the East Aberdeen stoneware collection, 65 possess a gray paste color. Five of these exhibit no surface treatment, while the majority (35 sherds) are salt-glazed. A salt glaze is produced by the actual introduction of salt into the kiln during the firing process, thus causing a chemical reaction to take place on the surface of the ceramics resulting in a mottled orange peel-like texture (Godden 1965:xiv). Of the salt-glazed stonewares at East Aberdeen, only four show evidence of decoration (one blue hand-painted sherd and three with brown mottling). There are also six green alkaline-glazed gray stoneware sherds, three burnished sherds, and five that had been coated in various shades of clay slip. Eleven gray-paste stoneware sherds exhibit surface treatments that could not be identified.

Thirteen stoneware sherds from East Aberdeen possess a buff-colored paste. One is without surface treatment, one is plain salt-glazed, two are lead-glazed (one brown, one clear), three are burnished, three are covered with clay slip, and three cannot be identified. In addition, one sherd possesses both brown- and buff-colored paste (undoubtedly due to differential firing). Its surface is coated with brown slip.

Two sherds of brown-paste stoneware were observed in the East Aberdeen collection. One is plain salt-glazed and one is clear lead-glazed. A sherd with both gray and buff paste could not be identified as to surface treatment. One combined pink and yellow paste sherd is covered with a brown clay slip, and one white paste sherd is without surface treatment. None of the stoneware sherds from East Aberdeen are diagnostic in terms of temporal or spatial indicators.

Class III - Porcelain

Porcelain is a highly-vitrified ceramic distinguished by a translucent body. It is further divided into two groups according to paste hardness. Hard-paste porcelain, first manufactured in China and later in England and continental Europe, consists of a mixture of kaolin and feldspar (petunse), shows a concoidal fracture, and is only fired once, both body and glaze, at an extremely high temperature (1400° C+) (Godden 1965: xvii; Noel Hume 1974:258). Soft-paste English porcelain is manufactured from a mixture of ground glass and white clay, sometimes with feldspar or bone ash added. When chipped, the body is granular. It is first fired in an unglazed state, then re-fired at a lower temperature after glazing (Godden 1965:xvii).

Group A - Hard Paste Porcelain

The nine hard-paste porcelain fragments from the East Aberdeen collection include three bisque (unglazed) doll fragments. One is a small, solid-cast, white doll body, minus the head and toes, which probably dates to the late nineteenth century (Noel Hume 1974:319). A second doll fragment is a white, slip-cast arm, pierced at the shoulder to allow a wire attachment, and realistically molded. The third bisque doll fragment is a broken lower arm and hand, slip-cast, realistically molded, and tinted pink. The two doll arms probably date to around 1870-1920 (Noel Hume 1974: 318).

In addition to the three hard-paste bisque fragments, six glazed hard-paste porcelain dinnerware sherds were identified, including one plain sherd, three with blue underglaze transfer-printed decoration, and two hand-painted overglaze rim sherds, one black and one red. The latter two may possibly be Chinese export porcelain, although their small size renders this distinction difficult.

Group B - Soft Paste Porcelain

Eight soft-paste porcelain fragments from the East Aberdeen collection were identified. Included among these are two glazed, hollow-cast, stylized doll legs, with ribbed calves and brown hand-painted garters. According to Noel Hume (1974:318), dolls with this type of leg date from the 1880's through the 1930's. One possible figurine base of solid soft-paste porcelain and glazed mottled brown was also identified. There are also five sherds of plain glazed soft-paste porcelain dinnerware in the collection.

Summary

The historic ceramics from the East Aberdeen collection that were analyzed during this study range in date from the late eighteenth century through the nineteenth and into the twentieth centuries. It is probable that the small amount of creamware found at the site represents the curation of older ceramic vessels, possibly in an heirloom category.

The preponderance of whitewares and ironstones argues for a mid- to late-nineteenth century site occupation, as was indeed the case. In addition, the collection is notable for its lack of both high- and low-quality status indicators. It basically represents the use of common, relatively inexpensive, mass-produced dinnerwares in traditionally popular styles and colors. At least in terms of the ceramics analyzed during this study, the East Aberdeen site can be viewed as an excellent example of nineteenth century Middle America, conservative in its values and traditional in its ideas.

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